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VOLUME 42 | ISSUE # 4 | AUG - SEP 2020

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L&L – Meet the team

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Read L&L issue 3 online (magazine) Previous issue of L&L is now available to read online



Covid-19 forces Labelexpo postponements (video) Lisa Milburn and Tasha Ventimiglia on postponing show dates

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L&L looks back (L&L issue 4, 1989)



P14 Mark Andy opened a new European headquarters on the outskirts of Basel, Switzerland. The new, over 700sqm building housed company's offices, demonstration and showroom facilities as well as spare parts inventory and become a major resource for converters looking to evaluate the use of fully computerized narrow web presses.



P20 Mike Fairley visited the Jacpaper manufacturing plants in France and Germany to investigate how the company was responding to a rapid growth in demand for self-adhesive labels and to check how Jacpaper's investments in laminating capacity and product development helped with rising to this market challenge.



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P30 L&L reported on the Finat's Worldwide Label Competition which in its eight edition received 413 entries from 18 countries. All nominations demonstrated the high standards of production regularly attained by label converters around the world with winners from majority of European countries as well as North America and Australia.

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P40 Technical article about printing plates for label production addressed several inquiries from L&L readers regarding taking this process in-house and explained the basics in an attempt to highlight a number of pitfalls that are encountered when producing plates, against demand, often alongside the printing press.

A new way of working Editor's note

his issue of Labels & Labeling is the third that has gone to press while the magazine's team – editorial, sales, production – has been working entirely from home.

For our editors, columnists and correspondents, this is no great change – we have long been accustomed to not being in the office; if not working from home, then frequently from airport lounges and hotel rooms while travelling. But for the wider team to be working from home simultaneously is unprecedented.

We have found this lack of time in the office little impediment to our day to day working life. On the contrary, given we are spread across the world, our communication has probably improved thanks to increased use of Zoom, Teams and the like, rather than be diminished.

We aren't alone. As Mike

Fairley writes in his column this issue, customer testimonials gathered by MIS specialist Cerm show that remote working in the label industry is being embraced.

"It has taken these exceptional circumstances for us to use existing technology to a fuller capacity"

According to Cerm's managing director Geert Van Damme, many converters have found that production and productivity in their business has actually increased during lockdown and home working. And that productivity improvements are not just for office functions, but have also been found to be true for areas such as pre-press.

One converter commented: 'In working from home the Cerm system became the real backbone of communication. We stopped going to someone's desk to ask them something because we couldn't, so we opened the Cerm software and were able to find what we needed. Finally we started using what was there all the time.'

That final comment is particularly illuminating. It has taken these exceptional circumstances for us to use existing technology – whether Cerm MIS or Microsoft Teams – to a fuller capacity.

'The industry has been forced to make much greater use of IT tools so that employees can work from home and, surprise, surprise, they have discovered that it all works – and works very efficiently,' writes Fairley.

It doesn't suit everyone, of course. Many roles – both within the label industry and beyond it – cannot be performed remotely; lots of people thrive off the creative dynamic office life can provide.

But it does seem certain that, at the very least, many people will continue to spend less time in the office – commuting less and perhaps achieving a better work/life balance.

As Mike Fairley says, it may be that Covid-19 has actually provided 'a longer-term path to improved efficiency, flexibility, productivity and profitability in the new post-lockdown world of labels.'

18 COM

James Quirk Group managing editor



Heidelberg sells Gallus to benpac

Heidelberg to manage Gallus portfolio sales and service

Heidelberg has sold Gallus Group to Swiss packaging business benpac Holding, after deciding to focus on its core business of sheet-fed printing.

The transaction will see benpac assume ownership of Gallus Holding AG in St Gallen, Gallus Ferd Rüesch AG in St Gallen, Gallus Druckmaschinen GmbH in Langgöns, Heidelberg Web Carton Converting GmbH (WCC) in Weiden in der Oberpfalz, and Menschick Trockensysteme GmbH in Renningen – five sites with a total of some 430 employees in Germany and Switzerland.

benpac, headquartered in Stans, Switzerland, is a group of companies specializing in packaging technologies, engineering, IT technology and consulting.

benpac and Heidelberg have agreed that Heidelberg will continue to manage the sales and service of the Gallus portfolio in close cooperation after the takeover. Gallus customers will therefore continue to benefit from the world's largest service network in the print media industry.

With an agreed purchase price of some 120 million EUR, Heidelberg is expecting the deal to generate earnings in the mid two-digit million euro range. The parameters will be finalized at the time of closing. The sale, which still needs to be approved by the relevant bodies and is subject to other condition precedents, is set to take effect before the end of 2020.

In the future, Heidelberg and benpac will work together closely on the Gallus Labelfire digital label press. Heidelberg will continue supplying the digital printing unit (DPU) and consumables for this press.

'We are selling our narrow web rotary and rotary flexographic printing activities to focus more closely on innovative solutions for the entire printed sheet value chain. We will be retaining our in-house digital expertise and, by collaborating with benpac on the Gallus Labelfire, we will also be making further progress with the digitization of conventional presses. At the same time, we will remain a major supplier on the growing label market with our sheet-fed offset presses,' said Heidelberg CEO Rainer Hundsdörfer.

'Our aim is to ensure the long-term financial stability of Heidelberg, and all the measures since our transformation started in March this year have been geared toward this objective,' said Heidelberg CFO Marcus A. Wassenberg.

'The acquisition of the Gallus Group is of great strategic importance for benpac holding. It completes our overall range in the packaging sector and ensures that the entire value chain is covered,' said Marco Corvi, CEO and chairman of benpac's board of directors.

With production facilities in Switzerland and Germany, Gallus manufactures both conventional and digital narrow web rotary label presses. The machine portfolio is complemented by a range of screen-printing plates (Gallus Screeny), decentralized global service activities, and a comprehensive selection of accessories and spare parts. Heidelberg Web Carton Converting provides web-fed printing systems for folding cartons.



Esko merges with AVT

Danaher-owned companies integrate their businesses

Esko and AVT have integrated their businesses. Effective immediately, the integration is designed to deliver simplicity and extended connectivity for Esko and AVT customers by incorporating automated quality inspection into the connected packaging and labeling value chains. The combined business will see expansion of its sales and technical service teams with enhanced local representation.

AVT was acquired by Danaher, the Esko parent company, in 2017. Mattias Byström expanded his leadership role from Esko president to include oversight of AVT in August 2019. This latest move is the formalization of the strategy to create a combined position to better serve brands and their print and packaging supply chain partners with hardware and software.

'We are on a mission to build trust in packaging for the long term,' said Mattias Byström, president, packaging and color businesses at Danaher (Pantone, Esko and X-Rite). 'This means we are focused on continually improving the specification, measurement and communication between parties across the global packaging value chain. By removing the organizational barriers between AVT and Esko, we are expediting this vision.'

Esko and AVT have already released AutoSet, a digital link between Automation Engine, the Esko packaging pre-press workflow server, and AVT's 100 percent print inspection technologies. The development forged the path for the two businesses to work more closely together.



Alon Bar-Shany leaves HP

Haim Levit replaces HP Indigo leader

Alon Bar-Shany, the long-time leader of HP's Indigo division, has left the digital press manufacturer.

Bar-Shany was responsible for the worldwide HP Indigo business, including its labels, flexible packaging, folding carton and commercial portfolio. He had been with HP for 25 years and has led the company's Indigo division since 2004.

'We are grateful to Alon for all he has done to make Indigo the market leader in digital printing and we will benefit from his many contributions to our business for years to come,' HP said in a statement.

Haim Levit has been appointed as HP Indigo general manager effective immediately. Levit brings more than 25 years of print experience to the role, most recently leading worldwide go-to-market for HP's industrial graphics organization. He currently resides in Boston, Massachusetts, and will relocate to Israel over the summer.

Optimum Group expands

Telrol Group, consisting of two Dutch converters, Telrol and Kolibri Labels, has become part of Optimum Group, significantly expanding its international footprint within the label and flexible packaging market.

Optimum Group has also acquired the FlexoPrint Group, which consists of FlexoPrint in Randers, Denmark, and H&T Labelprint, a merger of H&P Etiketten and TOM Etiketten, in Salzbergen and Greven, Germany. The addition of FlexoPrint Group expands Optimum Group's footprint into Denmark and Germany.

Telrol CEO Will Parker and Kolibri Labels CEO Markwin Buiting will remain in their current roles and both companies will continue to be located in the current business premises in Almere and 's-Heerenberg.

FlexoPrint Group's management, consisting of chairman Svend Lynge Jørgensen, CEO Lars Ole Nauta and CFO Jens Brusgaard, will continue in their current roles. Svend Lynge Jørgensen and Lars Ole Nauta will furthermore reinvest to become shareholders in the Optimum Group.

With these additions, Optimum Group now includes 12 member companies located in the Netherlands, Belgium, Germany and Denmark: Etiket Nederland, Vila Etiketten, Specialist Printer Max. Aarts, W&R Etiketten, Belona, Megaflex, EPB, ASQ Labels, Telrol, Kolibri, FlexoPrint, and H&T Labelprint, with each member companies having its own unique product/market combination.

News in brief

Baldwin acquires Western Quartz

Baldwin Technology Company has acquired certain assets of Western Quartz Products, a manufacturer of UV curing lamps.

Western Quartz, founded in 1931 in California, was one of the first producers of quartz lamps for medical purposes. Following decades of research and development, along with innovation spearheaded by founder John F. Dallons and his family, Western Quartz moved further into the UV curing industry and grew to become a supplier of UV curing and exposure lamps worldwide, with customers throughout the US, Europe and Asia.

'Western Quartz enhances Baldwin's capabilities in additive UV lamp production for industrial markets, providing an excellent complement to our existing UV and UV LED technology portfolio within our AMS Spectral UV business and Primarc products,' said Rich Bennett, president of the AMS Spectral UV unit at Baldwin.

Manufacturers create Label French Tech Club

Five French manufacturers of equipment dedicated to the self-adhesive label and flexible packaging markets have joined forces, creating a club to promote their technologies to label converters. Representatives of the five French manufacturers, Benoît Demol of Codimag, Bruno Vitali of GIC, Victor Abergel of MGI, Charles Dernoncourt of Serame and Stéphane Rateau of Smag have formed the Label French Tech Club. Through this alliance, they hope to highlight French technological innovation in the market.

'Each of our five companies generates the majority of our turnover from export sales, either in Europe, and Asian and American continents,' said Benoît Demol, CEO of Codimag. 'This position shows the excellence of French technologies in the label and flexible packaging industry. Our approach aims to spread our know-how beyond our borders, under a common label.'

The companies will host an event in Paris on October 6-9 to demonstrate equipment and hold workshops. See www. labelfrenchtech.com for more information.

Avery Dennison material compostable

Avery Dennison has achieved 'OK Compost' certification for a BPA-free and FSC-certified thermal label material combined with the new adhesive SX6030, offering brands new options for more sustainable packaging.

SPGPrints appoints Poland distributor

SPGPrints has appointed Omigraf, based in Warsaw, as agent in Poland to represent its rotary screen printing division for label applications. Omigraf's founder and owner, Andrzej Turski, has represented several leading machine and material suppliers in the graphics printing industry in Poland for the last 23 years.



Avery Dennison and Neste partner for smart stores

Fully automated deli opens in Helsinki

Avery Dennison has partnered with Neste to open a fully automated Easy Deli store in the center of Helsinki, Finland, as one of the first self-service convenience stores in Europe using RFID technology.

Avery Dennison is the exclusive UHF RFID partner for Neste's newly opened store and supported its partner Nordic ID in developing the advanced self-checkout system.

A key component of the store concept is an RFID-based self-checkout developed by Nordic ID, a Finnish company specialized in real-time item tracking and self-service technology. Every product in the store is tagged with RFID labels from Avery Dennison, enabling round-the-clock store availability through a self-checkout that scans all purchases made by the customer in an instant, even if they are packed into shopping bags or a backpack.

'Consumer shopping behavior is changing rapidly. We want to be part of this development and offer new kinds of smoother and faster customer experiences. The Easy Deli product scanner is the first of its kind in Finland and a huge leap forward compared to conventional self-checkouts. This makes the shopping experience much quicker and easier. The closest references are found in China, where the RFID-based shops have received positive feedback for their user-friendliness,' said Jukka Peltoniemi, who is responsible for automated services at Neste.

To enter the Easy Deli store, customers start by registering in the Neste mobile app. This ensures secure shopping and helps to prevent any misuse and vandalism. After registering, customers pick out their products and place them on the RFID self-checkout, which scans all the products in seconds. Finally, customers pay for their purchases using Apple Pay, Google Pay or a payment card.

Avery Dennison supplies different UHF tag models, including AD456 on-metal tags and AD180 small circular tags for safe and convenient self-checkout. The other benefits of this system include high levels of visibility into the inventory and the entire supply chain plus a reduction in labor costs of up to 50 percent for retailers. It also enables a frictionless and touchless experience for shoppers, which is something consumers are starting to demand more and more, especially in light of Covid-19.



Nobelus' fictional chocolate brand demonstrates different products laminated with the same film

Nobelus launches cross-market program

.....

Brands can achieve conformity across labels and packaging

Nobelus has launched Cross Market Ingenuity, a program which enables manufacturers to create brand conformity by applying the company's specialty laminating films across various vertical markets in the print industry.

'We chose the term Cross Market Ingenuity because it is reflective of the ability of Nobelus' specialty laminating films to create a consistent brand identity and appearance to printed projects in various markets such as folded carton, general commercial print, flexible packaging and label,' said Angie Mohni, VP of marketing for Nobelus.

The move is in response to the trend of converging print offerings to reach a broader customer base. Many commercial printers are adding labels to their portfolio, and some label producers are moving into pouch, flexible packaging and folding carton production.

To showcase the Cross Market Ingenuity concept, Nobelus has created a fictional chocolate shop Luxe Chocolatiers and offers samples of a folded carton, menu, flexible bag and labels laminated with the same film.

Brook & Whittle acquires Label Impressions

Brook and Whittle Holdings has acquired California-based Label Impressions to further expand its geographical presence to the US west coast.

Label Impressions serves the household and personal care, premium beverage, beauty and cosmetics, nutraceutical, food and cannabis markets, among others.

The addition of Label Impressions' west coast presence to Brook and Whittle's existing footprint in the northeast, midwest and south results in a coast-to-coast US manufacturing network. Label Impressions also introduces a number of new capabilities to Brook & Whittle, including sachets and packets, stand-up pouches, security labels, smart packaging, protective packaging, and augmented reality.

Label Impressions' sole owner, Jeff Salisbury, has run and significantly grown the business since 2005 when he took over for his father, Ted Salisbury, who founded Label Impressions in 1988. He will join the Brook & Whittle team and continue to be a shareholder.

Brook & Whittle acquired Prime Package & Label in November 2018 and Croydon in May 2020.





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Matrix waste is created wherever labels are die-cut from a web of labelstock

Polifilm and Herma develop matrix recycling program

Recycling stream for PE film label waste

In a joint project, film manufacturer Polifilm Extrusion and self-adhesive materials specialist Herma have developed technology to recycle the matrix waste produced during the production of filmic labels.

'In practice, this means that we are recovering a film product and returning it to the production cycle in the form of a high-quality recycled material. The method we are applying also allows the adhesives in particular, as well as the printing inks, to be processed,' says Jens Kölble, head of packaging and performance films at Polifilm. 'In the initial phase we are using the recycled material in the production of construction films. Mixing in a small quantity does not impose any restrictions whatsoever as regards either functionality or processing.'

According to Polifilm, groundwork on further film applications is already taking place. The actual quantities of matrix that can be processed at present remains small, however, because a market has yet to be established. Until now there has not been any economically viable or ecologically acceptable recycling option for PE matrix waste. As a rule, the matrix enters the thermal recovery stream, otherwise known as incineration. Label printers currently pay between EUR 150-200 (USD 170-230) per metric ton for this form of waste management.

Matrix waste is created wherever labels are die-cut from a web of labelstock. Depending on the shape, size and arrangement of the labels in the web, substantial quantities can arise. Although the exact figures are not available for the quantity of PE matrix produced worldwide, Herma has estimated that European converters currently generate around 7,300 metric tons of this waste annually.

Matrix recycling, as implemented now by Polifilm, is for the time being limited to PE label film stock. 'It's only a matter of time before a similar approach is adopted for PP films as well,' said Dr Ulli Nägele, head of development at Herma. 'In the case of PE films, we were certain from the outset that pooling our adhesive skills with Polifilm's expertise in the recycling and manufacture of films would quickly give rise to workable results.'



Companies can run tests under controlled laboratory conditions prior to commercial production

Vetaphone opens Test Lab

Danish surface treatment specialist Vetaphone has opened a Test Lab facility at its new headquarters in Kolding to enable the running of real-time substrate tests in commercial production conditions.

The Test Lab offers converters, laminators and extruders the opportunity to run tests under controlled laboratory conditions prior to committing to the expense of commercial production. The same facilities are available to ink, lacquer, and substrate manufacturers.

'With our unrivaled experience in surface treatment technology, we have become the go-to supplier for many printing, converting and laminating machinery manufacturers, who realize the importance of detailed R&D on every component in the production line,' said Frank Eisby, CEO of Vetaphone during the virtual opening event.

'By working in close cooperation with them as they develop their new technology, we can advise how best to ensure maximum productivity and lowest energy consumption across a range of increasingly complex and difficult substrates to process,' concluded Eisby.

Vetaphone expects that its Test Lab will attract visits from technical personnel, offering the company's existing and potential customers the opportunity to engage in the science behind surface treatment and the benefits that come from a clear understanding of what it can offer.

Omet partners with Actega Schmid Rhyner

Omet has partnered with inks and finishing specialist Actega Schmid Rhyner to deliver labels with enhanced special effects and sensory features.

Dr Alexander Ossenbach, site manager at Actega Schmid Rhyner, said: 'Touch plays an essential role, because packaging with special finishes instigates our curiosity and emotions. It shouldn't be just functional and good-looking: packaging also conveys a message and describes the product inside it.'

'The market is moving towards new requests and new needs,' added Marco Calcagni, Omet sales and marketing director. 'We presented the new Omet X7 at Labelexpo Europe 2019, initiating strong interest in the wide range of possible effects achievable on printed products. Thanks to our new and high-performance flexo printing units, in-line soft touch vertical flexo printing units and the soft touch rotogravure unit, the use of special effects brings surprising results even on shrink sleeve materials.'

Among the new products being tested is the 'Polar' coating, a sustainable alternative to hot foil or metallic effects, and diVar technology for digital finishing.

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02

New Products

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03





MJP30AXF flexible packaging press Miyakoshi

The press uses water-based ink, claimed safe for food packaging. It comes in a 30in (750mm) print width and runs at 50m/ min with a print resolution of 1,200 x 1,200 DPI. The 5-color press features CMYK+WW, and can handle materials between 12-100 micron. The press features integrated unwinder, corona treatment, pre-coater and rewinder. Optimized production features include the ability to batch print a variety of jobs on the same web and printing of barcodes to manage post-press equipment. Automatic registration control and missing nozzle compensation minimize printing errors.

Four new Jetsci presses
 Monotech Systems
 New presses include Jetsci
 KolorSmart, a 4- or 5-color,
 8.5in digital label press suitable for converters who want to

move into digital with lower capital and/or use their existing converting and finishing equipment; Jetsci KolorSmart+, an advanced version of KolorSmart, with additional pre-inkjet flexo station with standard UV curing to apply primers, under white or spot colors; Jetsci Colornovo Hybrid, an enhanced version of the Colornovo digital label press launched previously and based on GM (Grafisk Maskinfabrik) web control system; Jetsci Colornovo Hybrid+, a digital press with additional converting features including a flexo station with cold foil after UV inkjet, semi and full rotary die-cutting, slitting station and dual rewind.

Born2Bond Bostik

The new range of innovative engineering adhesives designed for 'by-the-dot' bonding in the high-end packaging and luxury goods sector includes low-odor formulations, which enable a more comfortable manufacturing environment, and low-blooming technologies, a critical feature for producers of high-end goods.

ThermoFlexX Catena+ Flint Group

The new system integrates a series of existing ThermoFlexX modules, including Catena - E, for UV LED exposure; Catena - W, a solvent plate processor; and Catena - DLS, a dryer, light finisher and plate stacker combination with robotized plate transport. The Catena+ system allows these modules to be configured in a variety of ways to deliver different levels of automation. A Catena-DLS module can be connected to a Catena-W for automatic plate processing. The Catena-DLS has ten drying units, seven stacking positions and a light finisher. Robotic movement ensures that plates are fully finished with no operator intervention after loading into the washer. The system is optimized for use with Flint Group's ThermoFlexX Woodpecker surface screening software and flexo plates but is also designed as an open system.

In FL1 Prime flexo press Edale

The FL1 Prime is built on the fundamentals of its bigger brother, the FL3, and has been developed as affordable, high quality label printing option offering minimal waste. With this press Edale targets businesses that want a logical replacement or addition to older mechanical presses used within the narrow web printing market or do not require the advanced automation of the FL3. The new press offers a web width of 350mm (13in) and, similar to the entire FL range, it features servo-driven technology as standard with Uniprint printhead design geometry, as well as pre and auto-register. The Prime is modular and upgradable, with options to install EZ Reg and EZ Die as well as UV LED curing.

New Products







WJPS-660 shaftless press Wanjie

The new machine combines Japanese Hamada and intermittent rotary technologies and features 660mm (26in) web width, 650mm by 410mm (25in by 16in) printing area and 260mm to 410mm (10in to 16in) printing length. The WJPS-660 can print on a wide range of substrates from 80 to 400gsm paper and 30 to 400 micron films. It is equipped with an electric control system, shaftless drive, auto registration system and is able to print with speeds up to 70m/min (230ft/ min). The new press can also be equipped with automatic ink volume control system, corona treatment, flexo coating or varnishing units, cold foil stamping, oscillating roller cooling system and rotary die-cutter. The press has been developed for the mid and wide web label markets as well as flexible packaging and cartons.

Sapphire EVOW Kodak, Uteco

The Sapphire EVO W is the first flexible packaging press to enter the market using Kodak's continuous inkjet technology. The press is the second product developed by the Uteco Group in partnership with Kodak for digital flexible packaging production. Kodak introduced the new Uteco Sapphire EVO W late last year and had intended to launch it at drupa. The company says the Sapphire EVO W Press is now available worldwide and the first installation will occur later this year, at a US-based customer. The Sapphire EVO can print flexible packaging applications on plastic films and paper. The press prints CMYK inkjet at 600 x 1,800 DPI across 49.2in print width at speeds of up to 500ft/ min. The press is available with in-line priming, flexo-white and post coating and a hot air/IR drying system.

X630i Domino Digital Printing Solutions

Designed for corrugated production, this highly automated inkjet printing technology uses a new aqueous ink set based on novel water-based ink technology. Key features include its small footprint; its servo controlled, continuous bottom feeding system; the AQ95 aqueous ink set which is Swiss Ordinance, Nestlé and EuPIA compliant, meaning that it is suitable for many non-direct food packaging applications; its unique polymer-based technology which enables printing on both uncoated and coated corrugated board without the need for a primer or separate bonding agent; and the capability to print 600 DPI at speeds of up to 75m/min.

B *GM IR350*

Grafisk Maskinfabrik The GM IR350 is an extended version of the GM IR330

inspection rewinder designed to complement the DC350 finishing equipment and the recently introduced DC350Miniflex Compact Converting Line. It converts webs up to 350mm (13in) width on rolls of max 400mm (15in) in diameter with speeds of up to 200m/ min (656ft/min). The new machine can be used for multiple operations, including inspection, back-numbering, counting, slitting, multi-layer and peel and reveal labels. It is fully compliant with all requirements for pharmaceutical and safety controls. A label dispenser can turn the GM IR350 into a complete multi-layer label production line, and also allows the insertion of warning labels printed in Braille. An optional printing system can produce a report for each roll of labels, according to end-user requirements. Reverse printing is also possible when configured with a thermal inkjet module.



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New Products





DT-340 Rotocontrol

Rotocontrol has partnered with Domino to develop the DT-340 digital label finishing machine with an integrated Domino N610i label press. Features of the N610i in the combined hybrid technology are up to seven colors including opaque white, 600 DPI native print resolution and operating speeds up to 70m/min (230ft/min). Compliance for food packaging is also offered with the new Domino UV95 ink set. The new, modular machine provides multiple die-cutting and printing stations, lamination, cold foiling, hot stamping, label inspection, small roll programmable auto turret winding and 100 percent servo control from Bosch Rexroth. An open architecture design provides easy operator access to the web and integrated modules, for increased efficiencies in operation, web handling and movement during production.

HM-Flex

Focus and TS Converting TS Converting Equipment and Focus Label Machinery have partnered to develop the HM-Flex, a range of flexo machines for the manufacture of labels, tapes and tamper-evident security products. The HM-Flex range can print on a liner, apply a release coating, flip the web over between any of the stations, add hot melt coating, laminate in a facestock if required, 4C print, die-cut, slit and rewind all in one pass. The modular format of the machine can be configured to provide a mix of capabilities. It eliminates the need to purchase pre-release coated or treated liners and combines multiple operations for the in-line manufacture of finished products. The flexo units can be used for printing and the application of a wide variety of UV curable release coatings. The machine uses the latest GEW Rhino UV system.

O Rêverie 2

UPM Raflatac UPM Raflatac has introduced a new premium collection of unique, high-end labeling materials for wines, spirits and craft beverages. The collection includes a variety of FSC-certified materials (FSC-C012530) from sustainably managed forests as well as materials made from 100 percent recycled content and other controlled sources. This helps brand owners to reach their sustainability targets linking to mitigating climate change or promoting the circular economy.

AWPTM-DEW 4260 PLF plate processor

Asahi Photoproducts The system is designed to use two standard formats at three to five plates per hour, either 1,200 x 900mm (48 x 36in) or 1,067 x 1,524mm (42 x 60in). The new equipment is an automated combination of washer-dryerlight finishing, reducing operator involvement and potential associated errors. This processor combination is said to be the first incremental system of its kind and features an improved UVA/UVC in-line post exposure uniformity. New features compared to the older model include an integrated plate punching system for pin bar, integrated air knife after plate rinsing unit to dry the plate, higher post-exposure uniformity with in-line UVA and UVC light finishing and filter unit located inside the machine with easy rollout operator access.

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SupaStrip PCR

Essentra Tapes SupaStrip PCR is claimed to be the first tear tape for flexible packaging combining the sustainability of recycled polyester (rPET) alongside the benefits of easy-opening and brand enhancement.



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Installations



O Nilpeter FA-17

Finewebtech, South Korea The South Korean converter has seen a 20 percent increase in production capacity following the installation of its new Nilpeter FA-17 press, the first in the country. The company has already signed on for two additional Nilpeter presses to further expand the business. Finewebtech, founded in 1987 in Seoul, is an award-winning label and flexible packaging printer focusing primarily on cosmetics, household items, foods, and pharmaceuticals.

Lemu turret rewinder

General Data Co, USA US converter General Data Co (GDC) has installed a turret rewinder system from Spanish manufacturer Lemu. 'Lemu offered a well-built machine on a solid foundation, which enabled us to customize and configure our machine,' said Pete Wenzel, president of GDC. 'Speed and production throughput will be a significant increase on a variety of materials and finished roll sizes options. The specifications we decided and collaborated with Lemu will work well for several areas that we currently serve and new market segments in the future. Their concept and technology advancement enable GDC to easily train a group of press operators. With this potential to train and reassign skilled workers where needed, we are creating a more balanced workload to better handle customer demand.'

¹⁰ Durst Tau 330 RSC E

Etiquetas Rospil, Spain The Madrid-based converter became one of the first companies in Spain in 2013 to invest in digital inkjet technology with Durst Tau 330/200, which has produced more than 10 million linear meters to date. Rospil has now become the first company in Iberia to install the Durst Tau 330 RSC E. Replacing the Tau 330, the machine also allows considerable ink consumption savings. 'Each year there are an increasing number of customers who demand explicitly that their labels are produced with Durst Tau technology,' said Jorge Pérez, deputy manager of Etiquetas Rospil. 'It's been unstoppable growth. Also, we are clear that the future of the sector is digital. That is why we decided to take a new step.'

Screen L350UV+ LM press

O.D.D., Germany

The German converter has purchased the new press system to boost its position in the expanding label print market and to increase efficiency and flexibility of managing complex print jobs.

ETI Cohesio Linerless technology

Hub Labels, USA The machine combines in-line silicone release coating with pattern hot melt adhesive coating to enable Hub Labels to produce several different linerless label products. The coatings can be applied for full coverage, in stripes, or in any pattern to a pre-printed paper or film facestock. As one example, this single machine is capable of producing wraparound labels for a variety of different end uses, from pre-packaged food skin pack trays that include full or stripe coverage to beverage labels that require a repeat pattern.

Miyakoshi MJP13LXV press B2Pack, Spain

B2Pack, Spam Spanish converter b2Pack has installed a Miyakoshi MJP13LXV to further expand the use of digital technology and enable handling smaller and more specialized print runs. 'We have made a substantial commitment to digital printing in term of response times, variability in models, and special finishes. That's where we've been focusing our investment over the past five years,' said Alberto Sanz, CEO of b2Pack.

Installations



MPS EFA+ 430 press

Impress, Russia Impress, located in Barnaul, Siberia, has ordered a second fully automated MPS EFA+ 430 press to further increase its label production capacity and expand smart label production options. The converter ordered an 8-color machine with a 430mm web width. The MPS 'Beyond the machine' approach with 'Talk to me' connectivity was the deciding factor in the purchase. 'We're highly focused on information technology and Industry 4.0 as automation and process improvement are a top priority at Impress,' said Pavel Startcev, owner of Impress. 'Based on the experience with our first MPS flexo press, the machine has proven very reliable in performance and produces outstanding final product quality.

Rotocontrol Ecoline RDF Smart Label, Germany

Smart Label's Ecoline RDF 340 machine features a flexo printing, cold foil, laminating, semi and full-rotary die cutting, and 100 percent label inspection units. It will provide finishing and embellishment options for print jobs on the company's HP Indigo digital press. 'The investment and capacity expansion with Rotocontrol's Ecoline RDF converting and finishing system for digitally printed labels with embellishments was necessary to provide even faster response to our customer requests,' said Martin Rose, production manager at Smart Label.

Two ABG finishing machines

Harkwell Labels, UK The new arrivals include an additional Digicon Series 3, which includes a screen printing unit and thermal lamination module, and a Digicon Lite SR. The move, which will allow Harkwell Labels to keep pace with customer demand, follows recent purchases of a second screen unit on an existing Digicon Series 3 and its first Digicon Lite, specifically made for shorter runs and aimed at increasing job flexibility. 'Having moved into a purpose-built factory in 2016 to increase capacity, our growth has continued into 2020. We see the surge in our customer base as testament to the ongoing quality of our work,' said Tim Fountain, owner and MD of Harkwell Labels.

HP Indigo 6900 and Grafotronic DCL2

Diversified Labeling Solutions, USA

The new equipment installed at the DLS facility in Itasca, USA, will run alongside an existing fleet of over 25 digital and flexo presses. It will allow the company to expand its production of digitally printed labels and flexible packaging, including small to medium-sized print runs, variable imaging, and brand protection features. The HP Indigo 6900 will also augment DLS' label and packaging offerings while the Grafotronic DCL2 will provide a new range of label embellishment and finishing options.

Omet XJet

Italgrafica Sistemi, Italy The Italian converter has ordered its second Omet XJet to further increase flexibility and capacity for high quantity print runs. The new hybrid press is to be installed in 2020.

Italgrafica Sistemi began production in 1992, thanks to the experience gained in the screenprinting sector, and is today one of the leading converters in Italy with a group turnover of around EUR 12 million. In recent years, Italgrafica has installed several Omet machines including a customized Flexy-S 330, 1 XFlex X6 and an XJet hybrid press to expand production to multilayer labels, foils and special finishes.

Maan Engineering linerless coating line

Belona, Netherlands Dutch label and flexible packaging converter Belona,



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Installations



part of Optimum Group, has invested in its second Maan Engineering linerless coating line as it continues the mission 'to make the packaging chain more sustainable'. Belona, one of the early adopters of linerless technology in the Dutch market, purchased its first production line six years ago.

Gallus ECS 340 flexo press

-Guangcai, China

The label converter in Guangdong, China, has installed its fourth Gallus ECS 340 flexo press, which is expected to increase the company's production capacity by 20 percent.

'As orders and business continue to grow, Guangcai needed to invest in a new press to meet our production demand. Gallus is one of the world's leading flexo printer suppliers and has been working with us for many years. Therefore, we didn't hesitate to continue our cooperation. Now we have four Gallus ECS 340 flexo presses,' said Ji Congri, general manager of Guangcai.

Mark Andy Evolution Series

Orion Znakowanie Towarów, Poland

Orion, which focuses on customers within the FMCG market, was one of the first Polish companies to implement Mark Andy's newest Evolution Series flexo press following its debut at Labelexpo Europe 2019. 'We continue our successful cooperation with Mark Andy,' said Marek Dziewanowski, president of Orion Znakowanie Towarow. 'It's the third press from this American vendor purchased by our company during the last four years. The investment is another natural step of modernization of our equipment. Evolution Series replaced the long-serving device from another vendor and significantly increased our potential in terms of label production to include more advanced and complex finishes.'

Orion's production has increased as a result of the added ability to print multicolor labels on different substrates.

D Bobst CO 8000 silicon coater

Itasa, Mexico

The machine is configured for solventless thermal silicone coating on paper and film and features Bobst technology for process integration and workflow. These include an in-line flexo printing unit with a print repeat up to 1,200mm, a sleeve system for fast job changes on both anilox and print cylinder, integrated ink viscosity control and dedicated floatation dryer suitable for both water-based and solvent-based inks. The CO 8000 has been developed for converters looking for highperformance production lines. Film manufacturers can benefit from added-value products, such as barrier coatings for flexible packaging films. In the paper industry, silicone and adhesives

coatings are mainly used in the production of industrial tapes, labelstock and hygienic products.

Lemorau ICR3 450 slitter rewinder

Label World, Jordan Established in Amman in 2004, Label World is one of the leading label converters in the Middle East, producing self-adhesive labels and aluminum foil for the pharma industry. To increase its productivity, Label World purchased a Lemorau ICR3 slitter rewinder machine in a bespoke 450mm web width and a 100 percent inspection system. 'When Label World started using the new Lemorau ICR3, the output became more accurate, the production speed doubled and the volume of new orders significantly increased,' said Aziza Haithan, CEO of Label World.

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Appointments



Linnea Keen President, TLMI Keen will be working in close conjunction with TLMI's current President, Dan Muenzer, in a transitional capacity for the month of July and will officially assume the position fulltime as of August 1, 2020.



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Ralph Giammarco Global business development and applications director Michelman Giammarco will manage the business and application development of digital, paper converting, and flexible packaging market segments.

Paul Teachout

Business development manager Anderson & Vreeland Teachout will lead the company's efforts in the narrow web space. He has 39 years of experience in the printing and packaging industry and extensive industry recognition and accomplishments, such as being a current board member of the FTA and FTA board of trustees, part of the Sonoco Institute advisory board and TLMI Awards committee chairperson.



Alberto Sanson CIO, Domino Printing

Sciences Following the retirement of Dick Wallin, who led Domino's IT team for the past twenty years, Sanson has joined the company.

Jörg Westphal

Managing director BST eltromat Westphal joined BST eltromat in July 2019 as a manager of service. He will manage the businesses together with Dr Jürgen Dillmann. Kristian Jünke, who has managed the business together with Dillmann in recent years, is leaving the group.



Justin Kimmel Senior account manager MacDermid Graphic Solutions Kimmel will be responsible for relationships with

current customers, while also developing new business in Canada.

Sam Aloschi Managing director Asia-Pacific

Ravenwood Packaging Based in Sydney, Australia, he will lead the delivery of Ravenwood's growth plans in Asia-Pacific, supporting its linerless and pack inspection distributor network.



Arik Gordon

Landa Digital Printing He will lead Landa's team in Israel and worldwide. Gordon joins the company after 18 years at Orbotech where he was executive vice president of strategy and growth.



Isabelle Manche General manager, France Esko

Manche will support the growth and development of the brand locally and in French-speaking countries, driving the digital transformation of Esko clients.



Shaun Pullen General manager Aldus Graphics Based in Aldus' Malaysian office, Pullen will focus on furthering Aldus Graphics' international reach by representing the Mark Andy portfolio in Southeast Asia along with Aldus Graphics' range of associated consumables, inks and foils.

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Michelle Zeller President, AWT Labels & Packaging Zeller is a CPA and has spent more than 15 years as AWT's CFO, and more than seven years as the company's chief operations officer. She will also retain her chief financial officer role.



Paddy O'Hara Business development manager, Epson O'Hara will be responsible for the development of Epson's recently launched external printhead business for OEM customers in Europe, Middle East, Africa and Russia.



Rogier Gerritsen Managing director, recycling division DS Smith He will transition into his new role in October with Jonathan Silk, finance director of the recycling division, acting as interim managing director from August to October.



Steve Jeffels CFO Global Inkjet Systems Jeffels will lead the company's financial and corporate planning to the next phase of its growth.



Stephane Blais Vice president Fujifilm Canada Fujifilm Canada has promoted Stephane Blais to the newly created position of vice president of graphic systems and technical services divisions.



Matt Bennett Vice president, EMEA MacDermid Graphics Solutions Bennett will be based in Nottingham, UK, and report to Brad Wills, senior vice president and global general manager.



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The Andy Thomas-Emans column Digital flexpack makes waves

A new generation of mid-web water-based inkjet presses is expanding the short run flexible packaging options available to label converters

ess than a decade ago flexible packaging was all about wide web, long run, cost-efficient commodity production. Presses were highly specialized monsters, based either around Central Impression drum (CI) flexo, or unit-type gravure presses. Use of water-based and solvent inks for flexo and solvent inks for gravure required powerful drying tunnels to dry the inks at high speeds, giving the presses a distinctively large footprint.

Although increasingly designed with robotic changeover for fast change between jobs, these presses were not designed for short run work. The cost of CI flexo plates and gravure cylinder engraving alone, let alone the makeready waste at these widths and press speeds, made short runs impractical.

But at the same time, marketeers were learning the power of short run labels produced both on digital presses and on highly automated, fast change narrow web UV flexo presses. Clearly there was potential for the same kinds of agile marketing for flexible packaging.

Then came a new generation of digital and UV flexo presses with wider web widths in the 26-32in (670-830mm) range, built to handle thinner, unsupported, heat-sensitive webs. UV flexo press manufacturers such as Bobst and Omet produced in-line presses in these mid-web widths, followed by MPS and Nilpeter, while Mark Andy rediscovered its Comco heritage in developing the P9E platform and demonstrating a 26in module at Labelexpo.

Benefits

There are many benefits of mid-web UV flexo compared to both CI flexo and gravure platforms for short run flexible packaging. Elimination of solvents is a key one, while UV (and UV LED) curing eliminates the need for energy-intensive drying tunnels. Plate costs are reduced and the presses highly automated to reduce changeover times and makeready waste.

These presses allowed narrow web converters to diversify from PS labels into a whole new realm of value-added flexible packaging opportunities.

On the digital front, HP led the way, back in 2014, with its ground-breaking 30in HP Indigo 20000 press. For many years, as the industry waited for the commercial availability of Landa Nanographic press technology, HP Indigo had the digital flexible packaging field pretty much to itself, racking up over 200 installations globally and sparking a new, disruptive model of digital-only flexible packaging converters like ePac, which now has now purchased more than 50 HP 20000 presses across 20 locations.

Now we see a new generation of aqueous (water-based) inkjet presses being brought to market specifically tailored for flexible packaging production. Water-based inks are considered safe for food packaging - though the finished packs still need to be migration tested - but do require a pre-coating for use on films.

At the last Labelexpo Europe, Memjet made clear its ambition to become a major player in the digital flexible packaging market after launching its Duralink pigment-based inkjet head technology. At the show, longstanding Memjet integration partner Colordyne announced a strategic alliance with MPS to bring the technology to the mid-web market, integrating the Colordyne Duralink printhead technology into its EXL-Packaging press.

And in June this year, Miyakoshi launched its MJP30AXF water-based inkjet press targeted directly at the flexible packaging

"There are many benefits of mid-web UV flexo compared to both Cl flexo and gravure platforms for short run flexible packaging"

market. The press is 30in (750mm) wide and runs at 50m/min with a print resolution of 1,200 x 1,200 DPI (in four colors plus white), handling materials down to 12 micron.

Screen meanwhile announced a commercial release date of March 2021 for its new PacJet FL830 water-based inkjet system specifically designed for the flexible packaging market. The press will be able to handle films up to 830mm (32in) wide at speeds of up to 75m/min (246ft/min) at a resolution of 1,200 DPI. At present, the press handles both PET and OPP and Screen is working to further expand substrate compatibility.

Outside the mid-web category, but certainly worth mentioning, is the Sapphire EVO W water-based flexible packaging press developed in a partnership between Kodak and Uteco. It uses Kodak's 600 x 600 DPI Ultrastream inkjet heads and QD Packaging Inks, which are certified for indirect food contact. The Sapphire EVO prints on a 49.2in (124cm) web at speeds of up to 500ft/min and is available with in-line priming, flexo white and post-coating and a hot air/IR drying system.

Although not digital, a novel approach comes from Comexi, which has developed an offset Central Impression press, which matches relatively cheap plates, offset quality and standardization with the ability to gang then slit multiple jobs across the web.

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





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The Mike Fairley column A catalyst for change

Customer testimonials gathered by Cerm show that remote working is being embraced

he past few months have been a major time of challenge and change for the global label industry. For many, it has brought about a period of significant business upheaval – even a rethinking of the way that many companies operate.

In the early days of the pandemic lockdown there were, often quite baffling, scenes of mass panic buying, particularly of food and pharma products. This, in turn, lead to substrate and ink suppliers, die-makers, as well as label converters, all trying to meet increased demand for labels in the affected sectors. Others, servicing sectors such as automotive, saw orders dropping rapidly. Even cosmetics use slowed as the need for beauty products decreased when working at home became more accepted.

The industry has additionally been faced with the many and varied issues of social distancing, face masks, sanitizers and enhanced cleaning, office or factory closures, furlough or redundancy schemes, schooling restricted and the problems of child minding, and perhaps employees testing positive, in self isolation, in quarantine, or even hospitalized. The challenges have been unprecedented in the industry's long history.

Yet out of this adversity has come stories that again demonstrate just how creative, versatile and adaptable the label industry can be. Covid-19 has become the catalyst that the label industry needed in speeding-up the – perhaps not unexpected – revolution in working practices, as well as working hours.

What has become apparent is that the long-held process of everybody travelling an hour or more into work, and being physically present at a desk or workstation in offices and factories for so many hours, is now beginning to look unnecessarily outmoded, even restrictive, in the modern era. The industry has been forced to make much greater use of IT tools so that employees can work from home and, surprise, surprise, they have discovered that it all works – and works very efficiently.

Productivity increase

The fear that many had of using computers and MIS in estimating, administration, scheduling, stock control and workflow seems to have been removed, while the use of Zoom, Teams and others has enabled meetings and discussion to continue. It seems that, after all, the label business can be conducted remotely.

Not only has that fear been removed, but many have found that production and productivity in their business has increased during lockdown and home working. And that productivity improvements are not just for office functions, but have also been found to be true for areas like pre-press.

A call with Geert Van Damme, MD at Cerm, confirmed these

trends. 'We have found that the majority of our MIS customers had increased production in March, April and May. It was also interesting to find that even pre-press operators working from home found themselves to be more productive, and with working hours that suited them better and without the necessity to travel.'

Recent testimonials provided by customers to Cerm have amplified the benefits now being experienced. One client said: 'In working from home the Cerm system became the real backbone of

"It may be that Covid-19 has actually provided a longer-term path to improved efficiency, flexibility, productivity and profitability"

communication. We stopped going to someone's desk to ask them something because we couldn't, so we opened the Cerm software and were able to find what we needed. Finally we started using what was there all the time.'

For Cerm itself, some projects came to a standstill as its consultants were unable to travel. Some work could be done remotely, but where physical visits from a 'trainer' became impossible, they used their time at home by recording training videos for a new Cerm Academy e-learning platform which will soon be launched and provide a wide range of do-it-yourself training courses.

So what impact may the aftermath of Covid-19 have on the longer-term future of the industry? Talking with Van Damme, the feeling is that there will be greater willingness to work remotely and work differently. For training, study when it best suits. For daily business operations, tools like Cerm MIS will become more 'commodity' than it is now. Not everyone in the label industry will be working remotely in the future, but many employees will now look to continue working more flexibly.

Although perhaps costly and challenging at the time, it may be that Covid-19 has actually provided a longer-term path to improved efficiency, flexibility, productivity and profitability in the new post-lockdown world of labels.



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



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Branding and Design: Brands don't exist without packaging

Coronavirus concerns have dramatically increased e-commerce consumption. Branding and design columnist Vicki Strull examines what that means for packaging

t's day 89 of working from home and I'm finally taking some of this enforced downtime to clean out my inbox – after being guilted into it by colleagues who told me they did it weeks ago. One of my friends had 150,635 unopened emails and was thrilled to finally have the time to go through them.

So naturally, I looked at the number of my unopened emails. I have 1,015.

Your turn. I'll wait while you check. (When I ask this question in my live presentations – remember those? – the highest number of unopened emails that someone in the audience has ever had is 47,202.)

"Behavioral scientists have determined that the attention span of the average consumer is eight seconds. The attention span of a goldfish is nine seconds"

Why is the number of your unopened emails relevant to packaging? Because our attention is being pulled in so many different directions that we can't possibly get through it all. In one day, the average person receives 121 emails and spends 53 minutes scrolling through Instagram and/ or Facebook. That was before the pandemic; in the past few months, social media usage has grown 25 percent; we're averaging an hour and 20 minutes a day. Plus, we're bombarded by about 5,000 ads a day. And, by the way, our attention span wasn't that great to begin with.

Behavioral scientists have determined that the attention span of the average consumer is eight seconds. Let's put that in perspective: the attention span of a goldfish is nine seconds. A horse's is seven seconds. We humans are somewhere between a fish and a horse.

It stands to reason then, that eight seconds is the amount of time brands have to engage consumers. So, what can packaging achieve in eight seconds? Plenty.



Personalized versioning is packaging targeted to an individual consumer

Brand owners know it, they just need you to show them what's possible.

When a delivery makes your day

Packaging has the power to launch products, create brand loyalty, drive brand revenue and create memorable brand moments. I'll go as far as to say that brands don't exist without effective packaging. Done well, packaging can entice a consumer to pick a product among hundreds of others – whether off a shelf or from an online line-up.

And speaking of online shopping, there has never been a better time to elevate the role of packaging. UPS demand for home deliveries increased nearly 10 percent in Q1 2020; Amazon sales in North America increased 29 percent. For millions of people, getting a package delivered has become the highlight of their work from home/ stay-at-home day.

Today more than ever, print and packaging providers have the opportunity to work with their clients in a consultative approach, showing the power of packaging and making sure clients understand what it can do when it comes to consumer engagement.

When I strategize with brands about

packaging and how to create that level of differentiation, I often talk about a technique I call versioning. Versioning exists on a spectrum: on one end you have mass production, where you make a million of one. That is, a million of the same version of a package, label, flexible package – whatever your thing is. On the other end of the spectrum, you have single versions – millions of ones.

If we start on the mass production side of the spectrum, we move across the continuum to greater levels of customization, from random versioning to affinity versioning to one-of-a-kind, and finally to completely personalized versioning.

The four levels of versioning

There are four level of versioning that I want to explore in greater detail. Random versioning is when you don't know where a package is going or who the purchaser is. As an example of random versioning, consider the limited-edition M&M packaging released to coincide with last year's Oscars. The personalized packages have various messages of love, humor, celebration and more. (You can even write your own message.) The idea is that certain versions of those packages will appeal to certain consumers. And while M&M won't know who they are or how many they buy or how often, the packages are all within the same SKU and share the same brand story – just a slightly different version.

The next level of customization is affinity versioning. This is about connecting packaging to a specific demographic, geographical area, special event, or a combination of factors. Let's take a walk down memory lane and consider promotional packaging tied into college American football season. The brand designs and places packaging featuring SEC teams in the southeast, while products featuring the Big 10 are placed in the midwest. Digital print enables brands to create affinity versioning in real time, during the season and playoffs, because of its ability to ramp up fast and produce short runs cost effectively. Consumers are enticed by the packaging that features 'their team' and are more likely to pluck it from the shelf or online.

Tips for talking with your customers about what's possible

Print and packaging providers have always helped their clients turn their ideas into reality. Today's most successful PSPs are entering the ideation stage before conceptualization – collaborating and consulting with their clients to understand the desired outcomes long before suggesting solutions or showing off samples. That's because your clients – brand owners, marketers, graphic designers, entrepreneurs, CEOs – often have no idea of what's possible with print and packaging today. Here are a few top tips for talking with your customers in a consultative approach.

Listen to what your customers are trying to achieve. Are they interested in short-term revenue? Building long-term customer loyalty? Creating buzz around an event? After you understand the desired outcome, you can begin to match the strategy to achieve the goal.

Help them understand the research. Sustainability is a great example. Studies show that 50 percent of Baby Boomers and 75 percent of millennials will pay more for an environmentallyresponsible product. That's an opportunity to show/tell your clients what's possible in print sustainability. Another study shows that by year-end 2020, customer experience will be more important to purchasing decisions than price or the product itself. Here's where personalized packaging and versioning comes into play.

Don't forget digital. There are still plenty of customers who don't understand the value of digital print: fast turnaround, short runs, print-on-demand, and lower costs, even for personalized packaging. For example, research shows that even short-term VIP experiences can create long-term customers. Help your customer consider limited edition products and packaging that connect with seasonal or yearly events at a cost and timeline they never knew was possible. And they won't know unless you show and tell them.

Consider where the brand can be unique and still build up equity with their existing assets, color palette, logo, etc (for example, making changes or additions to existing packaging). Brands can leverage their packaging with other campaign elements – particularly digital elements – which are always going to be faster and more nimble to customize.

This is strategic design thinking, and it is crucial to your new role as print consultant. The bottom line: instead of leading with capabilities, inks, technology, price, show your customers what's possible and how it impacts their business objectives and bottom line.



Emerging brands use randomized versioning to produce variable quantities based on sales expectations

The next level of customization is one-of-a kind-versioning, where every single package is unique. That means I am the only person in the entire world that has a particular version of a package. King of Pops is a gourmet frozen treats brand with a cult following. For Halloween, it designed five special edition flavors and wrappers. The wrappers had ghosts all over them, but no two were alike. King of Pops sold out of the initial print run of 18,000 and had to make 25,000 more to last until Halloween. It was the first time the company ever sold out of a flavor.

"While all brand touchpoints have an important role to play, consumer engagement is a key driver behind innovative packaging"

Finally, we get to millions of ones – personalized versioning. This packaging is targeted to an individual consumer and may have even been designed by that consumer. You're likely familiar with the Share-a-Coke campaign, which began in Australia, with Coke printing the top 150 most popular names onto millions of bottle labels. The campaign has had many variations for personalizing the labels – most popular song lyrics, most popular holiday destinations, favorite sports teams, for example. Today you can visit the online Coke store, choose among several products (Coke, Diet Coke, Coke Zero) and create your own label for five dollars. Adidas, Oreo, Nike, and many other brands offer similar make-it-your-own campaigns.

No better time for packaging

Particularly now, when a package delivery can literally make your day, strong partnerships between designers and print service providers is essential to building brand and consumer connection. Powerful design strategies such as those I've described can inspire brands to see the possibilities in packaging innovations for capturing consumer attention, driving engagement, increasing sales, and building brand loyalty. All in eight seconds.



To continue reading Vicki Strull's design strategies, download her Sustainable Print Media Checklist at vickistrull.com/sustainability. More branding and design columns are available at www.labelsandlabeling.com/contributors/vicki-strull



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How to evaluate an acquisition: Part III

In the last in a series of three articles analyzing acquisitions, Bob Cronin of The Open Approach looks at product mix and markets, buildings and leases, and geographic locations

hese days, every move a business makes must be done with intense scrutiny. The seemingly overnight turnaround has left some entrepreneurs grappling to find ways not just to grow but also to survive. Even the smallest acquisition or merger can be daring, as drastic swings in label segments, financial markets, general business, and global society from Covid-19 are continually reframing what's important to customers and what will be most profitable for the future.

In this third installment in our due diligence series, we examine a company's products, facilities and geographic locations. Having passed the primary considerations (financials and customers) covered in Parts I and II, these elements are the next key determinants in whether an acquisition lines up. These may be easier to meet your approval, as they are more about adding 'complements' to your business and opening up new avenues for growth. But make sure financial and customer criteria are met first, as without those it doesn't matter where a prospect ranks elsewhere.

"A number of segments have surged during the Covid-19 impact, whereas others may feel like they've been hit by a locomotive"

As you consider Part III items, keep in mind that many things have changed recently. Both the pandemic and the world's response to it may reverse a few things again – even by the time you read this. Stay nimble and be ready to adjust to the changing climate.

Product mix and markets – A number of segments have surged during the Covid-19 impact (consumer packaged goods, food and beverage), whereas others may feel like they've been hit by a locomotive (retail, hospitality, travel and tourism, restaurant, entertainment).

Let's look at a market on each side. For retail, store closures, halting of supply chains, partial reopening without dressing rooms, and restrictions on handling products are pushing even more revenues online. While the retail segment is still buying labels, spending has shifted to safety signage and communications about what they're doing in response to the pandemic. None of these efforts are driving growth. Thus, even if a label or packaging company with retail customers is showing strong sales, the trending is negative for the near future and likely the long term.

In the food and CPG industries, business may never be better and an acquisition in one of these areas may seem to be a perfect way to expand your operations. But consider longevity of the trajectory. With people eating in more, the cut-and-stack label segment, which



has had one of the weakest long-term forecasts, is now thriving. But odds are that this won't last. On the flip side, food safety, hygiene, and cleaning products are also seeing boosts in spending from heightened safety standards and changing consumer messaging needs. These have a higher likelihood to evolve more and stay.

Evaluating a prospect's mix and markets involves looking at their current model and future possibilities. Be sure yours can stand up for the long term.

Buildings and leases – When you buy a company, you usually inherit the ownership or lease of the operation. If owned, make sure you understand what you're getting in terms of manufacturing space, building age (and needs), capacity, workflow design, buildout potential, and the like. The cost and upheaval of moving are significant, and magnified with new ownership. You'll want to make sure the site can be fully integrated and operational in tandem with your existing operations.

If the building is leased, review dates and requirements. If it's expiring soon, you'll have different choices than if you're locked in. Compare it against area market rates and ask questions if it doesn't make sense. If the lease is held by the prior owner, make lease negotiation part of the transaction. You'll have many things to work on once the transaction is complete. Stability of the physical plant shouldn't be one of them.

Geographic locations – Geographic location must provide tangible value. This can be a capabilities advantage, a growth territory for your products, or other upside. Take time to learn the area, regional competitors, and transportation/logistics issues. You'll also want to make sure that wherever it's located, you're able to manage it within the 'new normal'. Air travel has opened up, but restrictions remain. And more changes, difficulties, and costs could be forthcoming. You may need to house some current staff at the new acquisition for a while to facilitate the transition.

Every buy or sell transaction contains risk. The most successful ones are those that define and understand all the potential risks ahead of time and properly plan for them. Yet, be aware that the risks can change too – especially now.

As you continue through the due diligence cycle, carefully review, investigate, assess, and strategize (and repeat if necessary). And enlist the expertise of trusted advisors. The investment you make in your due diligence efforts is just as important of that of the actual purchase.



Bob Cronin is managing partner of The Open Approach, an M&A consultancy focused exclusively on the world of print. To learn more, visit www. theopenapproach.net, email bobrcronin@aol.com, or call (001) 630 323 9700



Q&A

The UVFoodSafe group was set up to formulate best practice guidelines for converters using UV curing for indirect food contact applications. With the practical testing phase largely complete, Andy Thomas-Emans asked steering group chair Jonathan Sexton about progress to date

L&L: Can you give us some background about the UVFoodSafe project? Why is such a project necessary?

JS: Historically some industry stakeholders, particularly food industry brand owners, have been fearful of UV technology and even excluded UV inks from use on their packaging and labels. This was born out of occasional high-profile cases in the past where UV inks and coatings were implicated in migration issues. These issues were due to inappropriate product selection and poor practice at the time, but ink technology and printing processes have moved on a long way since then. Thus the industry believed it was the right time to demonstrate that by using correctly specified materials and processes, food compliant packaging and labels can be printed with full confidence.

L&L: What has been the involvement of the wider industry and industry associations in the project?

JS: The project was originally motivated by a small number of individual companies, but it soon became clear that there was broad support for the initiative and the activity group grew quickly. In order to manage this and the practical activities being discussed, it was agreed to bring the group under the umbrella of Finat, the European label association. Other industry associations such as Radtech and TLMI are also represented on the group and today the group has members covering the all the main disciplines in the label industry.

L&L: What were the challenges you faced in setting the testing criteria? Were these challenges different for digital and conventional presses?

JS: The basic criteria is straightforward in Europe, where the Food Packaging regulatory framework and in particular the EC 1935/2004 Regulation states in simple terms that the packaging (printed or not) should not have any adverse effect on the food and consumer.

Of course, further to this there are complex definitions of how to achieve this, and at the heart of it is the requirement to conduct migration testing and meet specific levels for individual ink and packaging materials.

The challenge is that this type of testing is time-consuming and expensive and cannot normally be done by the label converter. The group activities were designed to demonstrate how in practice these requirements can be met on a daily basis in a production workflow through materials selection, process control and measurement, with only periodic migration testing, and to define a best practice protocol.

Since we are working to the same end

"The intention is to provide a series of best practice guidelines that if followed will allow converters to produce, within a clear set of parameters, compliant print on a daily basis"

target, the challenges are basically the same in digital and conventional UV printing and equally true for UV LED. Nevertheless, we need to be conscious that in digital inkjet we work with higher film weights and lower viscosities than in UV flexo and offset, which can impact the way the ink cures, and in LED we work with a very narrow UV spectrum and specific ink products. The digital and LED communities are represented in the UVFoodSafe group, and based on the results for the UV flexo workflow we will decide if specific activities are needed.

L&L: What do the tests involve in terms of technology and workflow?

JS: The activities of the group were split early on into those focused around the 'Print' – the actual label or packaging item produced, and the 'Process' – the production methods and controls. The Print activity group has focused on subjects such as packaging design risk assessment, materials selection and print quality testing, including migration testing. The Process group has conducted a series of printing



Print tests carried out at Bobst Firenze

tests to determine the relevant process parameters and how they can be controlled.

L&L: How are the printed packs migration tested? What use do you make of these testing results?

JS: The printed materials are carefully selected to ensure they are representative and subjected to testing whereby a food simulant is put in contact with the printed material - normally the side which is contact with the food - for a period of time, normally 10 days, and at controlled temperature such as 40 deg C to simulate extended exposure at room temperature. The exposed simulant has then to be analyzed in a sophisticated laboratory. This is a complex and demanding process as we are trying to detect material down to levels of 'parts per billion'. The results for individual chemicals when compared to the levels specified in the regulations will show if the print is compliant and thus safe to put into the market.



UV print tests in progress on a Bobst press

L&L: What do you hope to achieve when the testing is complete? Do you aim to provide certificates of compliance, or will the results be presented more in terms of guidelines?

JS: The intention is to provide a series of best practice guidelines that if followed will allow converters to produce, within a clear set of parameters, compliant print on a daily basis. Today the only failsafe way to determine if a printed material is compliant – and thus can be the basis for a compliance certificate – is a migration test. What we are trying to achieve is that the converter and their customer can be confident that the print shipped to the market is compliant even though in practice migration tests may only be periodic.

L&L: What are the main lessons you have learned so far?

JS: The main lesson we have learned is that print process parameters are key in ensuring compliant print production and that there are clear areas where lack of controls could cause non-compliant print to be produced. This is particularly true for the UV dose received by the print, which is determined by the number and power of UV lamps the print is exposed to, the condition of the UV system and the printing speed. Ink color and film weight (or density) are also strongly influencing the final result. These and other parameters need to be understood and controlled to ensure production of compliant print.

L&L: When do you think the testing period will be completed – or will it be ongoing?

JS: The practical and theoretical parts of the project are mostly complete for the UV flexo workflow but are awaiting further migration test results from the final set of print tests – which were performed on real-world print designs – before drafting final conclusions. This work should be complete by the end of the third quarter this year and we should be producing the output reports and guidance documents by

Jonathan Sexton

Sexton has more than 30 years' ink industry experience, fulfilling global roles in technology and marketing in the Sun Chemical business, part of the DIC Corporation. Developing a particular specialization in UV and EB applications, he has most recently managed the Narrow Web business development initiative in Europe for Sun Chemical and more recently took wider responsibility for the UV and EB energy curing product line in addition to the complimentary markets of narrow web and screen printing. Sexton is a member of the Finat Technical Committee and Sustainability Sub-committee and has been managing the UVFoodSafe industry initiative on behalf of Finat for the last two years.

"The main lesson we have learned is that print process parameters are key in ensuring compliant print production and that there are clear areas where lack of controls could cause non-compliant print to be produced"



year end. We will decide at that time which further activities may be beneficial, which could include specific activities in digital and LED and similar activities in other regions.

L&L: What do you think will be the main benefit to printers and to brand owners?

JS: The main benefit for printers will be a set of guidelines and a framework that can be used to set up a controlled workflow for producing food packaging and labels. This

will enable existing producers to optimize their processes, while new entrants – such as label converters – moving into food packaging applications can establish robust controls from the start. For brand owners the information will provide a benchmark for their converter suppliers, demonstrating that they are using the best industry practices and controls to produce printed materials for them. This will build the necessary confidence in print purchasers



that UV is a viable process for food packaging and labels.

L&L: Do you think the group's research will open up new development routes for suppliers of presses, inks, coating systems, curing or measurement/ monitoring systems?

IS: Yes, there are key learnings that will drive innovation in this area. While the work completed will move us forward in understanding and controlling UV printing, it has demonstrated that there are still areas for further improvement, such as end-of-press print testing to predict more accurately the final result of a migration test. Equally there are possibilities for further controls in UV dose measurement and applied ink and coating film weight. Ink development is also a key area where developments could provide products with a wider operating window to achieve the necessary migration levels. The industry will certainly be taking up these challenges.



For more information about the development of the UVFoodSafe initiative search the Labels & Labeling archive at www.labelsandlabeling.com



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Covid-19 forces Labelexpo postponements

Labelexpo Global Series has postponed a number of 2020 and 2021 events across its worldwide portfolio. Chelsea McDougall reports

abelexpo Global Series has postponed many of its 2020 and 2021 events due to the Covid-19 pandemic. Labelexpo is part of a growing number of tradeshows and industry meetings that have been forced to cancel or postpone.

The postponed shows in the Labelexpo portfolio include: Labelexpo/ Brand Print Americas, Labelexpo Southeast Asia, Labelexpo/Brand Print India and Labelexpo Mexico. Labelexpo/Brand Print South China will take place as planned in December (see boxout).

Labelexpo Southeast Asia was moved to 2022 and a date for Labelexpo Mexico is yet to be announced. Moving the Thailand event to 2022 will bring the event back to its normal show biennial cycle.

Lisa Milburn, Labelexpo Global Series managing director, said: 'We've been monitoring the situation very closely and listening to the advice of our local partners, as well as the World Health Organization. We've listened to exhibitor and converter feedback, and concluded that postponing a number of shows is the best way forward.

'Health and safety is our absolute top priority when we looked at moving events, but we also had to take into consideration venue availability, time of year and how the events are positioned in our wider show portfolio. As ever, we're fully committed to delivering the highest quality and safest experience that the industry expects from Labelexpo and Brand Print. We hope they're even bigger shows when they return.'

Labelexpo Americas

The biggest show in the Labelexpo portfolio to be postponed is Labelexpo Americas, which attracted more than 16,000 visitors in 2018. That event will now take place on March 23-25, 2021. Labelexpo Americas will host an educational conference and continue the Label Industry Global Awards, both events being held virtually this year. Further details on those are forthcoming.

'Labelexpo and Brand Print Americas are vitally important shows for triggering business between converters and manufacturers, and moving the domestic market forward,' says Tasha Ventimiglia, Labelexpo/Brand Print Americas event director. 'Postponing them to March 2020 allows us to meet our commitment to the North American region's industry by continuing to deliver a much-needed show next year.'

The event organizer felt waiting four years for another iteration wasn't in the best interest of the largely North American visitor base, which often doesn't attend Labelexpo Europe.

Milburn says: 'We know there's a very small portion of label

Upcoming Labelexpo Global Series dates:

Labelexpo India: 2-5 December 2020 Labelexpo South China: 8-19 December 2020 Labelexpo Americas: 23-25 March 2021 Labelexpo Europe: 21-24 September 2021 Labelexpo Asia: 7-10 December 2021 Labelexpo Southeast Asia: 12-14 May 2022 Labelexpo Mexico: dates TBC



"If we don't have a show until 2022, then Labelexpo Americas would have been out of the market for four years, which the industry in North America felt was just too long"

converters from North America who will travel to Labelexpo Europe. If we don't have a show until 2022, then Labelexpo Americas would have been out of the market for four years, which the industry in North America felt was just too long. The local market also feels that this show is needed post Covid-19 to reignite the industry and get us back on track.'

Labelexpo also has the full support of TLMI. The North American label association canceled its in-person meeting and will host a virtual event this fall. Dan Muenzer, president of the association, says: 'TLMI's core values are networking and knowledge sharing, and no place provides a better backdrop than Labelexpo Americas. The pandemic has eliminated the industry's face to face opportunities in 2020, making this next edition the most anticipated, and critical, in Labelexpo's history. TLMI and our members are ready to share, enjoy each other's company, and return to business at Labelexpo Americas 2021.'

Other events

2021 will be a busy year for trade shows. Earlier this year, drupa announced it would move its event to April 2021, and Interpack was moved to February and March 2021. Fespa initially postponed its spring 2020 show by six months but announced it ultimately would move it to March 2021.

In the US, Printing United, which is largely a commercial print show but draws a small number of the label supply chain, has canceled its 2020 event. At time of writing, Pack Expo was still set for November in Chicago.



To watch a video interview with Labelexpo executives, go to https://link.labelsandlabeling.com/pa7y

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Label Academy hosts first virtual master class

The Label Academy's first online master class tackled digital printing and featured a host of expert speakers. James Quirk reports

n late June, around 150 attendees took part in the Label Academy's first online master class. Previously, Label Academy master classes had never been held outside Labelexpo shows. The Digital Printing Technology master class gave attendees a unique insight into the technologies, materials, finishing, embellishment and workflow software available to converters. It was spread over two two-hour parts, on Tuesday 23 and 30 June. Labelexpo strategic director Andy Thomas-Emans chaired both sessions, and was joined by expert guest speakers from AB Graphic, Avery Dennison, Cerm, Domino, Durst, HP, Hybrid Software, UPM Raflatac and Xeikon. The master class was sponsored by Avery Dennison, Durst and UPM Raflatac.

Part one, held on 23 June, focused on the different digital print technologies, including electrophotographic printing, inkjet and hybrid. By way of introduction, Thomas-Emans highlighted the rise of digital printing, which has rocketed from 15 installations in the 1990s to 5,044 in 2019. Today, around 40 percent of total press installations are digital - two thirds of which use electrophotographic technology. This was the subject of the first speaker presentation, given by Christian Menegon, global business development manager, HP, who provided an overview of electro inks and liquid electrophotography (LEP). This was followed by Filip Weymans, VP marketing, digital solutions at Xeikon, with a presentation on dry toner technology.

Martin Leitner, product manager, labels

"We are delighted with the excellent response to our first virtual master class"

and package printing at Durst Group, analyzed UV inkjet technology, pointing out that around 73 percent of recently polled Finat converter members said that they were planning to invest in an inkjet/ hybrid press, compared to 27 percent for toner-based presses. The final part one presentation was given by Mike Barry, key account and OEM manager at Domino, who explained hybrid technology.



Label Academy hosts successful virtual master class

Part two, held on 30 June, covered pre-press systems and strategies, the importance of workflow automation, substrate selection and print quality, plus digital print finishing. Kirit Naik, director of global print technologies at UPM Raflatac, began with an overview of the brand relationship to digital printing. Engagement, flexibility in creating new lines, brand protection and a lower carbon footprint were among the reasons highlighted why brands place such a high value on digital printing. Mike Agness, executive vice president of Americas, at Hybrid Software, then presented on how connected pre-press software is driving Industry 4.0 and re-engineering the entire label workflow particularly automated and secure design approval systems.

Workflow automation as the backbone of the entire converting operation was covered in the next presentation, given by Geert Van Damme, managing director of Cerm. This was followed by Paul Lender, business development manager, digital at Avery Dennison, who covered substrate selection and the importance of matching the right materials with the right digital printing process. The final presentation was given by Matt Burton, sales director at AB Graphic, who spoke about automation in digital finishing and the possibilities presented by digital embellishment systems.

'We are delighted with the excellent response to our first virtual master class, with attendance far exceeding live attendance at Labelexpo shows,' commented Thomas-Emans. 'Fittingly, it covered the fast-growing area of digital printing technology. We are committed to keeping the international label and package printing industry connected during these challenging times and helping get it back on track as we move into the post Covid-19 recovery phase. On-the-job learning is one proven way we can do this, and we anticipate offering further virtual master classes in the coming months, which will delve into other important topics affecting the global industry today.'

'The sessions were incredibly informative of the current technology affecting our industry, and it was a pleasure to participate in the event,' said Barry.

According to Geert Van Damme, the Covid-19 confinement circumstances have showed that the web-ordering, back office and pre-press functions of printshops can be managed remotely and seamlessly thanks to the systems that are in place and the interfaces and automation tools they provide. 'Operators do not need to stand up and walk to another office to ask about the status of products, orders, stock or jobs,' he said. 'It is on their screen while working from home. This first Label Academy virtual master class was a great opportunity to demonstrate these benefits of workflow.'

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The recordings of the Digital Printing Technology two-part series are available to view at www.labelacademy.com/education-hub/virtualmaster-class-recordings





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Kingfisher's mantra for success

After a record trading year, Kingfisher Labels' recipe for success has helped it remain robust and resilient amid the pandemic. Piotr Wnuk reports

ingfisher Labels, a UK-based label and packaging converter, was established in 1996 in Bristol. Its mantra from day one has been simple, yet effective: a clear determination to become a major player in the self-adhesive label market by achieving steady, consistent business growth through total customer satisfaction.

'We continually talk to our customers. We ask them what they want. We listen to their answers, and then we deliver,' says Andy Watts, Kingfisher Labels' sales director. 'Yes, we are ruthless in our pursuit of quality and innovation, but first we make sure we are moving in the direction that best reflects the needs of our diverse customer base. And we love what we do.'

'Offering a high-quality label printing service covering a wide range of products and services is what makes us leap out of bed in the morning,' he continues. 'From food and drinks labeling to the medical, pharmaceutical and automotive sectors, our knowledge, experience and capability enable us to work effectively across many different markets.'

The company recently announced financial results for the 12 months ending January 2020, which marked the record trading year in its history with turnover increasing by over 20 percent compared to the previous financial year.

"We are passionate about remaining innovative, we are ruthless in our pursuit of excellence and we are dedicated to keeping our customers happy"

'We are absolutely delighted with Kingfisher's performance as, once again, we have delivered steady yet significant progress,' says Watts. 'Our mantra and core values sound obvious, but keeping our customers happy has helped us grow and be able to invest in state-of-the-art technologies to ensure our customers become even happier. It's a straightforward, down to earth philosophy, and it works.'



Kingfisher Label's team is a crucial element of its consistent progress

Innovation and investment

Since Kingfisher Labels' foundation, investment and innovation have been at the core of its success. From the very first purchase of a Mark Andy 3-color flexo press in 1996 to a GBP 1 million investment in machinery and technology in 2019 – and a further multi-million pound investment program recently announced – the team is always monitoring market trends and continually looking to invest shrewdly in technology, machinery, infrastructure, innovation and people.

Karl Jackson, production director at Kingfisher Labels, notes that the company's continual investment in the latest technology ensures the production lines are as agile as possible to meet the evolving preferences of its customers. 'We have recently purchased two new Edale printing presses, to add to our existing armory, as part of a multi-million pound investment program into printing equipment, infrastructure and human talent,' he says. 'And we know how important people are in our business – Kingfisher employees are a fantastic group of passionate people.

'We expect to meet, and exceed, any print quality expectations regardless of the size of the print run. We are big enough to work with large multinational organizations and small enough to deliver a personalized service to all our customers – whether for a global brand or a local business.'

Facing Covid-19 head-on

Shortly after the announcement of the record trading year, the threat of the global coronavirus pandemic became a reality. However, thanks to extending working hours, being agile and flexible and focusing on quality and customer satisfaction, Kingfisher Labels has remained competitive throughout the pandemic.

'We were delighted with Kingfisher's performance over our last financial year,' says Andy Watts. 'When Covid-19 became a global problem there was obvious concern, but with our solid foundations in place we felt prepared and able to meet the inevitable challenges head-on. Our turnover took a bit of a hit over the last few months, but our profitability has remained robust and resilient.'

Kingfisher immediately looked at measures that could be taken in order to continue to trade as effectively as possible throughout the pandemic. There was understandable nervousness among its team as constant messaging from the media painted a gloomy picture, so the converter acted quickly.

'We are immensely proud of the reaction from our employees, which has enabled us to continue to operate throughout the Covid-19 pandemic,' says Karl Jackson.

The company furloughed a number of staff to enable social distancing at its factory. Gloves, masks and hand sanitizers were provided, and it ensured machine operators worked on the same presses rather than move to other equipment. The company's office environment was also modified to ensure distances of over two meters between desks.

'Our reputation for being flexible and agile is well-earned and we are always ready to do whatever it takes to protect our business and help our customers throughout this crisis,' continues Jackson. 'One good example is how we have worked closely with the brewing industry. With pubs and other hospitality venues having to close, the brewers have had to transfer a lot of their business from producing kegs into providing their products in bottles and cans. We have worked long into the night to help them with this challenging transition as we are very experienced in this sector.'

Kingfisher has also been quick to support the health services in the UK. During the pandemic employees worked extended hours to provide the NHS with labels for critical care products and they have also produced Feed NHS promotional stickers, a part of the campaign to provide front-line workers with healthy, hot meals throughout the Covid-19 crisis.

The future

This year has been hugely challenging for millions of people and thousands of businesses around the world, but as we enter the second half of the year the team at Kingfisher Labels remains upbeat. 'We are enormously proud of our team and what they have done to adapt to incredibly difficult trading conditions this year,' says Andy Watts. 'We know you cannot stand still in this market if you wish to achieve consistent business growth and we are excited about the future. The market has changed immeasurably since Kingfisher was formed and we have learned a great deal.



L-R: Karl Jackson, Kingfisher Labels production director, and Andy Watts, sales director

Our constant interrogation of the new technologies available has seen us invest millions of pounds in ensuring our customers receive labels produced by some of the best, most efficient, modern machinery. And we will strive to continually raise the bar for new standards in labeling and packaging excellence.'

Andy Watts believes that the customer loyalty is one of the key reasons for Kingfisher's consistent progress and a generous contribution to the fantastic financial results. 'We will never take our customers for granted; the solid business relationships we have



built with them are really important to us,' he says.

'We are always determined to support our customers and ensure they are continually pleased with the services and products we provide as we head towards Kingfisher Labels' 25th anniversary in 2021,' continues Watts. 'We are very proud of this forthcoming landmark. The last quarter of a century has been a roller coaster ride at times, but we have maintained our determination to succeed and have delivered consistent business growth through total customer satisfaction. We are passionate about remaining

"We are enormously proud of our team and what they have done to adapt to incredibly difficult trading conditions this year"

innovative, we are ruthless in our pursuit of excellence and we are dedicated to keeping our customers happy and satisfying their requirements.'

This straightforward, down-to-earth philosophy, deeply rooted in the company's values, reflects the profile of the business with its ambitions in the label and flexible packaging market. Most importantly, it is also shared by Kingfisher employees. 'Our team is a fantastic group of passionate, dedicated local people who are totally committed to satisfying customers' business requirements quickly and efficiently while focusing on quality. This superb team spirit has enabled us to keep going and look for any opportunities to continue on our upward spiral,' concludes Jackson.



Kingfisher Labels installs seventh BGM system

The converter has installed an inspection system and a high-speed re-register digital converting system from Bar Graphic Machinery (BGM), taking the number of BGM machines running at its site to seven. Karl Jackson, production director of Kingfisher Labels, says: 'The inspection machine has made us more efficient, allowing us to provide our customers with quicker lead times. The machine is quick and easy to set up and the new razor slitting for unsupported film is fantastic. The HMI is also easy to use, as well as the controls.' Kingfisher also purchased a high-speed re-register digital converting system, allowing it to convert customer-supplied printed materials, as well as complementing its existing BGM machinery.



Images courtesy of The Bristol Post. For more information about Kingfisher Labels go to www.kingfisherlabels.co.uk



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Label it with soul

Italian converter Labelit's move into high-quality food and beverage applications was facilitated by a Cartes GT360 finishing line. James Quirk reports

hen Italian converter Labelit shifted its focus three years ago towards producing high quality labels for the food and beverage market, it turned to a fellow Italian manufacturer, converting equipment specialist Cartes, to aid the transition.

Based just outside Venice, Labelit was founded in 1990 under the name Etichettificio Salese. It printed labels for cosmetics products, soaps, shampoos, and sweets – particularly the Perfetti candy brand and Mentos mints – before being bought by current president Marcello Busetto and renamed.

Three years ago, Busetto shifted the company's focus onto the food and beverage market, particularly high-quality labels for wine, but also spirits, tomato sauces and jams. 'This switch in focus required more quality and new technology,' he says.

A crucial part of the shift in strategy, according to Busetto, was the purchase of a Cartes GT360 converting line, which was brought in to replace an older Franchini machine.

"It has allowed us to enter high quality markets. The Cartes machine produces labels with soul"

The converting line has a configuration which allows for the most advanced finishing effects, according Cartes' international sales manager Luca Goldoni. It features a flexo unit followed by three screen units, hot stamping, a further screen unit and semi-rotary die-cutting.

'We believe in Italian brands,' says Letizia Gambon, head of sales at Labelit. 'We undertook a great deal of testing. We



Wine label produced by Labelit



Labeht president Marcello Busetto has steered the company towards high quality work for the food and beverage sectors

knew what we wanted to be able to offer the market, and we found it in the Cartes GT360 converting machine. It is one of the busiest machines we run at the company. It usually operates for 18 hours every day, but sometimes even a full three shifts.'

'It has allowed us to enter high quality markets. The Cartes machine produces labels with soul.'

Added value

Luca Goldoni says Cartes is seeing increased demand for multiple screen units – which provide enriched embellishing effects – on the converting lines it is supplying to customers worldwide. 'For wine label printing in particular, the extra screen units can allow the converter to produce jobs with a great deal of added value that helps the products stand out on the supermarket shelf,' he says.

This has certainly been the case for Labelit. 'We are looking to differentiate ourselves within the wine label printing market in Italy,' says Marcello Busetto, whose company has been working with Italian graphic design agency Baseggio Pubblicità on some of its more illustrious creations. He cites tactile effects and Braille as two examples of added value enabled by the Cartes machine. 'The effects produced by the screen units have opened doors into new, high-quality markets.'

One example is shrink sleeves for wine – a new and growing trend. Labelit's experience with shrink sleeves – it prints them on two Omet XFlex flexo presses – coupled with the added value opportunities brought by the Cartes converting line, has allowed it to move successfully into this market. The sleeves are printed by flexo and then overprinted on the Cartes system to add screen printing effects and varnishing.

Alongside the Omet machines, Labelit houses three Gallus TCS offset presses and three Nilpeter MO offset presses – equipped with offset, flexo, rotary screen and Pantec hot foil units – at its 3,000sqm factory, with employs a staff of 70 running two shifts.

A Xeikon 3030, upgraded three years ago, adds short run digital printing capabilities. 'We wanted to be able to offer the digital option to our clients,' says Busetto. 'But our focus is more on our conventional printing systems for their added-value possibilities and converting options.

Turkish operation

Three years ago, Labelit formed a joint venture with Turkish/Italian packaging group Bell Holding to open a production facility in Istanbul, Turkey.

Operating under the name Innovative Printing Services (IPS), it is primarily dedicated to tube printing – for toothpastes, for example.

The 1,500sqm site houses a letterpress machine from Japanese manufacturer Taiyo Kikai and a flexo press from Nilpeter. 'We outsource some work from Italy to the operation in Turkey,' says Marcello Busetto. 'This is generally higher volume jobs which do not require quite the same level of quality as the work we produce in Italy.'

Bell Holding, which celebrates its 80th anniversary this year, is an Istanbulheadquartered group of packaging companies.



Read about another Italian Cartes user, Grafical, in L&L issue 3 2020 Electronic Article Surveillance RFID-Labels Airline-Tickets Inmould-Labels

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QLM Label Makers opens new Brisbane factory

An online inauguration gave a preview of the Australian converter's new facility. Aakriti Agarwal was in virtual attendance

nable to hold its planned grand opening of a new 3,000sqm purpose-built label and packaging manufacturing facility in Brisbane, Australia, QLM Label Makers turned to Zoom to create a virtual inauguration with all the fanfare usually associated with such an event.

Hosted by marketing manager Jo Forbes-Salmon, the inauguration included a welcome speech from general manager Andrew Siwicki, address by CEO Simon Pugh and messages of support from government officials Hon Karen Andrews MP, federal minister for industry, science and technology, and Hon Jim Chalmers MP, federal shadow treasurer.

"We have some of the most advanced technology in all of Australia"

Andrew Siwicki, general manager of QLM Label Makers, said: 'QLM is a passionate company and we are excited to finally open our virtual doors to our world-class operations. We are proud of our purpose-built facility that brings us to the forefront of manufacturing for quality labels and packaging. The little company that thought it could is now doing it – and still 100 percent Australian owned. 'We have some of the most advanced technology in all of Australia. Each plays an important role in the success we have achieved. We grow and thrive because we focus on continued improvement, customer service and operational excellence.'

'QLM had very humble beginnings and it has grown and evolved to Australia's leading manufacturing and distribution hubs,' said Moragh Pugh, director at QLM Label Makers. 'Family values are really important to us.'

Great relationships

CEO Simon Pugh commented on the idea of hosting a virtual event. 'I was asked why now, why in such troubling times? We believe it is actually for this very reason of uncertainty that we choose to focus on the great relationships we have with our team, with our clients and suppliers, to focus on the possibilities that are possible when we get creative.

'My mantra is that things I knew yesterday have little relevance today and will be totally meaningless tomorrow. But within this uncertainty, we know that by continuing to commit to innovation to grow a modern manufacturing base in Australia, developing and building our team, understanding and communicating market trends, we have right tools in place to develop solutions that ensure long term success for all stakeholders. Our vision is complete label solutions driven by our internal mission statement to deliver solutions for long and mutually



QLM Label Makers hosted a virtual event for its new factory opening in Australia

Apprenticeship program

QLM is committed to acquiring local talent and runs an award-winning apprenticeship program in Australia, which offers opportunities to young people interested in joining the printing industry.

beneficial relationships.'

Joel Scott, national sales manager, said: 'We have two salespeople to look after every client – one who you can contact and the second to ensure you get best quality and best value for money. QLM has a very hands-on process. We believe in having long-term, mutually rewarding relationships.'

Pugh said that while the virtual event may 'save on the catering bill, we are really looking forward to the opportunity of having you in our factory, in person, whenever the circumstances allow.'

QLM also launched an online platform with industry-related information and resources for Australian manufacturers and local suppliers. It will include training, webinars and access to innovations and industry trends.

Further, the company launched its newly created corporate video highlighting the manufacturing capabilities of its Australian business, including the new primarily flexographic operation in Brisbane and the digital production manufacturing facility in Melbourne.

The new facility designed by the QLM team is committed to ensuring a process of continual improvement, maximizing efficiency and reducing the company's environmental footprint.

The official opening had a number of messages of support from supply chain partners and customers. QLM was joined by clients and team members who have been part of the company for more than 25 years. Nearly 500 people attended the online event.

QLM Label Makers employs over 100 staff across Australia and has operations throughout the region including in Australia, Malaysia, Cambodia, Bangladesh and Vietnam.

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MPS completes first remote installation in Japan

Alongside local distributor T&K Toka, MPS has remotely installed a press at Japanese converter Takara Pac. Aakriti Agarwal reports

MPS, along with its exclusive distributor in Japan, T&K Toka, has completed the remote installation of a 9+1 color EFA+ 340 press at label converter Takara Pac, based in Yokohama, Japan.

The remote installation was necessary due to travel and social distancing measures in place during the coronavirus pandemic.

On preparing his staff for the first such installation, Fujii-san, general manager at Japanese converter Takara Pac, says: 'We let our staff train with our 8-color MPS EC 330 press before the start of the remote installation of the new press. Additionally, MPS shared the operating manual of the 9+1 color EFA+ 340 press in advance so our staff could prepare.'

The detailed installation manual includes pictures, a step-by-step guide and explanation of how to install the press. 'Furthermore, a set of drawings were delivered to show the detail of each device,' says Tim Klappe, managing director, Asia Pacific, MPS Systems.

It helped that T&K Toka, exclusive distributor of MPS presses in Japan, had some experience with the press that was installed. Klappe notes: 'The customer had confidence in the engineers of the agent. In this case, our agent in Japan had two engineers previously trained at the MPS factory in the Netherlands and had received certification for being a factorytrained engineer. Additionally, the T&K Toka engineers have been involved in several



installations of MPS machines in Japan and were trouble-shooting when needed.'

Prepared

It was the first remote installation that MPS' agent in Japan, T&K Toka, had attempted. Hyakuno-san, product manager at T&K Toka, says: 'We focused on what we could do and mentally prepared ourselves for the installation of MPS's flagship press. Preparation was key. We were determined to give our best and ensured we were ready with web conference procedures, a detailed manual as well as a check list to avoid any bumps along this adventure. We communicated frequently with the customer and MPS to ensure smooth

Future of remote installation

With the coronavirus pandemic changing the way many companies operate, Tim Klappe, managing director, Asia Pacific, MPS Systems believes that remote installations will become increasingly common. 'Monitoring via webcams or smart glasses will certainly be used in the future,' he says.

MPS certifies engineers to install presses. This can normally only be done if certain factory training is conducted and when several installations are completed under the guidance of an experienced engineer. While MPS will continue to send certified engineers to perform installations and training, the company could evaluate sending detailed instruction manuals and guide the installation via a webcam for retrofits and training of certain functions of the machine, says Klappe.

Furthermore, instructions of certain functions can be done online with the use of a webcam. This will save money for both the customer and MPS. 'We have a range of training modules on video. MPS will continue to refresh the operation skills of the operators remotely,' says Klappe. 'Additionally, each MPS press has hundreds of sensors that enable us to remotely evaluate the performance of the press together with the customer. Based on this, tailor-made training can be given either remotely or by flying in a specialist.' installation without leaving any ambiguity at any step.'

The installation was monitored by camera. Every day, specialists from MPS dialed in to monitor the installation and offer guidance where needed. A review meeting was held on a daily basis to understand the progress and identify any steps that required extra attention.

"MPS could connect to our new press through its remote diagnostic system to stay updated with the status of the installation and offer assistance where required"

'The cooperation from everybody involved through this installation was really necessary,' says Hyakuno-san. 'We were fortunate that all parties involved, including the customer and MPS, were thoughtful and could place their trust in us. The electricity provider and duct supplier were also involved in this installation and everybody shared working space and supported each other without any complaints. We could all work as a team and it is one of the main reasons we could complete this installation in time so the customer could start commercial label production.'



The new MPS press was unloaded and installed remotely by the Japanese converter with the help of MPS engineers and local agent

Happy with the installation and processes followed, Fujii-san says: 'T&K Toka staff communicated with MPS through the internet and phone calls throughout the remote installation. MPS could connect to our new press through its remote diagnostic system to stay updated with the status of the installation and offer assistance where required.'

It took all parties involved three weeks to unload, install and run

"Preparation was key. We communicated frequently with the customer and MPS to ensure smooth installation without leaving any ambiguity at any step"

trials on the press before commercial label production began. 'We already had commercial orders of labels that we had lined up for printing on this press so we could start production as soon as trials were successful,' says Fujii-san.

The 9+1 color EFA+ 340 press has a rail-mounted flexo print unit and finishing equipment, including a die-cutting unit and matrix rewinder, corona treatment, and laminating unit. 'With these movable finishing units, we can print labels in a single pass that we were earlier printing in two passes, thus resulting in huge savings. Moreover, we can print special and high value labels using die-cutting on rail which we can move wherever we want to on the press,' says Fujii-san.

Learnings

Hyakuno-san says: 'The remote installation of the MPS press at Takara Pac was a great experience and we learned many aspects of label press installation that made the press ready for real label production. We needed skills to understand electricity connection and flow, mechanics of the press, how the press operates and finally actual printing of the labels to complete the installation.

'We spent time at Takara Pac to see their day-to-day label production on the factory floor. This experience encouraged us to continue enhancing our skills.'

The agent wanted to deliver a perfectly installed press, so we continued to face anxiety through the installation press. 'The date was already set by the customer for when they wanted to make trial tests and then run real production on this new press. We gave



The new MPS EFA 340 remotely installed in Japan

it our best to ensure deadlines were met even though we were working with remote assistance,' says Hyakuno-san.

For T&K Toka engineers from Japan – for whom English is not their first language – it was a challenge to understand the manuals written in English. 'We and the customer both faced this challenge. Compared to a native English speaker, it would take us longer to understand instructions,' says Hyakuno-san.

'However, one of the most important lessons we took away from this experience was that we would learn a lot about the industry as well as the profession and grow exponentially if we move forward without being discouraged by adversity.'

About Takara Pac

Takara Pac, part of Takara Group, started printing labels in August 1982. The company installed its first digital label press in 2010 followed by an MPS EC 330mm 8-color machine in 2012. Takara Pac upgraded its digital press in 2015 and has added several MPS flexo machines since then.

On opting for yet another MPS press, Fujii-san explains: 'While we had some teething problems in the beginning with the first MPS press, the continuous support and conscientious follow up by T&K Toka and MPS during these periods gave us confidence in the company as we were happy with the good cooperation from their end. Thereafter, the MPS EC machine in our factory became a pivotal production press, and since then has highly contributed to the receiving of job orders.'

Takara Pac prints on 1.2 million linear meters of labelstock every year. The company mainly caters to the pharmaceutical industry. However, since installation of the MPS EC press, it has successfully printed POP labels as well. With this new MPS flexo machine, Takara Pac is eager to secure more customers and increase sales.

Takara and Takara Pac have spent a long time running flexo presses in Japan, where there have been fewer flexo installations compared to western countries due to past considerations of print quality compared to letterpress. The installation of the new MPS press demonstrates a firm commitment to flexo print technology.



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Female leaders in China's label industry

To celebrate China's Women's Day, and following a similar feature last year, L&L China editor Yolanda Wang reports on more inspirational female leaders in China's label industry



Huang Haiying, vice general manager, Tianjin Improve

Li Yanjun, vice general manager, ZBACP

Li Yanjun joined Zhongbiao Fangyuan in 2008, moving to Zhongbiao Anti-counterfeiting Printing (ZBACP) in 2011 (Zhongbiao Fangyuan and ZBACP belong to the same group), where she now works as vice general manager.

She has also held a number of positions at key industry bodies, including deputy secretary of the professional committee of the Package Printing of China Standardization Innovation Strategy Alliance (CSISA); head of the experts committee on the National Technical Standard Innovation Committee at the Jiangxi Green Ecology Group; member of the committee of Yunnan Province's Certification & Accreditation Association (YNCAA); and application specialist of the China Trade Association for anti-counterfeiting (CTAAC).

Chance entry

After graduating from university, Li Yanjun first worked at the Beijing Forest Bureau, before moving to Eli Lilly, a foreign-invested US company. She worked in the pharmaceutical industry for seven years in total before deciding it was not for her.

She then had started her own employment and training agency, but finding this market was not fully matured in China, finally gave up.

In 2008, Li Yanjun happened to join Zhongbiao Fangyuan where she was responsible for a packaging project involving implementation of China's electronic pharmaceutical track and trace codes, and she quickly opened up that market to her new employer.

This project was stopped for internal reasons in 2010, so in 2011 Li Yanjun moved over to join ZBACP. 'Before entering the printing industry, I only related it in a childish way to wood-block printing on paper materials,' says Li Yanjun, 'When I first started working at ZBACP and saw the small label products they were producing and selling, I realized how little I knew about the industry. 'I had a deep understanding of the anti-counterfeiting field and it was fascinating to follow the product design and research process behind it up until final production of products which satisfied the end user's requirements. I found each small label contains a combination of art and technology. I was deeply touched by the great art in the small label and hence found my true love in this industry.'

"I had a deep understanding of the anti-counterfeiting field and it was fascinating to follow the product design and research process behind it up until final production of products which satisfied the end user's requirements. I found each small label contains a combination of art and technology. I was deeply touched by the great art in the small label and hence found my true love in this industry"

Along with these business developments, Li Yanjun also became gripped by the trend towards digitization in the printing industry, and suggested that ZBACP should focus on combining 'internet and big data' techniques besides the simple printing and die-cutting process.

In 2012, she was responsible for the implementation of a track and trace management project using China's national 'commodity code' (cc code) system for major domestic brands and other special products. An example was the famous Pu'er tea brand, which was able to track its products using the ID carried on a variable QR code on each product, along with a fully worked out track and trace management system.

As a female manager, Li Yanjun doesn't think there is any difference in the job requirements for male or female workers in this industry or in other manufacturing industries. 'There are no differences between the capabilities of male and female workers for most jobs such as design, pre-press and management,' she says. 'A few posts with significantly differing requirements might be found in front-line work. Female workers prefer the technical jobs requiring less physical effort, though there are only a few females in the R&D field.'

From a company manager's point of view, Li Yanjun says she has never allocated a specific job according to whether an applicant is a man or woman. 'On the contrary, it's the primary purpose of management to give full play to each employee's potential and







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Need to transform

As a state-owned enterprise, ZBACP was mainly engaged in the design and production of certificates and official documents. But as the government simplified its approvals process and reduced the use of paper certificates, the company suffered a sharp fall in business. Consequently, in 2012 ZBACP moved to a new plant and started to transform itself into a label printing business.

Starting with an existing Lintec label press, the company successively invested in a Gidue Combat flexo press, a Founder digital inkjet press, a silkscreen press, a laminating machine and high-speed die-cutting and inspection machines, and recruited new staff to the corresponding production and management posts. 'Due to this heavy investment over such a short period and a deficiency of orders at the beginning of our new label business, the company lost nearly 6 million yuan (859,000 USD) in 2016,' recalls Li Yanjun, who remembers the huge pressure she and others were under.

Learning from this painful experience, ZBACP decided to act proactively and accelerate its investment cycle. In 2017, the company purchased an HP Indigo digital press and installed it in a new facility just three days before going into full production.

Even then there were technical and organizational issues which needed to be urgently addressed: 'Moving from the total unknown of HP Indigo in the beginning to endeavoring to learn the how the new facility operated, to get software and data processing systems up and running, and developing a fully standardized procedure for moving from initial order handling to meeting the customers' requirements. Finally we had to draft a standard operation manual for the new facility, and to achieve this we usually worked overnight with less than four hours' sleep. Only through such efforts, we took just seven months from the installation in May to turning a profit at the end of that year.'

This successful transformation became the turning point in ZBACP's company history. Researching market demands, studying new technologies, producing high-quality products, providing excellent service, complying with and also leading the industry's trends became the development objectives of the company.

Though entering this industry a little 'recklessly', Li Yanjun is truly loving it. It is her opinion that ZBACP should make its own contributions to the future evolution of the label industry while simultaneously realizing its own development.

'I want to serve the enhancement of the safety and quality of Chinese printed products, accelerating our industrial development and improving the industry's international status and influence,' she says. 'Fortunately, ZBACP has provided a platform to work with many excellent industry peers over all these years and contribute my share to the future development of this industry.'

Huang Haiying, vice general manager, Tianjin Improve

Entering the label printing industry in 2009, Huang Haiying now works as the vice general manager of Tianjin Improve Printing.

After majoring in administrative management, Huang Haiying joined the electronics division of Tianjin Improve as soon as she graduated in July 2003, where she was responsible for sales and quality control of die-cutting parts for the electronics industry. In 2009, two subsidiaries of Tianjin Improve were merged and Huang Haiying officially entered the label printing industry.

Huang Haiying admits frankly that she encountered many difficulties at the beginning, as she had no professional background and knowledge. The problems arose when communicating technical solutions to customers or discussing the company's products with in-house technicians. 'Though I had previously had some business



Huang Haiying, vice general manager, Tianjin Improve

"I want to serve the enhancement of the safety and quality of Chinese printed products, accelerating our industrial development and improving the industry's international status and influence"

cooperation with Tianjin Improve, I found there was a lot to learn after truly entering the label printing field, especially the technical process and machinery knowledge, which really are challenges.'

She made good use of her diligence, patience and strong communication skills, learned from others and soon found her own position in the industry. Since then she has performed both quality control and customer service management roles, obtaining recognition from both company leaders and customers. In 2013, Huang Haiying was assigned as the plant director of Tianjin Improve, responsible for all the production and sales work of the company.

Strive under pressure

Being promoted to management was the turning point for Huang Haiying. 'I was very excited to get this promotion through fair and open competition. It showed that my hard work had won the acceptance of company leaders and colleagues. Then I focused on putting my ideas into practice to help develop the company,' she says cheerily.

However, such joy at the beginning of her promotion was soon replaced by conflict. 'On the one hand, many experienced and senior employees held ideas which clashed with the new management rules, and this brought certain obstacles to my job. On the other hand, moving from being responsible only for myself to being the manager leading the whole team was not only a change in job responsibilities but also in working methods and mindset. The key point is not only to finish ones' own job but also to manage and supervise subordinates' jobs.' As a first-time leader, Huang Haiying was facing again fresh challenges in this new course in her life and career.

How to successfully manage a manufacturing plant? Huang Haiying learned from many excellent domestic and international peers whose management experience had been accumulated over many years, and joined this to her own understanding of recent trends in China's label market.



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Sincerity and Creativity



She concludes: 'Label printing is a minor manufacturing industry, so we must focus on market and customer needs. To be a leading company, we need to work towards more innovated products and processes while supplying high-quality products and service.'

Following the principle, 'market-driven, result-oriented', Huang Haiying boldly introduced reforms in the Tianjin Improve plant, building standard management and staff training procedures and focusing on effective implementation of the new management system. Through perseverance and hard work, these reforms have resulted in a single 'simplified, high efficiency and fast response' manufacturing team.

"Sometimes I spend whole nights in an effort to develop a project which the customer may rubbish in a minute. At those times I really do have my doubts. But I am not an easily defeated person. I know clearly that the more such things happen, the more effort I need to put in"

At the same time, to better understand market needs, Huang Haiying welcomed customers to the plant for on-site training. 'We invited them to share with us their updated standards and their requirements in the food, pharmaceuticals, electronics etc industries, so that we could improve our internal management procedures to match these developing requirements. All these initiatives helped lay good foundations for our standardized production procedures,' says Huang Haiying.

Tianjin Improve built its first subsidiary, Wuhan Ying'ai, in 2012 in Wuhan, while the second subsidiary, Suzhou Ying'yi, went into production in 2016. Headquartered in Tianjin with manufacturing bases in eastern and central China, Tianjin Improve has officially realized its scale development goals.

Female preference

From the initial challenges to today's leadership role, Huang Haiying has written her own history in the label industry from a female point of view. As for female workers in wider manufacturing sectors, as long as they make good use of their own advantages and are willing to work hard, they are just as capable of doing the same jobs as males, Huang Haiying believes. 'Particularly following the increasing automation levels in the label printing industry, physical work has become less and less important, meaning woman workers can operate the whole range of facilities. Our workshop supervisor in Tianjin Improve is just such an excellent woman, and the female die-cutting team leader has been awarded as an outstanding worker every year.'

Huang Haiying says women's unique characteristics are a definite advantage in the printing industry. 'Their careful communication skills and empathy have the potential to make customer and colleague communication easier. At present, female employees in Tianjin Improve account for nearly 40 percent of the workforce. Many customers have high praise for the women in our team.'

Since its establishment in 1998, Tianjin Improve has followed the principles of 'reform, innovation, focus'. Today the company runs three Omet flexo presses, two Mark Andy flexo presses and one HP Indigo digital press. The total sales of the Improve Group were 100 million yuan (14.3m USD) in 2019.

At the beginning of 2020, due to the influence of Covid-19, production and operation were a little slow. But Huang Haiying took advantage of the reduced pace of production to review and consider strategies for future development.

While both the Tianjin and Suzhou plants have gradually recovered production, the Wuhan subsidiary has not yet fully recovered; the former two plants, however, are sufficient for normal delivery for all Wuhan customers' orders – which demonstrates the importance of strategic planning for the development of the company.

The company is also considering a move into the south China market in the future.

Xiang Susu, deputy manager, Tianjiao Print

Influenced by a family printing background in her childhood, Xiang Susu joined the label printing industry as soon as she graduated in 2003. Starting out as a secretary, she made full use of her spare time to learn pre-press and design, then customer jobs from their purchase orders to completion. Today she has become the deputy manager of Tianjiao Print and is mainly responsible for finance and some sales work.

Entering the printing industry as a female, Xiang Susu acknowledges that there indeed were certain challenges. First, the traditional printing environment in the workshop. Compared with other jobs, there is inevitably ink odor and disorder in the printing workshop. Second, the 24-hour working system, especially with some purchase orders requiring constant follow-up, means overtime working is frequent, and could happen at any time. Finally, different customers have different requirements for products, especially for new products where they don't even have a clear idea of their needs, so have to discuss and communicate with sales representatives to come up with a final solution.

None of these factors are a problem for Zhejiang-born Xiang Susu, who grew up surrounded by the printing industry. She has her own opinions about why women should choose this as a profession. 'I think printing is not simply a part of packaging, but can also express the quality of the product and its brand value to customers. It's an important marketing tool. As a printing worker, I am proud and appreciated for this job.'

Passion

Although passion, appreciation and pride are apparent from the start of our interview with Xiang Susu, there are also times when she wonders if all her day-to-day efforts are worthwhile, especially



Xiang Susu, deputy manager, Tianjiao Print 📝





when faced with undeserved complaints and even suspicion from customers.

'Sometimes I spend whole nights in an effort to develop a project which the customer may rubbish in a minute. At those times I really do have my doubts. But I am not an easily defeated person. I know clearly that the more such things happen, the more effort I need to put in. This may also become the wheel that drives my progress forward.'

"Female workers now account for one third of our total employees. Females do face more pressure, especially those with family and kids. It has been particularly difficult for them to overcome the twin challenges of job and the pandemic."

Xiang Susu's belief is that to do things well is the most important thing; she will never give up because of a bad day at the job.

Indeed, her 'never give up' character has meant Xiang Susu has learned a lot from failures and has gradually gained the confidence of even the most difficult of customers. By agreeing a final solution after much communication with these customers and delivering on it, Xiang Susu actually feels a deeper sense of pride and personal value when seeing that customer's products successfully listed and on shelves. This sense of achievement and satisfaction has supported her 17-year label printing career.

Better future

Though Tianjiao Print was also hit by the Covid-19 epidemic at the beginning of 2020, Xiang Susu is still optimistic for the future of the label printing industry.

Tianjiao Print accomplished the transition to digital printing in 2019. It installed a Heidelberg 7100UV 5-color digital press in 2017, then a Heidelberg 9100 4-color digital press and an HP Indigo 6900 digital press in 2019. Besides this there are three Reborn digital die-cutting machines. At present, half of the orders processed by Tianjiao Print were printed digitally.

Tianjiao's business mainly covers labels for medicine and medical machinery. During the epidemic, it received plenty of orders relating to medical machinery, some of which were extremely urgent. 'The digital press with its ease of operation and short lead times really showed its advantages and value at this point. Almost all the orders being produced by our digital press could be accomplished within 24 hours,' says Xiang Susu. She notes that all the company's non-Covid infected employees had to do several jobs: they were designers, sales people as well as customer service representatives and more.

As to the logistics hit caused by the epidemic – including the rising cost of raw materials and consumables from February to April – Tianjiao Print decided to absorb a part of these costs as the best contribution towards fighting the virus.

Tianjiao Print also promptly adjusted its development strategy to relieve the impact of the epidemic. For example sales, customer service and factory management were carried out online as well as on-site.

'Now female workers account for one third of our total employees,' says Xiang Susu proudly. 'Females do face more pressure, especially those with family and kids. It has been particularly difficult for them to overcome the twin challenges of job and epidemic.'

'Modern society requires more jobs to be open to females,' concludes Xiang Susu. 'We and other printing companies need to make more efforts to help out with the home and work pressures they face, which will give us all access to a better future.'

Female industry leaders in China

More female leaders in the Chinese label industry were covered in L&L issue 4, 2019. Read the article online at www.labelsandlabeling.com/features/female-label-industryleaders-china



Read more from Yolanda Wang on the Chinese label market at www.labelsandlabeling.com/contributors/yolanda-wang





Are we ready for sustainability?

The importance of environmental sustainability in labels and packaging has been consistently increasing in recent years. Consumers no longer expect it, they demand it. PiotrWnuk reports

odern consumers demand sustainability. Over the past few years it has become a key factor considered when making a purchase decision. According to a recent Accenture sustainability survey, 87 percent of consumers prefer an eco-friendly packaging option when purchasing products.

Environmentally friendly packaging has enormous potential to add value to products, shape brand image and develop customer loyalty. Sustainability and environmental responsibility, for brand owners contending for leading market positions, are nowadays a necessity, not merely a luxury or simply a buzzword. Plus, with the public increasingly aware of the waste caused by packaging, wasteful brands are often named and shamed on social media.

Global corporate giants such as McDonald's are now pledging to make their packaging fully recyclable by 2025. Governments around the world are implementing stringent legislation and imposing sustainability deadlines, which brand owners will have to meet. There is no doubt about it. The pressure is on.

Is sustainability here to stay?

Many of us were brought up with the phrase 'reduce, reuse, recycle' in our vocabulary. Today, it's essential for businesses to reflect these values. Not only to help the environment, but also increase brand loyalty among eco-conscious consumers.

'Responding to changing consumer attitudes, sustainability has become a greater priority for both brand owners and suppliers to the packaging industry,' says Jonathan Sexton, marketing manager, energy curing products for Europe at Sun Chemical, one of the largest producers of printing inks. 'Brand owners have played an important role in the push for more sustainable packaging by committing to being more environmentally friendly. As part of that commitment, many have adopted a responsible packaging policy, which also includes the design and production of packaging for a circular economy.'
Yohann Froment, marketing director of Armor, French manufacturer of thermal transfer ribbons, thinks that sustainable packaging and labeling is still emerging, 'though it has recently gained increased focus, driven by the corporate social responsibility policies of major brand owners.'

Is this wave of sustainability accountability from brands and the general population here to stay? 'In my 30 years of experience in the packaging industry, this is the third wave of sustainability that I have seen, and I believe this one is here to stay,' asserts Dan Haney, president and co-founder of Haney, the Packaging Microfactory, which has recently launched the VIA ReSolve sustainable packaging program. 'Right now, many label manufacturers are moving towards more sustainable practices offering eco-friendly label materials, thinner films, liner recycling programs, etc. We at Haney are seeing increasing interest from brands in composting: compostable adhesives, films, containers. I think there needs to be more emphasis on adhesive technologies, specifically when it comes to the advancements in bio films; if you are going to use a bio film you have to have a bio adhesive and that bio adhesive can't leave a residue or should be compostable if the label material itself meets those standards.

Indeed, material science, packaging and label engineering are developing at incredible speed. As a result, more eco-friendly options are on the market that can take care of a wide range of products. There have also been breakthroughs in plant-based and biodegradable plastic packaging.

'Sustainability labeling options are growing and being adopted by brands. At Avery Dennison we started with FSC face sheets (responsibly sourced) and now have grown our ClearIntent Portfolio to include products that have reduced environmental impact, include recycled content and also products that focus enabling the recyclability of the substrates they are applied to,' comments Sarah Sanzo, compliance and sustainability manager at Avery Dennison. 'We work with partners (APR, SPC How2Recycle) that help educate consumers on how to correctly recycle their packaging and this continues to push the sustainable packaging market forward.'

"Responding to changing consumer attitudes, sustainability has become a greater priority for both brand owners and suppliers"

Factors shaping the market

According to Robert Taylor, sustainability director at UPM Raflatac, the most important factors shaping the sustainable packaging market are climate change, the plastics discussion, packaging recyclability and resource efficiency. 'As a company, UPM Raflatac has taken a number of steps to address these. Through our commitments, we are doing our part in reducing unnecessary plastic packaging and setting concrete targets to create future innovative circular materials.'

Sarah Sanzo adds: 'Consumers are a large part of shaping the environmentally responsible labeling market. Expectations from consumers that the brands are hearing loud and clear have made brands rethink their packaging. Out of the complaints it has created an opportunity for the labeling market to bring forth innovations to meet the needs of consumers and brands.'

Sun Chemicals echoes this statement: 'The main factors are consumer demand, social responsibility and regional regulatory frameworks. However, the cost will also become an issue as sustainable solutions go mainstream,' says Jonathan Sexton.

Yohann Froment is also concerned about the economic side

and thinks that as long as recycled raw materials remain more costly than new raw materials, the trend towards sustainability will not develop at a fast pace. 'Consciousness of manufacturers will progressively contribute to increase demand volume, and will reach at one stage, the price required for a viable economical model,' he says. 'Innovation can also drive this trend. Innovative products and processes can lead to demand and can impose standards to the market. For example, at Armor, we have recently launched a new thermal transfer ribbon, APR1 which is manufactured with 12 percent less plastic. Though it is positioned as a competitive ribbon compared to the other products of its family, this industrial innovation will necessarily make an impact on the mind of resellers and brand owners using it. So, it is the responsibility of the industry to innovate with economically viable, sustainable options because it will progressively shape the buying intentions of the market.'

One of the key challenges is the number of different assessment criteria for sustainability, which includes recyclability, compostability, bio-sourcing and carbon footprint, and within recycling there are also different processes and guidelines.

'This not only means there is no single technology approach, but also that there can be challenges with sustainability criteria such as the recycling of bioplastics and with the functionality and cost of the package in question,' confirms Jonathan Sexton. 'Label and packaging converters and their supply chains are having to adjust to evolving consumer and brand owner demands and priorities in this area. The supply chain is reacting to these evolving needs, but the industry needs to move to a more proactive approach, which requires greater investment.'

According to Dan Haney, one of the biggest issues is the infrastructure for recycling and composting. The lack of consistency makes it difficult for brands and material manufacturers to develop products that are universally recyclable or compostable.

'The intentions are here, recycling initiatives exist, but not strong enough to make them a reality or to develop fundamental changes like compostability,' says Yohann Froment. 'Cost effective options (versus non-sustainable alternatives) will be a key driver to the speed of adoption. Currently sustainable initiatives are sometimes polluted with rather "fake" sustainable packaging, giving a green image to packaging rather than being truly sustainable products. Most brand owners are not willing to pay a premium for the existing environmentally friendly solutions. This is slowing down the investment and development from the labels and packaging makers.'

'The biggest challenge in the US is getting consumers to recycle their packaging,' adds Sarah Sanzo. 'Education is needed. Low rates of recycling make it hard to source enough post-consumer recycled content to help brands achieve their goals.'

'There has been a huge surge in advancements in materials and adhesives, but if the facilities aren't there to properly recycle or compost that product it will just end up in a landfill,' agrees Dan Haney. 'To reiterate, at Haney, we are getting a lot of requests for compostable and bio-based adhesives, which is tricky because these adhesives are being asked to do a lot while still maintaining the necessary characteristic to achieve the BPI or TUV standards.'

Circular economy

Jonathan Sexton considers the circular economy to be an achievable target and one that is certainly worth achieving. 'It will be a long and challenging road to get there. Nevertheless, we are committed to it – as a member of Ceflex, for example, Sun Chemical is working closely with the organization to advance its sustainability and circular economy roadmap for flexible packaging in Europe,' he says.

Armor is also positive about the circular approach: 'In Armor's business unit working on consumables for office printing, the product is sold, collected once used, and finally rebuilt as new one,'

says Yohann Froment. 'All waste is recycled into new products, therefore as soon as the value of recycled raw materials is competitive, the same model can be implemented across labeling and packaging.'

'For the circular economy to be successful, we need to continue and work with industry partners up and down the value stream,' adds Sarah Sanzo. 'We see a path to success, especially with recycling our liners back into new liner products. Making a market for our byproducts is key to keeping circularity in motion. Other countries are seeing great success with circularity, but they have a more robust recycling infrastructure, but as consumers are eager to learn we all have an opportunity to improve how we manage our recyclables.'

UPM Raflatac goes as far as calling it a 'new way of doing things'. 'Simply put, we have no other option. It's the only way forward,' says Robert Taylor. 'Fortunately, there are already things that are happening to bring this to life. Take, for example, UPM Raflatac's Label to Label product in the Americas, which is the label industry's first paper face material constructed from recycled label materials. Or our RW85C wash-off film labeling materials, which allow the label to cleanly wash off from a PET container during the recycling process. This gives you contaminant-free flakes that can be turned back into another PET container, thus closing the loop. These are just a few examples of the circular economy already in action. But there's still so much more we need to achieve. UPM Raflatac will be one of the key solutions providers in this game, which is central to our company's strategy. As part of UPM, it strengthens our position to be able to do this. For example, with our Forest Film materials, we are able to leverage our sister company UPM Biofuels' resources to find new ways to innovate for a future beyond fossils."

According to Dan Haney, circular economy does come off as a buzzword, but that doesn't make it any less of an important goal to strive for.'I would like to see more companies providing liner recycling programs, such as RafCycle from UPM Raflatac. Nearly 50 percent of the label is the liner. While consumers may not think about this portion of the label it is a huge part of the process and it is important to divert this waste from landfills. Additionally, it is important to address the business case for a full circular economy to warrant the investment from brands and manufacturers alike.'

'Companies like The Loop are experimenting and figuring out the value of taking products out of landfills with permanent packaging,' continues Dan Haney.' If they can identify sufficient financial gain for the business to do that then programs like these will gain momentum with the brands. But ultimately it goes back to what do consumers want- are they willing to pay a slight upcharge for something that improves sustainability, takes something out of a landfill, or reduces greenhouse gas emissions? Unfortunately, I don't believe at this point in time that is the case – typically consumers don't want to pay more if the only tradeoff for their dollar is sustainability.

'Our philosophy at Haney is to pair sustainable advancements with product innovations to entice the consumer to pick that more sustainable product up off the shelf – that's when we see consumers be more receptive to paying a slight upcharge of 6-12 percent.'

Recycling, PCR or CO2

There is no singular answer. The only way to move forward to a more environmentally friendly future in labeling and packaging is to attack the problem from all sides.

'You have to be looking at all options,' says Sarah Sanzo. 'If you can't recycle your package, then it's harder to get post-consumer recycled content. When you can't purchase post-consumer recycled content for your products industry is forced to purchase virgin raw materials which increases carbon footprint instead of decreasing it. As a society we need to focus on the "Reduce, Reuse, Recycle"



Avery Dennison's ClearIntent range is made from certified and renewable materials

model and shift the general mindset.'

According to Robert Taylor, all three aspects are important, but a fourth – renewables – also needs to be considered. 'They all have their role in the drive towards more sustainable products and none of them are mutually exclusive elements,' he says. 'For example, by ensuring recyclability, we're keeping raw materials in the system, and that eventually allows you to use more post-consumer recycled (PCR) content. In doing so, you're reducing the carbon footprint. So, they're totally interlinked; you cannot separate them, and you shouldn't. Instead, we need to understand the links and make informed choices. Resource efficiency is at the core of UPM's and UPM Raflatac's Biofore strategy.'

Jonathan Sexton adds: 'Our own discussions with stakeholders suggest that there is currently a market focus and priority on recycling. This focus is also being driven by regulation and is generating questions around recyclability that will impact increasingly also on inks and other materials used in label and packaging manufacture.

'A carbon footprint is also important and has several aspects, one of which is operational with regard to manufacturing processes and energy consumption and is a clear focus of label and packaging converters and supply chain manufacturers. Another increasing priority is biosourcing, i.e. using raw materials based on "natural" renewable organic carbon sources rather than on ancient or petrochemical carbon sources. This is particularly true, where paper-based materials are favored in new applications.'

Some producers such as Armor are focusing on carbon footprint reduction, so that newly developed products have significantly lower environmental impact.

'The trend is a combination of all these sustainability factors, depending on what part of the packaging they refer to,' says Yohann Froment. 'We definitely invest in production processes to use less solvent, less plastic, and less raw material so, for example, some of our ribbons are developed using 12 percent less plastics, others are 100 percent solvent-free. We are committed to recovering any post-production waste from our customers. From Armor's flagship plant in France, 100 percent of our PET waste is recovered and along with 91 percent of the solvent we use is turned into energy for our own plant, which currently uses electricity made of 58 percent renewable sources.'

'Brands need to collaborate with the material manufacturers who need to work with the printers and converters and ultimately with the MRFs and composting facilities as well,' says Dan Haney. 'Collaboration is key to identifying options that tackle environmental issues at every step in the process. Right now, from a developmental standpoint utilizing post-consumer recycled content (PCR) is the easiest first step. The problem there is that the supply isn't consistent. A refocus on recycling in the United States and developing a system that enables businesses to generate both revenue and a consistent supply of the right materials is



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needed. In addition, label companies, such as Avery Dennison and UPM Raflatac have developed wash-off adhesives that advance PET recycling. The greatest challenge is greenhouse emissions. I think a lot of work has already been done there – many of the big companies have stepped up and changed their manufacturing over the past few years and they have identified efficiencies in their facilities and the facilities of their supply chain.'

Opportunities

Jonathan Sexton believes sustainability is one of the key opportunities and drivers for new product development, especially around supporting the social imperatives of ensuring food safety and reducing food loss and packaging waste. 'Continuing to help our customers to achieve their sustainability goals, Sun Chemical already has programs related to deinkability and recyclability of printed materials as well as biosourcing and sustainable printing technologies such as LED, and these will become more important in the future. Our future developments will all need to integrate sustainability criteria.'

'We work with the APR, MRF's and recyclers to ensure our pressure sensitive labels do not hinder the recycling process,' says Sarah Sanzo. 'With these insights the entire label industry is working toward the same goal thus creating a larger economy for recyclers.'

'UPM Raflatac's role in the packaging value chain is to offer label options and services that enable brands to make their packaging more sustainable. But we're not just offering product-based options; we have services available to help enhance a brand's sustainability,' says Robert Taylor.

The company runs RafCycle label waste recycling service with over 150 partners around the world. 'With RafCycle partners, we coordinate the recycling of spent label liner waste and have it recycled into a new resource. Additionally, our Label Life tool helps educate on the environmental impacts of our label materials by providing life cycle assessments and showing three fundamental ways they impact the environment: greenhouse gas emissions, energy use and water consumption,' adds Taylor.

Armor has also set up a complete collection and recycling program for its thermal transfer ribbons. 'At the moment it is running in France, where the program called RecPET is offered by our resellers to their end-users,' says Yohann Froment. 'Some of the large brand-owners have embraced this initiative to reduce their waste and participate to reduce their own carbon footprint. We are currently preparing similar RecPET programs in other countries like the USA with intentions to go faster and stronger everywhere we are present in the world.'

Dan Haney also can see a significant potential in implementing sustainability: 'If permanent packaging is becoming a sustainable revenue platform for companies and brands then they have to address premium print. The ability to use and remove a label easily would become imperative for brand messaging on permanent packaging. I think that labels are going to play a significant role in this market and be the primary communication vehicle here.'

Positive, but cautious outlook

There is no doubt that the focus on sustainable packaging and labeling will continue. Already it's growing several percentage points faster than non-sustainable packaging.

'You can see where the future is headed, and we want to be part of that future,' says Robert Taylor. 'This growth is in large part due to consumer demand for sustainable packaging. In turn, brands are working to keep up with this demand by announcing their sustainability targets and launching more sustainable sub-brands. There are the leading companies who are not just meeting consumer and customer demand, but go beyond the targets. Our job is to push the agenda and create an innovative new labelstock that turns heads. That's what leaders do. We just want to reiterate that the green recovery is undoubtedly the path forward, not just in the post-Covid period, but well beyond'

'This market has an enormous future, but will only gain full momentum once governments enforce stricter environmental regulations and develop clear recycling channels,' says Yohann Froment.

Sarah Sanzo adds: 'The future is indeed very bright for the sustainable packaging and labeling market; value stream partners are collaborating, and new technologies are being created and tested. Chemical or advanced recycling technology is growing and being adopted which will help offset the hard to recycle materials that end up in a landfill.'

According to Dan Haney, the best way for a positive future is through collaboration and understanding where the value lies. 'What we are trying to fix is something that has to work in a much larger system, and the only way is if all the pieces of the system are working together. The power of marketing is tied into incentive programs. Consumers want to do the right thing and know they need to do the right thing, but they are lazy sometimes. If you can create an incentive system to get part of the process done at home instead of at the plant, that makes it easier for the manufacturers and investors to invest in high-speed lasers for reading the right materials versus grinding machines. It will have to be a collaborative process at the manufacturing level, the brand level, and the consumer level.'

However, alongside this positive outlook comes some caution: 'As the momentum behind the adoption of sustainable packaging and labeling picks up, current products and processes may quickly become obsolete, so the industry will need to accelerate innovation,' warns Jonathan Sexton.



Read more about environmental sustainability in the Label Academy book: 'Environmental Performance and Sustainable Labeling'. www.label-academy.com

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From color pains to performance gains

To create spot colors accurately and quickly, ink dispensing systems are crucial, writes Maarten Hummelen, marketing director at GSE

n conventional process printing for labels and packaging, spot-color printers must control ink-related processes with care to deliver quality, limit costs and maintain uptime. Mixing the right shade requires extreme accuracy. Without computerized equipment, the color making process is unreliable, causing delay and heavy substrate waste. Other spot-color challenges include managing inventories, reusing press-return inks and economical procurement. Appreciating ink's total ownership cost is therefore critical.

The goal of ink management is getting consistent, repeatable quality, while limiting expenditure of ink-related resources to create customer value. Ink dispensing systems, for creating spot colors accurately and fast, are crucial for achieving this. They are available for flexo, gravure, offset and letterpress processes, and all label and packaging applications.

Automatic ink dispensing systems dose exact shades and volumes by calculating and mixing the recipe from connected barrels of base colors. The operator enters the target color and volume requirements into the interface; a computer calculates dosage volumes and activates the blending. These are suited for flexo, gravure and screen processes.

"The goal is getting consistent, repeatable quality, while limiting expenditure to create value"

'Manual' dispensers feature precision scales plus computer, keyboard and interface. The computer calculates the recipe as above, but the operator adds and mixes the ingredients. Easy to self-assemble, these require lower capital investment and are suited for all conventional process inks. An example is GSE's new Colorsat Formula Checkweigh System. Generally, if yearly UV ink consumption is over 3T, automatic systems are best. The figure is higher for water-based inks, which are cheaper.

The following checklist of benefits and costs can help you determine the most suitable dispensing system for your printing needs.

Benefits

Lower ink prices: purchasing basic inks in bulk instead of ordering ready-mixed inks means better prices. Mixing your own colors eliminates import duties and taxes on ready-mixed inks.

Lower transport costs: transport of base colors from your supplier is cheaper than transporting small batches of ready-mixed colors.

Lower ink consumption: dispense the right quantity on-demand, instead of ordering excess amounts of ready-mixed inks 'just in case'. 'Press-return' inks remaining after the job can go into new recipes. Ink consumption levels can be cut by up to 30 percent.

Less ink and substrate waste at job change: the ink dispenser's precision means colors are first-time-right, reducing substrate and ink waste due to 'trial-and-error'. Mixing is faster, enabling swift job setups and more uptime – especially with repeat jobs that can be easily recalled from a dispenser's recipe database.

Lower ink stocks: inventory is simpler because all shades are mixed from a limited number of base colors, with no ready-mixed



GSE's Colorsat Formula Checkweigh System is an ink dispenser for flexo, offset, gravure, screen and letterpress processes

inks, while 'press-return' inks are swiftly reused. Managing fresh and return-ink stocks is optimized with ink management software.

Reduced ink containers and discharging costs: inks for a dispenser come in larger containers instead of buckets, reducing container costs and the costs of discharging polluted packaging.

Fewer indirect tasks: reduce the shipment, handling and carrying of inks by installing the dispenser near the printing press. There are also fewer purchase orders and administrative tasks.

Importantly, consider also the added value of the dispenser's ink management software. For instance, GSE Ink manager (GIm) has optional reporting, scheduling and machine connectivity modules, including real-time costings and stock reports, ink batch traceability, and the possibility to integrate with ink formulation and management information software. GIm comes with all GSE ink dispensers, and can be retained when upgrading to a higher-volume dispenser. Its connectivity makes a manual dispenser capable of integrating peripheral operations – like a legacy letterpress press or a complementary folding carton division – within the corporate MIS.

Costs

Consider both capital and operating costs in your calculations. Capital costs comprise the dispensing system, transport, system installation, training, plus costs of preparing the ink room, i.e. infrastructure, electricity and air supply.

Operating costs, associated with operating, cleaning and maintaining the system, include dispensing speed and desired accuracy; user-friendliness and functionality of the ink management software; ease of exchanging base inks (e.g. with drum modules); dripless valve design, valve cleaning system and a stainless steel dispensing area; modular system design, easy accessibility to key technical components and (remote) help from the equipment supplier.

Calculating the return of investment depends on your typical business situation, print operation, substrate and applied ink technology. Managing ink and mixing color was once a hindrance to quality and profitability. Not now: the right dispensing system can give many years of happy returns in a service-driven, fast-moving, quality-conscious supply chain.



Read about color matching to achieve spot color accuracy in the following article

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Color's crucial role

Color matching to achieve spot color accuracy is a significant cause of lost value in the label converter's workflow, writes Niklas Olsson, global brand manager, narrow web, Flint Group

olor plays a vital role in how the consumer recognizes and recalls a brand. For special shades required for a brand's logos on a label or package, of iconic elements of a graphic design. Spot color printing, based on a special recipe of base colors, is regarded as the most reliable method of reproducing the complete range of colors accurately and consistently.

Color matching to achieve spot color accuracy is a significant cause of lost value in the label converter's workflow – not only is it hard to achieve accuracy, but it is subjective: every one of us sees color differently, according to genetic factors and levels of alertness.

In 2016, Flint Group conducted a survey of its label converting customers across Europe and North America, to identify what hinders productivity the most. It was a surprise to find color matching come out top, far ahead other challenges such as viscosity or curing.

To our amazement, operators were losing on average 2.5 press hours per day, trying to achieve color targets of within 1.5 DeltaE. The survey also found that some converters were mixing an increased number of colors per day, from at least seven to as many as 50.

The time spent on color matching has been rising for a number of reasons. Most obviously, brand owners' quality expectations have risen, because consistent point-of-sale presentation is essential for building strong branding and sales. Second, brand owners regularly introduce new variations, and retire underperforming variations to sustain consumer interest and market share. As a result, converters need new matches for as many as half their color mixing jobs per day.

Trial-end-error formulations drain value

But it was the method, as well as the sheer numbers of matches, that was causing the problem. Traditionally, customers receive a color reference from the customer, then consult the Pantone formula guide, which provides a recipe for matte, coated and uncoated papers, and then mix the base colors and additives accordingly. The printed Pantone guide is an essential visual color reference, but for label and narrow web printers, adaptations to the recipes are often needed to achieve target. This is partly because "In 2016, Flint Group surveyed its label converting customers across Europe and North America to identify what hinders productivity the most. Color matching come out top"

of the sheer variety of substrates label printers use, and the many variables that affect the printed result, especially in flexo.

The properties, color and surface treatment of the substrate, together with anilox cell count and ink set used, all cause a variation in the reflection and absorption of light. A different recipe is therefore needed, to get consistent results when reproducing a single graphic design on different substrates – or even different labels on the same pack.

The example of a label converter supplying the drinks industry in Poland illustrates the challenge. The company performs 15 color matches when supplying bottle labels for a leading vodka brand: each of its five flavors featured a distinctive color shade, which needs a different formulation for each of the bottle's three labels. While the front label's vivid graphics capture attention, the back used a high anilox cell count to reproduce small text, and the neck substrate was silver instead of white.

The customers we surveyed told us that color matching was a complex, haphazard process involving trial and error. Recipes were rarely accurate on the first attempt, resulting in ink waste and significant scrap material. Matching accuracy differed from one operator to the next, making color consistency almost impossible. It took experience to adapt a generic Pantone formula to the application, and some employees have a better eye for color than others. So, a problem emerges of designating a color matcher on each shift. Ultimately, the human eye cannot provide a benchmark if we all see color differently: matching was costly guesswork.



Flint Group's Vivo ColourCloud gives access to over 300,000 ink recipes

Color-matching becomes measurable

But the good news is that color is objectively measurable. We recognized that, by developing a controlled, measurable process that took into account all the parameters influencing the results, we could transform color matching from guesswork into a science, that delivered repeatable quality without depending on human expertise. This led to the creation of Vivo Colour Solutions, consisting of two distinct services. The first is Vivo Colour Portal, a web portal communication tool between clients and our Global Colour Centre (GCC), in Lodz, Poland. The second is Vivo Colour Cloud, an intelligent database that translates the customer's color target into an ink formulation to match the color target on the press, taking into account the substrate, ink set, and anilox settings, to ensure accuracy at the first attempt.

As of June 2020, Vivo contains approximately 350,000 UV flexo formulas, all tested at the GCC, combined from around 2,000 color shades, currently made using seven of Flint Group's ink series, seven anilox film weights and four substrate types. The Vivo Colour Cloud covers UV flexo ink today and is being prepared to also host our water-based flexo ink UV offset and UV screen inks. The substrates selected represent roughly 80 percent of the average label converter's usage requirements.

Crucially, Vivo Colour Solutions is a bespoke service, fine-tuned to the conditions of the user's press. When a label converter signs up for a user license, we conduct a fingerprint, and an audit of anilox types used, to create a tailored search engine. Choice of anilox roll has a significant influence on the color, because higher anilox cell volumes mean a larger ink transfer and thus greater color density.

Vivo license holders access the entire color database through a secure search engine in the cloud, as well as a web portal service for support and new color enquiries. Accessing the database in Vivo Colour Cloud, the user receives the correct formulation in the short time it takes to select the job parameters, as prompted by Vivo's search engine. Once logged in, the user enters the customer color reference, using digital color standards: as well as Pantone references, it accepts L*a*b* values, CxF files and color samples. The user then selects from a bespoke menu of anilox types. The software calculates the ink volume (cm3/m2). The substrate is then selected and the software provides the formulation, which may be printed out. Vivo can link up with software from ink logistics providers such as GSE Ink manager, enabling automatic communication of the ink formulation to the ink dispenser for automatic mixing.

The web portal, Vivo Colour Portal, is an interactive service, through

which customers can seek technical support from the GCC team and also request new formulations, for example on a previously untested substrate, with results guaranteed within 24 hours.

The database is constantly expanding, with hundreds of new color formulas created per week, in response to customer requests from the web portal, and new substrates being introduced by major labelstock manufacturers.

At Flint Group, the innovation we do is first and foremost about helping label converters reduce ink-related costs. Experience

"Operators were losing 2.5 press hours per day trying to achieve color targets of within 1.5 DeltaE"

teaches us that, to protect our customers' margins that come under pressure from both discount-hungry customers, as well as rising overheads, the focus must be on reducing the total ownership cost. As label converters are discovering, Vivo Colour Solutions is standardizing, simplifying and accelerating the once complex process of color matching, and generating value worth up to 100,000 EUR per year.

Consistent quality

First, it gives consistently accurate results, covering the complete visible color spectrum at the first attempt, irrespective of who is matching the color – or where. The converter has assurance that the most complex brand colors will be faithfully reproduced on target on the press, from one shift to the next, and crucially, for multi-national printing houses – one location to the next.

Getting quality 'right first time' leads to significant material savings, improving ink yield and eliminating up to 100sqm of start-up waste per job. Consider also the productivity boost made possible by Vivo generating ink recipes in just a fraction of the time taken by conventional matching with the book. The value gained by two-and-a-half hours of extra machine uptime will only increase as new presses arrive on the market capable of greater quality and faster speeds.

Taking the need for human expertise out of color matching should also be welcome news for the operators concerned. It breaks the organizational silo and frees up valuable time that can be spent preparing for a smoother, faster job changeover, or creatively exploring new opportunities for leaner and smarter production.



Using the human eye to match color is problematic as we all see color differently



Read an article from Flint Group's John Pogatschnik on how Dual Cure inks aid the switch to LED at www.labelsandlabeling.com/features

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Watershed Group drives out waste with Vivo Colour Solutions

Ireland's Watershed Group has boosted productivity and quality consistency with Flint Group's new bespoke color matching service. Adrian Tippetts reports

he Watershed Group is Ireland's largest family-owned label converter with five production sites at locations including the UK, Poland and Germany. The company supplies a host of international brands including Nestlé, Reckitt Benckiser, Tesco, Lidl and Asda Walmart, and has built a reputation for excellence in the premium beverages sector.

'From the beginning, we have seen ourselves as growing in the direction of a more complicated offering than being just a label or sleeve producer,' says Liz Waters, CEO, Watershed Group. 'The quality of the packaging or label is a prime consideration for those brand-owners. They expect not only a high degree of label sophistication, but a tight tolerance in color matching.'

With a HD flexo workflow at its locations,





The award-winning labels for Graham Norton ST CORI Irish Gin were produced by Watershed

the company differentiates itself through award-winning design ingenuity and the ability to offer consistent quality at short notice, on both local and international scales – often competing in markets once considered the preserve of offset.

Workflows are the same across the group with inks from Flint Group, Esko Studio software, and a combined total of 11 Mark Andy P5 Performance series flexo presses, complete with in-line finishing options, including embossing, debossing, silkscreen and die-cutting. The company was the first to install the Mark Andy Digital Series hybrid flexo-inkjet press in Ireland and the UK.

'Standardization brings us a big advantage because it means we can produce the same label to identical standards in any one of our plants,' Waters says. 'This provides the assurance of consistent quality from one job to the next and across locations.'

After installing Label Traxx MIS to monitor efficiencies at its new Dublin factory, Watershed discovered that its existing spot-color matching procedures were causing considerable material waste and production delays, and was an obstacle to assuring the repeatable quality expected by brand owners. For special colors, press operators were manually mixing recipes prescribed by their color guide, using eyesight to judge accuracy. This lacked objectivity and the recipes did not account for factors in flexo printing that also affect color results.

'We would eventually achieve the desired result, after more than one attempt, but have no way of knowing how to achieve the same results on repeat runs,' Waters says.

Spot colors 'first time right'

Flint Group introduced the company to its newly developed Vivo Colour Solutions Service featuring a cloud-based database that translates the customer's color target into an ink formulation to match the color target on the press.

Installed at the Dublin site in June 2019, Vivo Colour Solutions provides a digitalized and bespoke service. To get the perfect match from a library in the database of over 350,000 formulations developed by Flint, Watershed's color makers enter measurable digital color targets, plus the job's

"Brand owners expect not only a high degree of label sophistication, but a tight tolerance in color matching"

specifications, including substrate type and surface treatment, ink set, and anilox line count details. The recipe is then generated.

'Flint Group's Vivo Colour Solutions has helped considerably in our efforts to improve operational efficiency, taking human error out of our production chain and significantly reducing machine downtime, ink use and substrate waste,' Waters says. 'The formula for every job is in the Cloud so the makeready people can match it immediately and exactly. The speed, ease of use, and consistent precision of the database means we have assurance of meeting demanding color targets first time, time after time.

'Based on our MIS measurements, we are saving five minutes per color and 25 linear meters of material per color. As we perform up to 300 jobs per week at our Dublin factory, this amounts to considerable savings.'

Customized database

To set up the search engine specially for Watershed's Dublin factory, Flint conducted an audit of the aniloxes used and tested each of them on the Mark Andy press at the site, and added their characteristics to the database. This accounts for the relationship between anilox cell volume and ink density on the job. The system then automatically adjusts the ink formulation.

Implementing Vivo Colour Solutions led to ink preparation becoming the role of a dedicated team, so the presses can be swiftly set up, with no last-minute color-related delays. After the success at the Dublin site, Watershed plans to roll out the database to its Poland and Germany plants next, and avoid buying in ready-mixed inks.

For more on Flint Group's Vivo Colour Solutions, see preceding article







Anti-bacterial innovations reach label industry

As the world reels from a devasting health pandemic, label and packaging suppliers are responding to heightened awareness about the spread of germs and bacteria. Chelsea McDougall reports

Il around the globe, the message to slow the spread of Covid-19 is the same: cover your face, wash your hands with soap and water, use hand sanitizer, social distance. These directives are aimed at the basic principle of slowing the spread of bacteria at least until the virus is under control, or a vaccine is discovered.

As the science community rallies behind a vaccine, the label and packaging industry is funneling its R&D efforts into antibacterial and antimicrobial materials, inks and coatings that minimize the spread of germs or offer resistance to various types of bacteria, spores and viruses.

These materials are making a resurgence in the printing industry, particularly in labels and packaging in order to provide surface protection on everyday products.

"When the Covid-19 outbreak happened, there were no hand sanitizing gels available in the stores. Do they kill Covid-19? They don't, but do they increase prevention levels? They do, and that's why we use them"

Even before Covid-19, the market for antimicrobial coatings was valued at 3.2bn USD, according to a report by Global Market Insights. Couple that with the current global health pandemic, and the valuation of the antimicrobial materials market is expected to reach 6.3bn USD by 2026, the report states.

These industry players are citing a variety of applications for

these materials, with the healthcare and pharmaceutical sectors being the obvious choice. But many have seen an increase in demand in food packaging and from restaurants, and the materials could easily resonate with today's hygiene-conscious consumer. This is only expected to grow, as an increasing prevalence of infections is likely to boost demand.

Materials

Taghleef Industries introduced at Labelexpo Americas 2016 an antibacterial film called BacterStop that's intended to keep surfaces clean, repel bacteria and reduce the risk of cross contamination. The film was slow to take off in the label market initially, but BacterStop has found commercial success in other graphics arts industries, particularly printed menus in restaurants or hospitals and safety cards in airplanes, for example.

'I'm expecting this to become the new standard in the graphic arts industry,' says Filip Sarka, regional manager, North America, at Taghleef Industries.

Taghleef Industries has seen renewed interest in BacterStop from the label community since the Covid-19 outbreak. The material is available in matte and gloss films and is certified to eliminate 99.9 percent of bacteria that comes in contact with the film.

BacterStop is not a coating, but rather the antibacterial properties are built into the film, which means it won't wash off in the cleaning process. Taghleef guarantees the antibacterial properties through the life of the product, Sarka says.

It's important to note that BacterStop, and most antibacterial products in the market, can kill bacteria, but it does not have antiviral properties so it cannot kill Covid-19 or other viruses.

'Right now, we cannot certify antiviral properties,' Sarka says. 'What we can certify is the elimination of 99.9 percent of the bacteria that comes in contact with the film surface. That's what we can guarantee today.'

He points out that even though BacterStop doesn't kill the Covid-19 virus, neither does hand sanitizer. Like hand sanitizer,



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BacterStop is another tool in the toolbox.

'Look at the standards everyone is applying, there is a crucial amount of prevention going on in the marketplace,' Sarka says. 'When the Covid-19 outbreak happened, there were no hand sanitizing gels available in the stores. Do they kill Covid-19? They don't, but do they increase prevention levels? They do, and that's why we use them.

'We are told to wash our hands, wear face masks, cover our faces. None of that kills Covid-19 but we do that because it does increase our prevention level and reduces our exposure to bacteria and viruses.'

Coatings

While BacterStop has the germ-fighting properties built into the material itself, other suppliers are bringing various antibacterial varnishes and coatings to the market.

Siegwerk is expanding this technology in the EMEA region through a distribution partnership with Varcotec for Lock 3 coating technology. The product helps avoid risks of transmitting bacterial and viral infections when products' printed surfaces are handled by multiple people in a short time.

A water-based overprint varnish, Lock 3 allows for permanent disinfection of the printed surface under ambient room lighting or in open daylight. Lock 3 contains a patented substance, that uses photodynamics. The photocatalyst is activated by visible light and transfers the energy thus absorbing the surrounding oxygen. This process creates so-called singlet oxygen, efficiently killing germs by oxidizing its shells.

Tests have shown that Lock 3 varnishes can kill both bacteria and infectious viral particulates by more than 99 percent. Additional tests against other virus strains, including three coronaviruses, are currently in the testing phase. US-based Interactive Inks and Coatings has seen great success with its InhibiCoat primers, inks and coatings since the Covid-19 pandemic struck. InhibiCoat launched last August with an active ingredient that's found in a cleaning product, AgentPlus, which contains silver and copper nanoparticles.

The silver and copper ions form part of a unique coating, providing an active concentration on the paper surface, with the silver ions causing functions in the bacteria to break down and, consequently, the bacteria being unable to reproduce and therefore inhibiting bacterial growth. This helps to break the chain of contamination on manually handled products and packages.

"The spread of bacteria was a concern which existed before Covid-19. The pandemic heightened everyone's attention to it"

InhibiCoat kills 99.9 percent of bacteria based on EPA testing, and will undergo coronavirus testing later this year. The active ingredients are EPA registered for surface treatment.

'The spread of bacteria was a concern which existed before Covid-19,' said Jeff Lord, who is in technical sales at Interactive Inks and Coatings. Lord also invented AgentPlus. 'The Covid-19 pandemic heightened everyone's attention to it. We've had Sars and other outbreaks in the past, and we have to be prepared for them. That has always been the goal of AgentPlus and InhibiCoat.'

Innovation outside of labels

When it comes to stemming the spread of bacteria, there is plenty of innovation happening outside of the label industry.

Researchers at Canada-based McMaster University have developed a self-cleaning surface material that can repel all forms of bacteria, preventing the transfer of antibiotic-resistant superbugs and other dangerous bacteria, according to a report in the university's publication Brighter World.

The plastic surface – a treated form of conventional transparent wrap – can be wrapped onto surfaces such as handles, or on food packaging, where it could stop the transfer of bacteria such as E. coli, Salmonella and listeria, for example.

In another innovation, Toppan Printing is bolstering production of payment and access cards that incorporate an antibacterial agent. Production capacity will be increased by approximately 50 percent from July this year, the company says.

Toppan's antibacterial cards are compliant with standards for antibacterial activity on plastics and are recognized for its performance in inhibiting bacterial growth. The cards have been shown to keep the reproduction rate of E. coli and Staphylococcus aureus bacteria on the card surface at less than 1 percent, meaning they are also suitable for use in medical and pharmaceutical facilities as well as locations in which food is handled.



Best as an overprint, InhibiCoat has seen interest in wristband, bank cards, hotel room keys, hand wraps for door handles, food and pharma labels and more.

'We don't usually launch a product with a "build it and hope they will come" mentality, but in the world we're in today, the customers don't seem to stop coming,' Lord says.

Prime Source OPC, a label converter in Winston-Salem, North Carolina, is an InhibiCoat customer. 'There is no doubt the Covid-19 outbreak will change our perspective on a number of factors throughout manufacturing, and beyond,' the company says. 'However, it's what we learn from these challenges that will make us stronger as a nation. We can begin pulling resources and innovating technologies to protect the human race and our processes as we engage with each other on a global level.'

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To watch a video interview with Filip Sarka from Taghleef Industries, visit https://link.labelsandlabeling.com/1i5y

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Shrink sleeves: inks and surface treatments

Correct specification of inks and surface treatments is critical in crafting the highest quality shrink sleeve labels. L&L technical editor Tony White reports

Shrink sleeve technology, which was first introduced to the label market in Japan in the mid-1960s, has been gradually taking market share in several label-associated markets. Although the technology has been around for some time, it wasn't until the beginning of the 1980s that its presence really began to be felt in Europe and North America as well as Asia.

In the fight for attention on packed supermarket shelves, shrink sleeves offer 360 degree coverage of graphics on a product container, allowing more display area for the brand owner to get its message across to the potential consumer. Because the design is printed on the inside of the label it is much more resistant to scuffing and damage. The sleeves can be printed using several different print technologies including digital. Shrink sleeves are used in a wide range of product applications including food and beverages, pharmaceutical, household products and many more label markets.

Inks for shrink sleeve applications

According to Mark Hill, senior VP of R&D for INX International Ink, a big hurdle to be overcome in formulating inks for shrink sleeves is maintaining ink adhesion and flexibility after the shrinking process. 'The ink becomes compressed and can become rigid when it shrinks, which means that ink cracking is a major issue,' he says. 'This is compounded when using thicker ink films, so each printing process presents its own challenges because the ink film thickness is unique for each process. A major issue for shrink sleeves is in the area of product resistance. Bottles are generally filled and labeled simultaneously so the packaged product can sometimes become trapped in between the label and the bottle. The ink needs the ability to resist bleeding when packaging household cleaners such as glass, solid surface, or bathroom cleaners.'

COF (coefficient of friction) control is another major challenge for shrink sleeves. 'When a label has 100 percent ink coverage, there is little concern for COF control because the ink surface is uniform throughout the body of the label,' continues Hill. 'But when, for example, ink coverage is 50 percent, COF can be an issue. The printed areas of a label can have a much



Berkshire Labels Smirnoff labels printed on HP Indigo technology

lower COF than the unprinted areas. The difference can cause application issues on the packaging machines, so it is typical to apply a clear coating over 100 percent of the label area to make the COF consistent across the entire label.

'Brand owners typically want the clear area to look clear so the coating formulation must not contribute haze to the clear areas of the label. In digital printing, the ink films become even thicker, so ink flexibility and adhesion become even more of a challenge to be overcome.'

The film surface needs to have a certain level of treatment in order to ensure that the ink adheres and prints properly on the substrate. The level of treatment required depends on the type of ink being printed. 'Generally, water-based inks need a higher level of treatment than solvent inks due to the inherent surface tension of the ink itself,' says Hill. 'Since solvent has a lower dyne level than water, solvent inks tend to have better success in adhering and wetting "A big hurdle to be overcome in formulating inks for shrink sleeves is maintaining ink adhesion and flexibility after the shrinking process"

out on lower dyne substrates. PET shrink films are not a film we see typically needing to be treated inline because they tend to hold their treatment level much better than olefin films.'

Inks can be formulated to have some recyclable attributes to the packaging it is printed on. 'We formulate inks to enable recycling,' says Hill. 'An ink may wash off a plastic or film substrate so that the plastic can be recovered for reuse. There are always challenges when making an ink "de-inkable". Sometimes we need to formulate inks to have certain properties such as resistance to water, chemicals or oil. Some of these formulated resistant properties make it difficult to remove the ink from the substrate. Ink formulators sometimes need to balance the properties of ink resistance – and consider how the ink will react in a typical recycling process – in order not to inhibit the package being printed from being recycled effectively.'

Recently INX International Ink released Genesis GS washable label inks, which in March 2020 were recognized by the Association of Plastic Recyclers (APR) as meeting or exceeding the group's strict testing protocol for washable and recyclable PET shrink sleeve applications. It maintains properties in accordance with APR guidelines required for shrink sleeve applications and exhibits bleed resistance in caustic bath solutions. Since the ink is separated from the substrate and removed from the label material during the bath, a complete recyclable package is a viable option.

"For best performance on high-speed bottling lines, a low COF (high slip) is required to enable sleeve labels to be seamed and then applied and shrunk at speed. This high slip characteristic is especially important for ink printed using the final station, which is usually an opaque white ink"

According to Matt King, technical service manager, Pulse Roll Label Products, ink formulation plays an important role in the printing of shrink sleeve labels and producing a suitable UV flexo ink for this specific application can present certain technical challenges.

'There are several main reasons why the ink formulation is so important,' he says. 'Firstly, it is critical that inks have the suitable shrink characteristics to ensure there is no distortion or cracking and that the inks maintain their flexibility after being shrunk. UV flexo inks must cure at high speed to avoid set-off or blocking and they must also retain adhesion to the thin filmic substrates used for shrink sleeves such as GPET, PVC, OPS and PLA.

'With different surface properties, it is a technical challenge to formulate inks that can achieve optimal press and print performance on multiple film substrates. Our PureTone UV flexo ink system, with its high color strength, tailored adhesion properties and shrink characteristics, is formulated to print on a variety of shrink films as well as coated papers, films and labelstock. Due to the diverse nature of shrink films, printers are always recommended to test thoroughly prior to commercial production. But having one ink system that can print traditional self-adhesive, wrap around labels and shrink sleeve labels is a definite plus for the narrow web printer who also has shrink sleeve capabilities.'

High color strength is necessary to print high quality, bold and vivid designs that these days are often seen on shrink sleeve wrapped bottles and cans, King maintains. 'Surface slip is a significant characteristic that needs careful consideration when formulating inks and varnishes for shrink sleeve applications. The coefficient of friction (COF) has to be controlled to get the right balance. For best performance on high-speed bottling lines, a low COF (high slip) is required to enable sleeve labels to be seamed and then applied and shrunk at speed. This high slip characteristic is especially important for ink printed using the final station,



Global heat shrink label market – regional market shares 2019 (source: AWA)



Global markets for shrink sleeves

'Asia continues to have the highest usage of shrink sleeve labels, representing 73 percent of the global market. This is driven by its high use and penetration levels in Japan, and the quick adoption of the technology in other markets across the region,' comments Corey Reardon, CEO and president of AWA. 'North America is one of the fastest growing region as FMCG companies adopt shrink sleeve across multiple categories of products. Shrink sleeve labeling is still one of the fastest growing labeling technologies today, although with slower growth rates than previously. Shrink sleeves now represent 17 percent of the market for primary product labeling applications, and has a strong presence in the beverage and food segments.'

which is usually an opaque white ink. White inks play a key role in the printing of shrink sleeves and, as well as COF, high resistance properties play a part in ensuring that the film does not scuff or scratch easily. Much like other inks, opaque whites must also have good adhesion and be able to withstand the shrinking process. Our PureWhite opaque white inks, both first down white and shrink sleeve white with low COF for high slip, were formulated to achieve the high opacity and density that was traditionally only achieved through screen printing.'

A converter's viewpoint

Berkshire Labels is a well-known UK-based label and shrink sleeve converter. The latest conventional press to be installed is a Mark Andy P9E which was chosen initially for its ability to grow



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Berkshire Labels won a 2019 AWA Sleeve Award for this Innes Lager shrink sleeve

Berkshire's shrink sleeve business. Currently the volume of paper and film-based substrates used by the company is roughly equal, with film – including shrink sleeves and roll-fed wraparound – growing faster. Although well equipped with digital print and converting technology, Berkshire Labels estimates that flexo production still accounts for about 60 percent of its output.

"There are always challenges when making an ink 'de-inkable'. Sometimes we need to formulate inks to have certain properties such as resistance to water, chemicals or oil. Some of these formulated resistant properties make it difficult to remove the ink from the substrate"

Berkshire Labels is undertaking an expansion program, the plan being to build the company up to a GBP 20m operation by separating the digital print and finishing operations, and housing the growing shrink sleeve label operation in a separate building.

The success and reputation of Berkshire Labels has been achieved by working closely with brand owners and design agencies, which has particularly driven new business with start-ups and 'challenger' brands in the soft drinks, toiletries, craft brewery and spirits segment. 'Beer, wine and spirits has become a big area of growth for us, and particularly for shrink sleeves printed either flexo or digital with high end embellishments,' says MD Paul Roscoe. 'For customers who are more used to buying shrink sleeves from bigger converters we offer shorter lead times. Frequently their expectation is a 3-4 weeks lead time, but we are often capable of delivering the job in only 4-5 days after receipt of artwork.'

Berkshire's increasing proficiency in shrink sleeve labels was recently confirmed by winning an award in the 2019 AWA International Sleeve Label Awards competition.



On the following pages, Ben Ritter of Accraply discusses the importance of the shrink sleeve converting process



EcoFloat TD shrink sleeve material from CCL Label

CCL Label creates sustainable sleeve

CCL Label has introduced EcoFloat TD shrink sleeve material, engineered to improve the float separation process for PET bottle recycling. The new technology has been approved by the European PET Bottle Platform (EPBP).

EcoFloat has been developed to enable the packaging industry to meet recycling targets and to support sustainability and complements the range of sustainable products such as EcoStream and EcoSolve for pressure sensitive labels.

'After shredding the PET bottles, the shrink sleeve parts are completely separated from the bottle flakes during the recycling process,' says Norbert Fenkart, head of research and development at CCL Label. 'As the PET bottle flakes sink to the bottom and the shrink sleeve pieces float on top, the two materials can then be separated into different streams on to their next life. Especially for the PET bottle this enables circularity in the bottle-to-bottle recycling process.'

The new material has been approved by EPBP, a voluntary industry initiative that provides PET bottle design guidelines for recycling and evaluates bottle packaging technologies. Based on the assessment, EPBP concluded that CCL polyolefin film EcoFloat will not have a negative impact on current European PET recycling.

'Meeting the EPBP standards was very important to us at CCL as those reflect the performance of our material under real-life conditions and is regarded as the important certificate for our customers,' adds Fenkart. 'EcoFloat is designed to meet economic and environmental sustainability goals while enhancing the look and feel of the product with maximum cost-efficiency.'

EcoFloat sleeves were also rated 'Very Good' by Polish environmental services provider Interseroh's and recognized with its Made for Recycling standard. Certificates are available for full-body sleeves on PET bottles, HDPE bottles and PP Cups with more varieties being currently tested.

'We have developed a holistic plan at CCL that goes beyond conservation and aims to deliver value,' explained Günther Birkner, president, food and beverage at CCL Label. 'We are investing in resource-saving technologies and waste-reducing processes at our facilities worldwide. By focusing on engineering with more efficient manufacturing, we can offer our customers the best solutions to meet their sustainable packaging needs – one great example being our latest development EcoFloat.'





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Shrink sleeves: seaming, converting and application

Ben Ritter, shrink sleeve and converting specialist at Accraply, on the importance of the converting process in shrink sleeve production

nce the sleeve is printed the secondary converting processes take over. This is arguably the most critical step in converting the printed shrink sleeve stock onto the final product container.

For a best in class shrink sleeve application the converting and the application process need to be aligned and functioning in harmony.

"Despite steam tunnels being the most favored method of shrinking shrink sleeve labels due to their propensity to deliver the most even finished result, their initial installation is likely to be more involved and expensive due to the requirement for a steam generating boiler, as well as the associated piping, extraction, valve gear and drainage"

The secondary converting process consists of several steps, the first of which is slitting. The criticality of the slitting process to shrink sleeve converting is important as it has a direct influence on the nature and quality of the slit edges. In shrink sleeve slitting applications the slit edges of the rolls are solvent-welded, which produces an overlapped seam that would ideally be invisible on the finished product. Several factors dictate that shrink sleeve labels be slit using tangential rotary shear technology which is the method that produces the cleanest cut with least impact and stress on the slit edges of the film, thus maximizing the likelihood of a quality, nearly invisible, seam on the finished product.

Having achieved crisp, clean slits without deformation of the roll edges, converters can now progress to the seaming (or welding) step. While the objective is to transform the flat, printed film into a seamed tube, the goal should always be to achieve this with a seam that cannot be seen or felt, while at the same time, maximizing throughput and minimizing waste.

The seaming process requires a stand-alone machine that has several key components. One is the linear perforation section, which is located just before the forming station. The purpose of this perforation is to enable the consumer to remove the sleeve from the container for recycling purposes. Yet another component of the seaming machines is the forming section. This is where the flat web is converted into a sleeve, or tube and where the solvent is delivered to the web. There is typically a 'nip' section that is used to control and isolate web tension, while performing an important function of expelling air from the rewinding tube of material. The rewind section on a seamer is also quite unusual in that the unique characteristics of the newly-formed tubular material requires that

the rewinding roll oscillates in a very specific and controlled way.

Another critical consideration in the shrink sleeve seaming process is controlling the seaming solvent used to chemically weld the material together. The volume of solvent dispensed must be proportionate to the web speed. This is not only critical to achieving a quality and aesthetically pleasing seam, it is critical to minimizing waste. High-speed seamers require high levels of control to the application of the solvent and are also more demanding as to how the solvent is transferred to the film – with typical options including needle, wick and gravure-wheel designs.

Make-ready or job set-up is always a major focus with print production and converting operations. This is also true in shrink sleeve seaming where the biggest opportunity for efficiency improvement and waste elimination is in setting up the folding area of the seamer. The most advanced approaches on the market leverage fully automatic folding tables, controlled by inputs from a touchscreen HMI.

The seaming process is often followed by a separate finishing step in which a Doctor Machine enables the converter to change the core size (when necessary), change the application rewind direction (when necessary), and remake splices as necessary to ensure that they will pass appropriately through high-speed automatic application equipment.

While converters will be most interested in how to produce a high value shrink sleeve label, it is also necessary that they understand that the application and shrinking process is equally as important in producing a finished product that the brand owner and ultimately, the consumer - will value.

Converters should always work closely with the manufacturer of the application equipment in-order to understand the specifications and tolerances required of the specific application equipment being used by each of their customers. In other words, there are no onesize-fits-all solutions.



Mandrel sleeve application (courtesy Accraply)



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Application technologies

Multiple types of containers, process conditions and film material combinations are experienced in the shrink sleeve marketplace, ultimate success depends on selecting the right combination.

There are three basic styles of shrink sleeve application technologies available:

- 1. Rotational (carousel) systems
- 2. Direct apply systems
- 3. Mandrel systems (sometimes called bullet-style systems).

"Make-ready or job set-up is always a major focus with print production and converting operations. This is also true in shrink sleeve seaming where the biggest opportunity for efficiency improvement and waste elimination is in setting up the folding area of the seamer"

Carousel systems offer the advantage of facilitating a "squaring" of the sleeves, which allows for better label placement, or rotational accuracy, on non-round containers. A carousel system will often be used to apply shrink sleeve labels to containers such as trigger bottles.

Direct apply systems are used primarily for tamper band applications. The process is simple: the sleeve passes through the tooling, where it is opened into a round formation. As the container being sleeved moves along the conveyor, a guillotine cuts the sleeve, and it is dropped onto the container.

Mandrel (or bullet-style) application systems are the most widely used application systems in the market. They use a mandrel, or cylinder-like tube, over which the sleeve is opened, cut and ultimately driven on to the container moving beneath it.

Bottle shape, the size of the sleeve, and the speed of the line are all variables in selecting the right style of applicator.

Shrink tunnels

Three main types of shrink sleeve tunnels are available:

- 1. Hot air (Convection)
- 2. Radiant heat (Infra-Red)
- 3. Steam (Conduction) Hot air

(Convection) tunnels are versatile and cost effective to use and connect to almost any power source. Hot air tunnels offer directional heat, depending on the type of equipment used, the many different manifolds in these systems enable heat to be focused on those areas of the container that require the most shrinkage. This makes them especially efficient for focused heating on necks, recesses, and grooves.

Hot air tunnels do have some disadvantages. Hot air is not a very efficient medium for transferring heat, therefore temperatures in hot air tunnels are generally higher to enable enough heat to be transferred onto the surface of the film to initiate the shrink process. In hot-air systems too much heat can sometimes affect the leading edge of the container/sleeve, resulting in distortion and producing a poor quality finish. This is particular prevalent with certain container types and process conditions such as a cold filled plastic container, or glass containers. One way to mitigate this issue is to rotate the container as it passes through the tunnel using a 'spinning' conveyor. **Radiant heat (infra-red)** tunnels are primarily designed for preheating containers – prior to sleeving – in order to mitigate the heat-sink effect of a glass container. However, they can also be very effectively used to shrink sleeves. Radiant systems deliver infrared heat and because the heat remains in the chamber, they create an oven-like shrinking environment.

With the very high temperatures usually found in radiant heat tunnels they create a very harsh shrinking environment with little opportunity to direct heat toward specific areas on a container. Additionally, it can be particularly difficult to get even shrink results. An example is when the leading side of the sleeve entering the tunnel becomes aggressively shrunk before the trailing edge; or, when the sleeve on the two sides of the container are exposed to more intense heat than the leading and trailing sides – resulting in a 'pulled' or uneven finished shrink sleeve. A further complication of the high temperatures is the difficulty they can present with empty containers. For example, the task of shrinking a PETG sleeve onto a thin-walled empty PET container can be extremely challenging in a radiant tunnel.



Steam tunnel (courtesy Accraply)

Steam (conduction) tunnels are the most popular medium for most applications as they offer some significant advantages in terms of the process window. They are the most versatile type of tunnel and work well with a wide range of films. Steam distributes heat very evenly to the entire surface of the film as it envelops the container passing through the tunnel. Steam is more than 20 times more efficient in transferring heat than air – which means lower temperatures and the environment in the tunnel is much less harsh.

Despite steam tunnels being the most favored method of shrinking shrink sleeve labels due to their propensity to deliver the most even finished result, their initial installation is likely to be more involved and expensive due to the requirement for a steam generating boiler, as well as the associated piping, extraction, valve gear and drainage. The volume of steam – and hence the boiler requirements – will primarily be dictated by the volume of throughput required of the sleeving line.

There are no one-size-fits-all solutions in the successful application/shrinking of shrink sleeve labels. However, when converting technology and application technology work together seamlessly it is possible to create best in class shrink sleeve labels that meet and exceed brand owners requirements.

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The Label Academy book 'Shrink sleeves: materials, inks, converting and application equipment' is now available for order. See www.label-academy.com





Shrink sleeve printing on MPS EF SymJet powered by Domino

DWS Printing is seeing success printing shrink sleeves on its hybrid MPS EF SymJet powered by Domino. Tony White reports

omino Digital Printing Solutions first announced the success it was having printing on a number of industry standard shrink sleeve materials following the launch of its UV90 6-color UV-curable ink set at Labelexpo Europe 2017.

At that time, this was considered a real technology breakthrough, as prior to this shrink sleeve capability had long been a challenging application for inkjet when compared to toner systems.

Shortly after the show, MPS, one of Domino's OEM partners, confirmed its first sale of a Domino hybrid line configuration designed to print both self-adhesive labels and shrink sleeves. This sale of an MPS EF SymJet powered by Domino was to DWS Printing, a New York-based label converter. Today, DWS is now printing more shrink sleeves than pressure-sensitive labels.

Tom Staib, president and owner of DWS Printing, a company founded more than 150 years ago, recalls: 'In 2016, after recognizing the need to invest in digital printing, we embarked upon a year-anda-half journey to find the perfect fit for our business. My technical director and I literally travelled around the country looking at all the different options available to us. We undertook significant due diligence comparing, contrasting and scrutinizing the quality, evaluating the print results in addition to other factors that were going into our decision-making process, such as speed of the press, uptime versus downtime, cost of maintenance, and the ability to print on various substrates.

"We wanted to differentiate ourselves, and this hybrid press technology is certainly a differentiator for us"

'Our business' main focus is food and beverage, and we also have a strong presence in the craft beer market. The craft beer market is heavily into shrink sleeve labels on beer cans, so a lot of our business was trending that way as well. We wanted to have the option to print shrink sleeves digitally, for our craft beer customers. At



L-R: Andy Staib, Tom Staib and TJ Staib of DWS Printing



DWS Printing's MPS EF SymJet powered by Domino

that time, there was really only one option available – electrophotography (EP), as the UV inkjet suppliers could not print on shrink sleeves then.

'We were intrigued by UV inkjet – we were impressed with the quality, we liked the speeds, and we liked some of the other things it offered us and some of the other markets it could help us break into. Towards the end of our evaluation process, after Domino introduced its new UV90 inkset, we finally experienced success printing shrink. That was a game changer for us.

'However, the reality was that we were not going to be printing UV inkjet shrink, and then running it back through our flexo press a second time: that just didn't work for us. And that's where the whole concept of hybrid came into the picture. If we could print digitally, put down UV white in-line, and get high quality at speeds with all the benefits of digital, all in one pass, that was a nice attractive option for us. And that was the way we opted to go.

'Domino partners with several flexo press manufacturers. We opted to go with MPS. We have a comfort level with them. They have a sophisticated flexo platform and their flexo equipment is highly automated. And that in a nutshell is the journey that led us to the MPS EF SymJet powered by Domino hybrid press.

'Digitally printed shrink sleeves were going to be a significant part of our investment. We are now printing more shrink-sleeve than pressure-sensitive labels. We wanted to differentiate ourselves, and this hybrid press technology is certainly a differentiator for us. I've got to make sure that the technology is doing what we need it to do and will enable us to compete in an ever-evolving market. And this does.'



For more on shrink sleeves, read Tony White's feature on previous pages



The future of platemaking

With flexo presses becoming faster and more automated, the pressure for productivity improvements has been passed onto platemaking equipment manufacturers. Piotr Wnuk reports

uring Labelexpo Europe 2019 several manufacturers showcased their new flexo presses with faster changeover times going head to head with digital technologies in a race for short run jobs. The speed and efficiency of these presses meant growing pressure to reduce the bottlenecks in the platemaking process.

Dr Dieter Niederstadt, technical marketing manager at Asahi Photoproducts, notes that all suppliers are constantly working to find new ways to add value both upstream and downstream from their offerings. 'This is in response to increased demand by converters for more productive and profitable workflows across the entire product value chain. This includes automation and partnering to create a more inclusive and seamless production ecosystem.'

"We see continued focus on improving productivity and also continued focus from brand owners on driving more sustainable world"

'We see continued focus on improving productivity and also continued focus from brand owners on driving a more sustainable world,' says Chris Payne, CEO of Miraclon Corporation. 'Flexo is moving up the quality and productivity curve and is taking share from gravure and offset segments. I see all of these trends continuing in the future.'

Plate mounting specialist JM Heaford sees three important trends on the

converter's side. 'In general, we are finding that customers are choosing higher specification machines with additional options to do more on a single piece of equipment. For example, specifying tape applicators and knives to make tape mounting more efficient and safer,' says David Muncaster, director at JM Heaford. 'In many areas, there is also an increasing requirement for automation or for a simplified manual mounting process due to skills shortages in the industry. Another current trend is the fact that more new press purchases are sleeve-based, which is leading to increased demand for sleeve dedicated mounters or for sleeve exchange units that allow customers to mount plates for their new sleeve presses on their existing cylinder mounters."

'Our customers have an increasing need to differentiate their packaging graphics to brand owners who need product differentiation to attract more consumers,' adds Ken Pavett, owner of Flexografix. 'Relating this to our Flenex plate, our customers are requiring plates to competently handle the complex screening required to reproduce today's increasingly complex supplied digital files. Our color science and applied expertise are also in demand. Yesterday's jobs printed digitally, or on offset presses, are now required to appear the same when printed with our plates on flexo presses.'

Dr Uwe Stebani, general manager of Xeikon Prepress, is convinced that digital printing will continue to drive innovation in conventional printing. 'With digital printing knocking on the doors of the packaging printing industry, a lot of players have realized that automation will be key also with conventional printing techniques. However, this is only half of the story. We also need reliable processes in platemaking as well as smart plate processing equipment with high uptime and easy maintenance. That is why we follow a holistic approach with a combination of new equipment, software integration and tailored flexo plates - Industry 4.0 at its best.'

Without a doubt, since Labelexpo Europe manufacturers have been working hard to bring down the time it takes to image, expose and process a finished plate while reducing the need for a skilled manual operation, integrating technology and tackling the sustainability angle for good measure.



With the recently launched Catena product line, Xeikon Prepress offers a technology that integrates and automates several processes

Race against time

Japanese manufacturer Toyobo has been developing water-based products to improve working environments and enhance printing productivity. 'Our newly developed Cosmolight Z series offers significant improvements in handling of unprocessed and processed plates while maintaining a production time within one hour. Moreover, the series features impressive ink-transfer performance, but with less ink-filling. This supports printers to maximize productivity with less downtime and minimum ink usage,' says Kyozo Kotani, general manager of Toyobo.

Dantex, a long-time proponent of water-based processing, has also been hard at work developing further improvements for its AQF Aqua in-line processing system. According to Jürgen Wessa, managing director of Dantex in Germany, the company has been able to reduce plate processing time in the Aqua system to only 30 minutes. 'This system allows very easy handling and maintenance,' says Wessa. 'Our Aquaflex plate is a high quality, high performance analogue and digital alternative to solvent and thermal flexographic plate production and naturally forms a flat top dot and is HD Flexo and Esko certified. The whole system is very environmentally friendly and very fast, delivering highly cost-effective processing and high-quality printing plates and printed results.

Continual efforts to further improve the Fujifilm Flenex flexo plate resulted in a new photopolymerization technology allowing for improvements in processing, durability and final print quality, according to Jon Fultz, packaging product manager for the Americas at Fujifilm North America Corporation, graphic systems division. 'The Flenex FWL2 technology reduces the industry's already fastest platemaking times by 50 percent for wash-out and 40 percent in exposure from the previous L version. Dot stability was significantly improved, providing for easier handling and durability, especially in regard to isolated highlights dots. Improved tonal reproduction provides for smoother gradations and improved final print quality."

Can automation speed things up?

Asahi Photoproducts has seen a significant increase in automation of platemaking, including the ability to start the production of the next plate in as little as 15 minutes. 'This helps position flexography even more competitively against gravure, offset, and digital,' says Dr Dieter Niederstadt. 'We have also seen advances in software, both for controlling the platemaking process and for file preparation. Plus, with water-washable plates and the ability to



Continual efforts to further improve the Fujifilm Flenex flexo plate resulted in a new photopolymerization technology

"Many converters are now considering switching to inks and substrates which have less impact on the environment, such as solvent-based inks to water-based, conventional UV inks to low migration, and use of substrates manufactured with recycled materials."

recycle water used in the plate making process, as well as improved plate quality resulting in less waste, we see flexography moving into a top position of harmonious and sustainable plate production.'

Massimiliano Merlo, global marketing and sales director at Vianord, asserts that automation in the flexo platemaking department offers a significant increase in productivity, a reduction in costs related to low added value work tasks and a reduction in waste due to human errors. 'Obviously there are economic parameters to consider in order to make investments in automation attractive for everyone,' he says. 'But if we think that from 1995 to 2010 around 30-35 automated plate production lines were installed (worldwide) and from 2010 around 100, this is clearly an established trend in the market.'

Dantex is continually working to streamline its systems, making them faster and simpler to operate. 'Dantex Aqua is an in-line system where the plate is automatically transported, washed and dried. It offers adjustable surfactant dosage and water flow rate, double wash head with programmable speed together with a very user-friendly interface,' says Jürgen Wessa.

'Today, almost all offset printing companies are making their plates themselves,' adds Dr Dieter Niederstadt. 'If the plate making process can be simplified by software and machine automation aids, we can expect the same trend in flexo, too. We foresee almost "push button" simplicity in plate making being available in the nottoo-distant future which will further drive this transformation.'

Esko, Fujifilm's technology partner, released Print Control Wizard (PCW) as an upgrade within its Suite 18 platform. It automates the screening optimization and single curve selection of Flenex plates. Prior to PCW, this process was completed manually, through a visual evaluation of pre-printed samples. 'This automation technology offers our customers visually noticeable screening improvements, coupled with the objectivity of intelligent software,' says Ken Pavett.'I expect the need and demand for this type of automation to continue. Brands have an increasing need for shelf-differentiation. With that need, digital files are increasingly more complex. The industry is benefitting from tools to automate - in this example - the competent integration of these advanced screening technologies within the pre-press departments of our customers' facilities.'

Let's integrate - Industry 4.0

With the recently launched Catena product line, Xeikon Prepress offers a technology that integrates and automates several processes. Pre-press data in TIFF or LEN format is transferred to the ThermoFlexX unit which images digital LAMS flexographic printing plates. The company's Woodpecker software allows surface microstructures to be created to optimize quality levels on



Asahi AWPTM-DEW 4260 PLF water-wash plate processor

film and flexible packaging materials. After imaging, the flexo plate is automatically transferred to the Catena-E exposing unit, which, thanks to UV LED exposure, enables significantly reduced exposure time. This means that exposure does not become the bottleneck of processing.

With the help of a robot arm, the exposed plate is transferred to the new Catena-W solvent washer with automatic punching. From there it is transported through a washing zone followed by drying and post-exposure sections. Thanks to an extremely compact design, the total length of the system is limited to 13 meters (40ft).

Dr Uwe Stebani adds that all platemaking data is collected and

stored in a database where it is accessible for quality checks and efficiency improvements.'

Asahi Photoproducts' latest machine developments also make Industry 4.0 reality. This includes remote access to the human-machine interfaces (HMI) with the latest processor, the AWPTM-DEW 4260 PLF. 'This new machine concept includes lowmaintenance pumps and easy access pipe layout. It also features smart glass access as an option,' says Dr Dieter Niederstadt. 'This allows our technical support team to connect with the customer machine from any location for first level maintenance support. During our evaluation time we saw that 60 percent of the causes of all machine-related service issues can be traced with this support. This is how Industry 4.0 is in action today, and how it is benefiting both suppliers and customers by improving productivity and reducing costs.'

"Yesterday's jobs printed digitally, or on offset presses, are now required to appear the same when printed with our plates on flexo presses"

Massimiliano Merlo thinks that 'people have to devote themselves to carrying out tasks with high added value. Industry 4.0 contributes to increasing the efficient exploitation of machines, reduces production times – in some cases eliminating overtime – and allowing employees to dedicate themselves to other tasks.'





JM Heaford Label AutoMounter

Sustainability at the forefront

Along with the race against time comes the race towards achieving sustainability goals, which are no longer just the domain of substrates, inks and adhesives. The pressure for environmentally friendly production has been passed down the supply chain to the plates and platemaking department.

For Fujifilm environmental stewardship is nothing new, where the company's Corporate Social Responsibility commitments include addressing climate change, promoting recycling of resources, addressing energy issues towards a non-carbon society and ensuring product and chemical safety. 'In the Americas graphics and converting market, we are seeing the influence of Millennials and Gen Z driving CPGs and retailers to seek more conscientious solutions as it relates to substrates, colorants and printing technologies,' comments Brent Moncrief, vice president of strategic marketing and brand management, at Fujifilm North America Corporation, Graphic Systems Division.

'Many converters are now considering switching to inks and substrates which have less impact on the environment, such as solvent-based inks to water-based, conventional UV inks to low migration, and use of substrates manufactured with recycled materials,' comments Kyozo Kotani. 'Plate manufactures must follow these requirements while achieving gravure-like printing quality.'

Friedrich von Rechteren, global commercial vice president of Flint Group Flexographic, thinks that local solvent handling regulations and customers interested in offering a solvent-free production environment are creating more interest in thermal plate processing. 'People purchasing our nyloflex Xpress Thermal System benefit from less waste in developer roll, device energy savings and very low VOC compared to solvent plate making,' he says. 'The benefits include 30 percent less waste, up to 88 percent reduction in electricity, and a plate processing time of only 45 minutes, which results in reduction of operating costs, improved productivity as well as the same excellent print quality known from solvent plates.'

At the same time, manufacturers of solvent-based processing systems are also focused on reducing environmental impact. Flint Group, for example, says the automation and integration of the Catena system results in higher consistency across the process and produces less plate waste. 'While driving the cost curve of flexo

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plate making down our system also sets new standards concerning VOC through encapsulation of critical parts.'

But, says Jürgen Wessa, 'large discount supermarket chains no longer want to read the word "solvent" in their supply chains. Our flexo printing plates are processed without any solvents. Dantex only supplies water-washable plates, some of which do not even require surfactant for wash out.'

'Everyone is talking about how to minimize the environmental impact of label production and the entire label life cycle,' says Dr Dieter Niederstadt. 'Our sustainable AWP technology is ready to go. We need to see if after the coronavirus pandemic, we will have a change of mindset as we move to a "new normal" or will it be back to the "old normal"? Converting to production processes with less environmental impact will initially lead to an increased cost. We are not sure if the focus on sustainability is only talking or actually represents the intent to implement new environmentally balanced solutions. We hope it is the latter. While there are costs associated with such a conversion, we believe the long-term benefits will outweigh the short-term financial impact.'

What the future holds

Kyozo Kotani believes flexo printing will stay attractive with its high print quality and low running costs, and process automation at each printing and converting stage will speed up. As for plate processing, the whole process line from plate ablation to mounting will be automated in the future.

"Flexo printing will stay attractive with its high print quality and low running costs, and process automation at each printing and converting stage will speed up"

'Environmental protection is another key factor and it will become increasingly important when determining an investment, encouraging investment on solvent-free processing such as water-wash. Following these trends, we are developing new products suited to an automated plate-making process and that have lower environmental impact not only for being water-wash, but also with a complete recycling system for wastewater,' he adds.

When asked about the future, Brent Moncrief has no hesitations. 'No surprise here – shorter runs, faster turnarounds and unique effects to differentiate products on shelves or on screen. Our customers are increasingly seeking ways to extend the useful life of their capital investments, for example by retrofitting LED curing lights or adding inkjet imprinting to their current flexo printing presses.'

'We expect to see ongoing growth of hybrid printing featuring different combinations of print processes to exploit the inherent advantages of flexo, offset, gravure and digital, as well as a continuing increase in expanded gamut color,' says David Muncaster. 'There has been some reversal to SKU proliferation during Covid-19 but this will no doubt pick back up again in the near future driving reductions in average run lengths which leads to closer focus on set-up times and efficiency. This in turn will drive increased attention to mounting accuracy – especially automated mounting – as the need to minimize set-up times and costs becomes even more compelling with the increasing complexity of work.'

Asahi Photoproducts is betting on increased automation. 'It will be one very strong trend in both print and plate making,' says Dr Dieter Niederstadt. 'We also expect continued development of new materials and processes with lower environmental impact, but we



need the support of the brands, converters/printers and even the end consumer to gain traction in the marketplace as we would expect to see some increased costs initially. However, the mindset and willingness to make the entire label life cycle more sustainable is there. Now we – as an industry and community – just need to act.'

Aztec Label invests in Toyobo water-wash flexo plates

UK-based Aztec Label has invested in Toyobo water-wash plate technology. 'Our latest investment in Toyobo water-washable plate technology has had a significant impact on the business. It's a major improvement on the material we were using previously, with better all-round performance and plate quality,' commented Colin Le Gresley, managing director of Aztec Label. 'The plates are easy to process and use delivering a huge reduction in downtime for us due to the much cleaner wastewater effluent. This has resulted in a substantial time saving in processor cleaning, which in turn has lowered our costs. It's great when a solution meets the needs of our business, customers and the environment.

'It's clear, despite the current focus on the unfortunate coronavirus situation that we all find ourselves in, that the environmental agenda is still front of mind for many brands and their consumers. By eliminating solvents from our plate production process seven years ago, we were ahead of the curve in minimizing our environmental impact.'

Ulrich Etiketten installs Kodak Flexcel NX system

Based in Vienna, Ulrich Etiketten employs around 200 people and caters mainly to the pharma and food industries as well as the cosmetics and chemical sectors. It exports around 30 percent of its work, with customers in Germany and Switzerland leading the field.

The new Kodak Flexcel NX system went into operation at Ulrich Etiketten in March 2020. It is equipped with the highresolution option for imaging with 9,600 x 4,800 DPI, so that micro-text and security features can be reliably printed with the flexo plates. 'Our experience with the Flexcel NX system so far has been excellent. It seamlessly fits into our production environment and we've immediately achieved a real quality leap,' said Rainer Ulrich, joint managing director at Ulrich Etiketten.



Read more about plates and platemaking at: www. labelsandlabeling.com/features/plates-label-industry



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The power of four

The power of ECG printing can lead to process printing improvements and bring significant cost-savings for brand owners. Piotr Wnuk reports

lexo has historically been thought of as a comparatively simple print process, not capable of producing the same quality as offset or gravure. However, thanks to technological advances in color matching, automation and platemaking over the last decade, the quality and capabilities of flexo has dramatically improved.

A major step forward was Pantone's Extended Gamut Guide, developed to close the gap between CMYK and spot color printing. 'We have created an essential tool for designers and converters to assess which printing method best enables them to achieve their brand colors, while recognizing the efficiency of process printing versus reliance on spot colors,' said Ron Potesky, senior vice president and general manager of Pantone, during the launch of the extended gamut guide in 2015.

Expanded Color Gamut (ECG) printing, often referred to as a fixed color palette or simply extended gamut, uses a standardized ink set to reproduce a wider range of colors used in design by adding - usually, but not always, orange, green and violet - to a conventional 4-color process set-up. Moreover, this method enables nesting of print jobs with different color channels, without changing the ink configuration of the press, therefore increasing performance and minimizing downtime.

"I say to brand owners, do you see something we can't do with flexo? Because I don't"

While 4-color offset printing can usually achieve around 65 percent of the Pantone book, 7-color printing can further expand this percentage range to 90. Pantone estimates that between 15 and 25 percent of all packaging is printed using ECG (based on printers using ECG software) and expects this ratio to increase by more than half over the next decade.

Using ECG can help to reproduce a design with more eye-catching colors, achieving a print result closer to the original RGB design. This is especially important in the consumer-packaged goods sector, where manufacturers often increase product options with variations of flavors, pack sizes, and regional information required on the



Pantone CMYK color palette

packaging. This is where ECG can offer an attractive way to improve the visual impact of a package on a shelf.

Consistency and repeatability

When Amcor's Asia Pacific division was tasked with the print for a potato chip rebrand, pre-press manager Gary McQuiggan had to deliver a wider spread of colors without compromising any particular product in the range or breaking the bank.

The printer was not only challenged with producing bright, eye-catching and consistent colors, but also with replicating the same performance across the entire product range.

'The color gamut was extreme,' recalls Gary McQuiggan. 'Bright yellows, magentas, dark blues, greens - the range had almost every color imaginable. Typically, if a brand owner would approach us asking for the green pack to be brighter, we could achieve that, but it would affect the look of its original flavor, or the BBQ range, for instance. However, with our new CMYK ECG approach I could confidently use the current color profile, without any adjustments. Once we received the new artwork we proceeded as usual with printing the packaging for this client. The brand owner was raving about the results we managed to achieve.'

Traditionally ECG works by offering a standardized set of inks for the printer to draw from and we typically think about standard 7-color ink set. What's different

about Amcor's approach is that it found a way to expand the color gamut using only four colors. It allowed the printer to further increase its production efficiency, as it cut pre-production lead times by removing the need to qualify new inks every time before going to press. It also eliminated wash-out time on press, and scrap in set-up.

Amcor currently has 24 machines across Australasia, and all of them run Kodak Flexcel plates. McQuiggan claims this allowed him to move 7-color jobs to a 4-color set-up 'very quickly'. He repeated the success when he took the packaging production of one of the biggest branded biscuits in Australia from 9- and 10-color gravure to 4-color flexo.



Gary McQuiggan, pre-press manager at Amcor ANZ

Gary McQuiggan is quick to praise the print, mounting and ink teams at Amcor's Moorabbin site, but also salutes the versatility brought by the Kodak flexo plates. 'We are undertaking a superhero promotion for a major brand right now,' he says. 'In the past, to think we would be able to get its packaging out of a 4-color set-up was unheard of. Now we're able to do that, thanks to the Kodak flexo plate.'

McQuiggan also explains how flexo, with its quicker set-ups and faster print runs, had positive cost implications. 'The results now go head-to-head with gravure, which is a vastly more expensive option in Australia. Thanks to an expanded color gamut, I can print the

Platemaking news in brief

MacDermid partners with Digimarc

MacDermid Graphics Solutions has partnered with Digimarc to expand the application of Digimarc for packaging in the flexo printing market. MacDermid is the first flexo plate manufacturer to partner with Digimarc.

MacDermid's expertise in flexographic printing, combined with the Digimarc platform, provides brand owners with increased product traceability throughout the supply chain. Brands can enhance the consumer's pre-purchase and post-purchase experiences through interactive and dynamic data embedded in the packaging designs.

Miraclon appoints agents

Miraclon has signed a new partnership with Dubai-based Phoenix Technologies to distribute its products in Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

Founded in 2007 by Afsal Kottal, Phoenix Technologies specializes in supplying print businesses with technologies for streamlining operations, such as MIS, color management tools, as well as productivity monitoring and enhancement tools. Currently Phoenix is the Middle East and Indian distributor for brands such as GMG Color, X-Rite, Hybrid, Global Vision, IGT, Enfocus, Siegwerk, Arden and Ink Maker.

Meanwhile, Miraclon has also appointed DigiPrint Technologies as its agent in Pakistan. DigiPrint, based in Islamabad, was founded in 2019 and also represents other key brands in the market, including Vianord and Glunz & Jensen.

Creative Graphics invests in Esko

Creative Graphics has invested in Esko technology at its new headquarters in Noida, India. The new set-up includes an Esko CDI Crystal 5080 flexo plate imager, a new processing line and a Kongsberg X22 cutting table – all powered by the Esko Digital Flexo Suite for automatic flexo plate cutting.

Deepanshu Goel, managing director of Creative Graphics, said: 'The software suite from Esko has allowed us to fully automate the plate cutting process, significantly reducing plate waste and removing the need for manual intervention, which can lead to further errors.'

Asahi partners with Matset

Asahi Photoproducts has appointed Turkey-based Matset Matbaa Makine as its agent for the country. 'We are pleased to be entering into this important relationship for the benefit of the Turkish printing industry,' said Doğu Pabuççuoğlu, general manager of Matset. 'We were particularly attracted by the high quality of Asahi's water-based flexographic plates and CleanPrint strategy.'



R&D team at Plastilene working on new inks, substrates and finishing techniques

same job in 4 or 5-color flexo for a market-leading cost.'

'All businesses are always under enormous price and cost pressure,' he continues. 'And in my opinion, this is the key factor. It is incredible what ECG does for a business such as Amcor. It presents significant time and cost savings thanks to the ability to set up a one piece of equipment to run surface and reverse print in the same sequence while using only one ink system.'

The benefits extend beyond Amcor's production plants as the cost saving is passed back to brand owners, who are able to channel their budgets differently as a result. 'Money that used to go on repro, proofing and tooling is now freed up for expanding their promotional activity. Instead of blowing their seven-figure budget in three to four months with gravure, marketers don't even exhaust it over the entire year,' says McQuiggan. 'It's huge.'

"It is incredible what ECG does for a business such as Amcor. It presents significant time and cost savings thanks to the ability to set up a one piece of equipment to run surface and reverse print in the same sequence while using only one ink system"

But it's not all just about cost-effectiveness. No savings are worth it if the quality of the end product isn't up to scratch. Going back to the potato chip example, 4-color ECG allowed Amcor to deliver exactly what mattered to the customer: the quality that drives repeat business, and a broader color palette that doesn't compromise the brand image and glues the whole range of SKUs together.

'Consistency is massively important, especially when converting brand colors to process printing,' adds Gary McQuiggan. 'And branding is the key in this work. It's my job to convince the end users that we can make their brand colors out of the 4-color flexo process. I really struggled on a conventional plate to get that into a space the client was happy with. But using a CMYK ECG approach on a Kodak plate, I had a much better density, gamut range, and achieved pretty much identical results.'

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Grabbing market share from gravure

Plastilene, a Colombian flexible packaging converter, is also exploiting the potential of ECG printing. 'It ticks a lot of boxes for us and our customers. It offers greater productivity thanks to fewer wash-ups, less downtime between jobs, and the option of staggering jobs together on the press,' says Belinda Duran, general manager at Plastilene. 'ECG can also almost eliminate spot colors.'

As ECG flexo gains a bigger share of the flexible packaging market at the expense of gravure, the confidence behind the process keeps growing. 'I say to brand owners, do you see something we can't do with flexo? Because I don't,' adds Duran.

Gravure is firmly in Plastilene's sight, although Duran is reluctant to acknowledge that these two printing methods are competitors. 'To our thinking, gravure is just another process, albeit one that hasn't seen much improvement recently compared to what's been happening with flexo.'

For evidence of what those improvements are making possible, she points to Plastilene's recent success in the Global Flexo Innovation Awards, organized by Miraclon for users of Kodak plate technology, where the company's metallized laminate packaging won a Gold Award for demonstrating improved workflow efficiency, success in converting work to flexo from other processes, and a commitment to sustainability.

With eight plants in South and Central America, Plastilene is one of the major regional producers of flexible packaging, labels and wraparounds, and representation in a further 20 countries across the Americas gives the group significant reach. It is also well-placed to gauge what's happening in the market.

'Because today's packaging has to promote as much as protect, that has a lot of impact on the supply chain,' says Duran. 'Customization and personalization mean shorter runs and more frequent design



Belinda Duran, general manager of Colombian flexible packaging converter Plastilene



Amcor ANZ's Moorabbin production plant in Australia

"There's no longer any room for the craft element in flexo. It has to be a consistent, repeatable manufacturing process if it is to provide a genuine high-quality alternative to offset and gravure"

changes, so that creates more pre-press. The designs are more complex, so they require higher print quality. Consumer demand for sustainable packaging means printing on new, sometimes lighter substrates. There is a dynamic demand for all of the above, without drop in quality or cost increase — which also goes for the brand owners, who also want faster turnaround. So, we're walking something of a tightrope between all these factors.'

It is common today for converters to run 150 LPI, and many have made the jump to 175 or 200 LPI along with the ability to fade screen vignettes to zero. These specifications would have been virtually impossible just a few years ago. The ability to print fine screen rulings and fade screen vignettes to zero have made a resurrected technology possible, by printing with ECG.

'There's no longer any room for the craft element in flexo,' says Duran. 'It has to be a consistent, repeatable manufacturing process if it is to provide a genuine high-quality alternative to offset and gravure. You have to invest some time on process optimization, of course — for example, getting the right balance between high LPI screening, highly-pigmented inks and the right anilox dosage. But it repays the effort.'

She describes the contribution of the Kodak Flexcel NX technology as 'state-ofthe-art support', capable of rendering the 175 LPI screening that Plastilene uses on every job. 'We apply stochastic and hybrid screens, as well as DigiCap NX plate surface patterning, which address very challenging needs in terms of quality stability, graphic reproduction, image definition and vignettes. With NX we can print very smooth gradients — right down to 0 without any hard edges.'

Win-win situation... for some

The demand for shorter runs of flexible packaging, for targeted marketing campaigns and product variations, are increasing especially within the consumerpackaged goods sector, therefore converters need to meet these challenges in a timely and cost-effective manner.

The elimination of spot colors and converting them into a fixed ink set can reduce downtime between the jobs and ink inventory, increase productivity with fewer wash-ups and the option to nest jobs on the press. It can also reduce waste and enable faster press running speeds due to a thinner ink film.

The key consideration is, however, achieving a smaller range of colors. For some brands, the spot color will be imperative from a marketing point of view; for others, CMYK ECG might be considered an opportunity for significant cost savings and a chance to redirect the printing budget to other activities.



For more on plates and platemaking, see preceding article





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Offset opportunity

CI offset, thanks to its wider print width and low plate costs, offers converters ample opportunities in labels and flexible packaging, writes Felip Ferrer, offset printing brand manager at Comexi

abels and flexible packaging have similar demands and, on many occasions, provide services to the same customers, brand owners and distributors. Offset has long been at the forefront of print quality and has been used extensively for many years in the labeling industry for applications including shrink sleeves, in-mold (IML), wraparound and self-adhesive labels.

Comexi was the first press manufacturer to bring offset technology to the Central Impression (CI) drum format, and combining it with electron beam (EB) curing for flexible packaging and unsupported label film applications. The CI8 met a requirement for reduced flexible packaging run lengths and was able to handle the kinds of thinner and more extensible films now being specified by end users.

The CI configuration allows wider print widths and increased speed over in-line systems, and allows users to specify from a wide range of off-line finishing systems. Keeping finishing off-line allows the speed advantages of the CI format to be fully utilized along with fast job changeovers.

For converters who also run narrow web label presses, the CI8 press can be fitted with in-line slitting and rewinding, allowing the wider web to be slit down into narrow reels for finishing.

Clearly, a wider CI format will deliver greater speeds and sqm per hour than a narrower width in-line press.

But maximum productivity for shorter runs is best achieved by grouping orders in multiple printing SKUs.

Grouping different orders into a single, multiple SKU printing job is an extremely efficient way of turning many short run orders into an efficient longer print run. For example, combining five x 3,000sqm orders into a single print run of 15,000sqm not only means the print run is five times larger, but both change-over time and waste are also divided by five.

Offset is well-suited to multiple SKU printing due to its low plate costs, which makes for easy grouping, combining and varying of orders. Offset with central impression adds to these advantages by its tight register, even on the thinnest films, which allows the

"Offset is well-suited to multiple SKU printing due to its low plate costs, which makes for easy grouping, combining and varying of orders"



Example of annual production (6,000 hours), with comparison between UV flexo 450mm print width, offset 1,000mm print width and digital 700mm print width



Printing cost €/sqm depending on run length

maximum benefits to be obtained from the extended gamut print process, which can be applied to both labels and flexible packaging.

Brand owner demands

A further advantage of CI lies in growing brand owner demands for recyclable flexible packaging, which are now favoring the use of polyethylene (PE+PE) materials. These films have a high degree of elasticity which the central drum impression format is specifically designed to handle.

The relevance of the lower pre-press costs for offset against UV flexo particularly impacts on short runs. The graph displays how the average printed sqm cost of UV flexo rises rapidly as the order becomes smaller, meaning the cost of the plate has to be amortized over multiple print run repetitions. Without these repetitions, the plate cost has a higher impact on the viability of shorter flexo print runs. Additionally, the graph shows a comparison of the total printing cost, depending on run length average, as well as operating costs (energy, labor, maintenance, etc), and consumables cost (materials, inks, plates, etc).

The difficulties faced by digital technologies in being competitive for both flexible packaging and labels include printing quality on a wide range of materials, particularly thinner films. Other limitations regarding this technology are the inks, since approximately 70 percent of all flexible packaging caters to food packaging. Migration tests are mandatory for food packaging, and the requirements can be severe depending on the final application.

Other drawbacks include the exponentially higher ink price, the costs of pre-coating which have to be applied to certain films, and the lower printing speed when 5-7 colors are used.

In this analysis, offset EB inks are more competitive, and approved for use with primary food flexible packaging. This scenario is compared with non-food flexo UV inks. UV low migration inks are higher in price, which makes it more difficult to incorporate them into flexible packaging cost structures.

Electron beam curing technology has sustainability benefits, using fully solvent-free inks at a lower energy consumption, lower ink waste, and less cleaning. Moreover, the capabilities of EB coating allow recyclable packaging systems to avoid the need for lamination. EB technology is a low migration technology which promotes the use of thinner labels and containers.

Taking all these factors into consideration, the advantages central drum offset printing are certainly worth considering.

Read Andy Thomas-Emans' column on page 33 for more on the short run flexible packaging market

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Label design and origination

In this exclusive extract from the Label Academy book 'Label design and origination', John Morton and Robert Shimmin consider the steps in translating a design brief into a finished label

he birth of a label design typically starts in a client's marketing department. At this very early stage packaging concepts are evolved that seek to meet the marketing objectives of the brand. The translation of these concepts into a successful print job will however rely on many factors being brought together in a controlled manner, to deliver the desired result.

Printing process considerations

With the dramatic changes in printing technologies over the past few years, choosing the correct printing process to achieve a particular effect is becoming more difficult. The wider use of multi-process presses means that it is possible to combine the strongest attributes of each process in one machine pass to achieve a particular and maybe unique result in an economical way. Offset lithography produces a clear image and fine detail; letterpress a strong color; water-based flexography, high speed and thin ink coverage; UV flexography, controllable ink film thickness and good color coverage; screen printing, high ink film weights and dense color with no show through.

Not to forget the now extensive use of electrophotographic and inkjet digital technologies which add another dimension to the printing possibilities – including personalization, adding sequential coding or numbering to the final job.

Finishing processes such as hot or cold foiling, which can produce a true metallic effect, or glossy or matt varnishing, which can add dramatic effects to the end result, should not be overlooked.

Design evolution

As a project evolves the design visuals become more developed and can accommodate a wider range of factors including;

- Mandatory elements e.g. warning messages, barcodes, ingredients etc.
- Die-lines/profiles will provide the boundary within which the design is to be created
- Maximum number of colors cost or manufacturing limitations may place an upper limit on the number of colors available to the designer
- Packaging format Choice of decoration can influence ability to reproduce a design. For example it may not be possible to include certain decorative effects on particular packaging/labeling formats
- Substrates or materials the choice of materials may impact on design options

Mandatory elements

Mandatory elements that should be factored into the artwork from the outset include barcodes, ingredients, warning messages, symbols and legal copy.

Compulsory legislation information is the thorn in the side of the designer and can have a dramatic influence on design. More and more information is now mandatory on any type of packaging and labels and the designer is sometimes caught between two opposing requirements – the overall size of the label may be restricted by the size of the package to be labeled, yet legislation might impose a minimum size type to be used to provide certain information. A barcode for example, might have to be printed to certain minimum dimensions. Instructions must be clear and in the language (or languages) required in certain geographical consumer markets. Hazardous products must be marked very clearly and recycling information is also important. The designer may have to work within exactly defined guidelines and yet must include most or all of these requirements, not forgetting the actual brand or product information, which is the main reason for producing the label in the first place.

Sometimes the sheer amount of information required may dictate that an additional label should be included in the final product labeling.

Barcodes should be of high resolution requiring minimal re-scaling. It is important that the barcode printing is in a scannable color. Since most barcode scanners use infrared light, avoid using inks with red or orange pigments. For best results, barcodes should appear on a white background with a no-print area to the left and right of the code.

If printing on filmics, the code must be positioned so that the bars run through the press in the same direction that the film runs through the press, in order to avoid potential image distortion.

Brand images and the company logo may be protected by copyright. This is of concern to the designer and the product manufacturer, but the label printer also has to be aware. If the printer knowingly prints an image on a label that could reasonably be taken to be that of a competitive product, the printer could be held liable.

Cutter profile or die-lines

One of the most important considerations in the design brief for a label or pack is



There are numerous legal and mandatory elements that have to be factored into a design, such as barcodes and ingredients

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its unique shape. The graphics will be bounded by the outline and of course the design elements will need to be carefully placed within this boundary, for optimum visual impact.

In the creation of any artwork for packaging design it is vital to start with an accurate template, or cutter die-line. The die-line clearly defines printable areas, as well as reflecting features such as tear strips, euro slots etc that may need to be taken into consideration when creating artwork. The orientation of text or distortion when a sleeve, for example, is shrunk onto a pack will need to be accommodated within the profile.

Without this information the designer may spend hours laying out the perfect design only to find that it needs to be rearranged to fit a layout with completely different parameters.

Die-lines are typically available from suppliers or can be created in programs such as Adobe Illustrator.

The die-line may reflect existing cutter stocks available from the converter and will certainly conform to the manufacturing parameters of their equipment. The automatic application of the label will run much smoother and quicker if the label profile is kept simple.

There are certain label shapes which can affect the economic running of the press under production conditions: acutely sharp corners, star points or any dramatic change to the direction of the cutting edge can cause die-cutting speeds to be reduced; and small or thin projections that create an uneven pull on the waste as it is eased away from the face material often tear and remain on the backing liner.

As with any design, aesthetics must be balanced against economic and efficient running of the press. The accuracy of the die and the die-cutting method must be reflected in the complexity of the outline of a label so that penetration of the silicone coating or backing does not occur. With the increasing use of laser die-cutting more complex label profiles are now possible, along with more opportunities to create cut-out areas within the label design. The laser uses programs developed from the step-and-repeat function of label origination to guide the laser cutting head around each separate label profile. Laser etching offers possibilities for personalization, numbering and coding of labels whereby the images are physically etched into the surface of the material.

Number of colors

All designs should be kept to the maximum number of colors of the converter's printing press that the job will be printed on, including white ink and varnishes. It is recommended that a color legend is supplied with proofs generated and colors used in a design are best labeled clearly in files.

Economics

Cost is usually one of the most important factors to be considered in the production of a new label design. The aesthetics of the final design must be balanced against the most economic production method.

The number of colors to be used in the final design will have a huge impact on the cost of production. Many modern label presses have up to ten color stations, which means that a 4-color process job can be run in addition to a house or corporate color, plus varnishing and finishing all in one pass.

The printing of very fine detail with small type faces and fine screen rulings can often slow down the running speed of the press and complex cutting, punching and perforating means more units for the press operator to supervise.

Designs incorporating accurate grips between colors or with very fine key lines will also have a negative impact on press speed. Attention to the detail mentioned here could reduce production costs and if managed correctly may not detract from the overall design.

Artwork

The term artwork is defined as the original design, drawings, pictures and text produced by the designer or artist. It comprises all elements of design from which the black-and-white origination and printing plates are made. The process involves the production of finished material suitable for reproduction by any printing method or media. This may be presented as a black and white art sheet, with color overlays, or in disk or CD format, or even transmitted electronically for computer printout.

Once a design has been conceived and created it progresses to finished artwork and may be further amended before final approval is sought. It is also important that the artwork is subject to rigorous checks to ensure that it conforms to specification before proceeding.

Print process specifications

At this stage the print processes to be used in the final job are specified. In some cases a combination of printing processes may be required to achieve the desired result.

Using spot colors

Using CMYK can have its limitations when it comes to color reproduction. If more vibrant colors or an exact color match is required (e.g. for consistent company branding) then spot colors/PMS colors should be identified in the artwork.

Using blacks

When printing with black color, there are two types of black that can be used.

- **Black** 100 K: can be used for body copy and barcodes.
- Rich black 40 C 40 M 40 Y 100
 K: is recommended when printing blocks of black.

Rich black specifications may differ from printer to printer, so it is important to consult with your printer for their advice.

Telling the difference when preparing files on a monitor screen can be difficult







Foil stamping and embossing are typical embellishments used in label printing

since PC screens show richer colors in RGB (red, green and blue). Therefore, it is recommended to get a press proof when printing blocks of black.

Substrate specification

At this stage the exact material to be used will be specified along with the supplier details, material grammage/caliper and the adhesive.

Embellishment details

Details of surface embellishments for the label or pack are required at this stage and the decoration areas should be specified within the artwork. Typical decorative effects that can be used include:

- Embossing The process of raising a design or image above the label surface, often through the use of a set of matched male and female dies.
- Varnishes A thin, clear, transparent ink that contains no coloring pigments or dyes. When printed or coated over the top of a substrate and/or printed matter, the varnish provides a protective finish that enhances appearance and increases durability. Varnishes may be glossy or matt. If a varnish is to be used, the image or text that requires varnishing should be identified in the artwork. Typically a spot color named 'varnish/spot' is created within the design file.
- Lamination A clear plastic film applied to a sheet or web of labels by heat or adhesive to provide and enhanced, glossy or matt, appearance or for protection.
- Foil stamping Lacquered aluminum foil placed adhesive down on substrate. A heated patterned die is pressed onto the foil to activate adhesive and transfer the image.

If a varnish, foil or emboss is to be used, the image or text that requires the embellishment should be identified within the artwork. Typically a spot color created within the design file and labeled with the appropriate embellishment description can be used for this purpose.

Cutter profiles

As discussed earlier cutter profiles are typically established at the early stages of design development and provide the boundary within which the design is created.

Parameters on fonts and text

There are a number of factors to be considered when finalizing fonts and type.

Minimum type size for positive text is generally 4 point. Type below this point size may not be legible when printed. For best results, small text should be created from one solid color. Screened text can be difficult to read, and slight mis-register on press can affect the legibility of text that is created using more than one color.

Minimum type sizes for particular applications (food or drug labels) are commonly found in the relevant labeling regulations.

Minimum type size for light-colored text that reverses out of a dark-colored background is 6 point. Type below this point size may fill in and not be legible when printed. Light-style fonts or serifed fonts for reversed-out text are not recommended, as the thinner elements of the letters will have a tendency to fill in.

Type should never reverse out of more than one color and it is recommended that a solid, single-color keyline is used to outline light-colored text.

Printing reversed out text should be avoided below 6 point and the text should be printed directly onto the color (ie not reversed out).

The use of drop shadows, particularly on small reverse text, is not recommended.

The use of a drop shadow introduces an extra color to the background which would have to be printed in perfect register in order to replicate the shape of the letters.

Text should always be created in a vector format in design packages. Text created in Adobe Photoshop for example, or any other raster-based program, will have jagged, rastered edges, making smaller text particularly difficult to read. Vector based graphics and text will have smooth edges and create a more pleasing result.

Like a photograph raster images are made up of pixels with each piece of visual

information represented as a small dot that is set in a specific color.

Vector images on the other hand are not made up of dots at all - they are drawings of lines that are represented in the file as mathematical descriptions.

Common file formats for raster images are TIFF, JPG, or GIF.

Common vector file formats are EPS (Encapsulated PostScript), PNG (portable network graphic) and WMF (Windows Meta File).

Approval process

Throughout the development of a pack or label design there are a number of reasons why changes to artwork may take place.

Potential factors resulting in artwork changes can be summarized as follows:

- Change to product specification

 re-definitions to the product specification.
- Formulation changes changes to the product formulation or ingredients.
- Language interpretation translation errors or clarifications.
- Non-adherence to approval process

 issues and errors caused when
 agreed procedures are bypassed.
- QC checks to artwork content that uncover earlier errors.
- Checks against artwork checklists that identify elements that are missing or incorrect.
- Outstanding information not considered earlier may need to be added now.

Artwork approval by technical, legal, marketing departments or perhaps by the supplier may result in further amendments being required. After changes to artwork are made, the artwork approval process will need to be conducted again.

At the artwork approval stage a soft proof or hard copy digital proof is sufficient to allow interested parties to visualize and make alterations to artwork.

Both these types of proof are termed off-press proofs and are a cost-effective way of providing a visual copy without the expense of creating an actual press proof.

Approved and signed off artwork is now ready to proceed to repro.





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cutter profile

Text, image elements added

and added

Security features and numbering added

Key label design elements

Prototyping

Prototyping is important to the packaging market as it allows for the visualization of products in 3D.

Prototypes are invaluable for retail visualization and they permit limited-scale test marketing prior to full-scale production.

In the packaging sector short-run prototypes have typically been produced using the same equipment that is used for full-scale production. This, however, is an expensive process and it cannot accommodate multiple versions or last minute design changes.

There are a number of prototyping formats on offer.

A number of suppliers from the pre-press environment have launched systems and services that use digital technology that permits the 3D visualization of packaging in a virtual retail environment.

There are many instances where physical

examples of a pack are required, perhaps for test marketing. The main requirement for a physical prototype is that it should look and feel like a professionally produced pack.

The emergence of digital printing has delivered significant benefits to the prototyping process as it eliminates the up-front plate production and make-ready costs.

Color management systems are now available that enable color accurate mock-ups on production substrates to be created.

Inkjet technology is commonly used for the printing of prototypes allowing a finished mock-up to be created within a few hours, without stopping a press.

The term rapid prototyping (RP) refers to a class of technologies that can automatically construct physical models from Computer-Aided Design (CAD) data.

Systems that use modelling software

linked to a CNC (computer numerical control) milling machine is a method often used to create physical prototypes. The process is called subtractive, in that material is removed (subtracted) from a block to create the final model.

A CAD model is simply exported to drive the milling machine.

The introduction of 3D printing, perhaps more correctly called 'additive' printing, is the latest technology that is enabling packaging designers to take 2D designs and extend them to a three-dimensional format. This method of prototyping is called additive in that material is added to construct the 3D model.



With decades of print and packaging experience, John Morton and Robert Shimmin are former directors of 4impression and worked together at the Jarvis Porter Group

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Label trends

Finat's Radar survey is developed in cooperation with LPC to monitor label industry trends. Some 90 European converters participated in the latest edition

Converter growth

- · 2019 converter growth was strongest in Eastern Europe and UK/Ireland; the weakest in Central Europe
- 2019 growth for total group pf surveyed converters: 4.7%
- First quarter 2020 growth for surveyed converters: 3.6%
- Q1 2020 results reflect Covid-19 impact

Converters' average 2019 growth by segment



Growth by segment

Food, transport/logistics, personal care and pharmaceuticals were the highest growth markets for converters in 2019.

5.7% 4.5% 4.4% 4.2% 4.0% 3.3% 2.9% -3.2% Food Transport Personal Pharma Household Retail Industrial Consumer Automotive Beverage Care Chemicals Chemicals Durables

Covid disruption

More than 84% of surveyed converters cited delivery delays; more than half stated that delivery times have been a major issue due to Covid-19.



Impact on employment

15% of surveyed converters have let go of employees due to the crisis; 38% are concerned they will have to in the near future.



Source: Finat Radar report, Vol 13 – Summer Edition compiled by LPC. Total figures may not add up to 100% due to rounding up or down

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Label SOCIETY (LOCKDOWN EDITION)

04









Unable to travel, L&L has turned to technology to feature industry experts virtually. A new series of video interviews is available on www.labelsandlabeling.com/video.

- Pankaj Bhardwaj, VP and MD, Labels and graphic materials at Avery Dennison India on the coronavirus' impact on the label industry
- Dilip Sarka, regional manager at Taghleef Industries North America, on a new film that is intended to keep surfaces clean and repel bacteria
- B Lombardi Converting Machinery marketing manager Nicola Lombardi on a series of weekly broadcasts from Brescia, Italy, as a way of reconnecting the industry
- Manuj Bhargava, founder of Kumar Labels in India, shows how his factory is being run during lockdown
- 6 & Lisa Milburn, managing director of Labelexpo Global Series, and Tasha Ventimiglia, event director for Labelexpo Americas and Brand Print Americas, on the decision to postpone Labelexpo show dates
- Managing director of Etiquetas Rospil, Francisco Bonet, on the recent investment in a Durst Tau RSC E press and its benefits for the business
- 1 Vice president of FineWebTech, Sung Hwan Jang, shows how to optimize pre-press for rotary screen printing using recently installed SPGPrints equipment

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- Toiletries
- Household goods
- Food packaging
- Cold, damp substrates

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Metalized Labelstock Film

Transparent Labelstock Film

White Labelstock Film

Innovation and Sustainability

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A quest for sustainability

Some of our sustainability efforts include :

• Films for recyclable laminates & intelligent packaging solutions for reduction in food wastage.



- Structure rationalized solutions and less polymeric material for reduced consumption of plastics.
- Ultra high barrier films for aluminium foil replacement.
- Use of water based coatings.
- Reutilization of reprocessed granules from waste material as input for film production.
- Working on PCR films for the packaging and label segment.







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Our **SuperCut** flexible dies and **OptiMag** magnetic cylinders are ideally matched to each other to ensure outstanding die-cutting results.

Leading label manufacturers worldwide trust in the high-precision tools and outstanding service of Wink your one-stop shop for die-cutting success.

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MAXIMUM **DIE-CUTTING** PERFORMANCE



SuperCut Flexible Dies



Laser Hardening



MCR MicroChrome



Flatbed Dies



OptiMag Magnetic Cylinders



PowerCut[®] Solid Dies



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Smart**ZGap**

Simply smart – the leading system for adjusting the cylinder gap. Thanks to innovative technology and easy operation, you will raise your production efficiency to a new level. Whichever version you choose – with the SmartGap® you are perfectly equipped for the future of rotary die-cutting.

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SmartGap® Advance



Perfect die-cutting Trouble-free converting, even with thinnest liner materials



SmartGap® Touch



Maximum efficiency Longer run times, shorter job changes, less waste



No limitations Stable even when cutting through and at highest speeds



SmartGap® AutoControl



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RFID Turnkey Solution



Market Scope

2017 METI launched RFID project planned before 2025 all convenient stores will apply RFID labels up to 100 billion pieces.

Fashion Industry

Will apply RFID Tag up to 10 billion pieces



Hand Held & Stocktaking Readers **Practical & Durable**



PW-260-R7C 7-COLOR NON-STOP FULL ROTARY LETTERPRESS / FLEXO MACHINE



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No-9, Tin Hu 3RD Street, Kuei Shan Dist Tao-Yuan City (333), TAIWAN http://www.labelmen.com E-mail:webmaster@labelmen.com Should you have any further question, please contact us. We will be very happy to answer you.







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