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L&L

- Meet the team

Labels & Labeling is the leading global information source for the label and package print converting industries with an editorial team located in the UK, North America, Latin America, China, India, Africa and Australasia



James Quirk Group managing editor



Andy Thomas-Emans Strategic director



Mike Fairley Strategic consultant







Yolanda Wang China editor



Piotr Wnuk Deputy editor

Yukiko Suzuki

Japan correspondent



Keren Becerra Latin America correspondent



Aakriti Agarwal

Asia editor

India and Southeast

Gill Loubser Africa correspondent



Henry Mendelson Oceania correspondent



Tony White Technical editor



Danielle Ierschefske Sustainability columnist



Bob Cronin M&A columnist



Vicki Strull Branding and design columnist

Editorial

James Quirk, Group managing editor Andy Thomas-Emans, Strategic director Mike Fairley, Strategic consultant Piotr Wnuk, Deputy editor Chelsea McDougall, North America editor Aakriti Agarwal, India and Southeast Asia editor Yolanda Wang, China editor Gill Loubser, Africa correspondent Yukiko Suzuki, Japan correspondent Henry Mendelson, Oceania correspondent Keren Becerra, Latin America correspondent Tony White, Technical editor Danielle Jerschefske, Sustainability columnist Bob Cronin, M&A columnist Vicki Strull, Branding and design columnist

T: +44 (0)20 8846 2835 E: editorial@labelsandlabeling.com

Randy Kessler, Vice president of advertising sales Joerg Singer, Account manager – Europe Mirco Mazzarella, Account manager – EMEA and online Andrea Serna-Alvarez, Account executive - Europe Pradeep Saroha, Account executive - India Tina Wang, Account executive - China Daniel Zhao, Account executive - China

T: +44 (0)20 8846 2818 E: advertising@labelsandlabeling.com

Adam Evans, Lead Designer Laura Burns, Designer Simon Taljaard, Designer Victoria Bone, Designer

T: +44 (0) 20 8846 2841 E: design@labelsandlabeling.com

lames Wenman. Design & production manager Jamie Whittington, Production executive T: +44 (0) 20 8846 2833 E: production@labelsandlabeling.com

Paul Connelly, Marketing director Hannah O'Farrell, Marketing manager

T: +44 (0) 20 8846 2825 E: marketing@labelsandlabeling.com

Lisa Milburn, Managing director Tim Gordon, Publishing director T: +44 (0)20 8846 2818

Tarsus Exhibitions and Publishing Ltd, Metro Building, 1 Butterwick, London, W6 8DL, United Kingdom T: +44 (0)20 8846 2700 | F: +44 (0)20 8846 2801

Other offices

Tarsus Expositions Inc,175 N Patrick Blvd, Suite 180, Brookfield, WI 53045, United States T: +1 262 782 1900 | F: +1 262 782 8474

Tarsus Exhibitions & Publishing Ltd. Room G, 29th Floor, SIIC, 18 North Caoxi Rd, Xuhui District, Shanghai, 200030. China

T: +86-21-64686801 | F: +86-21-64279169

Tarsus Exhibitions & Publishing Ltd. O4U Centre, 649, Office M-03, Phase-5, Udyog Vihar, Gurgaon, Haryana, 122001, India

T: +911244234434

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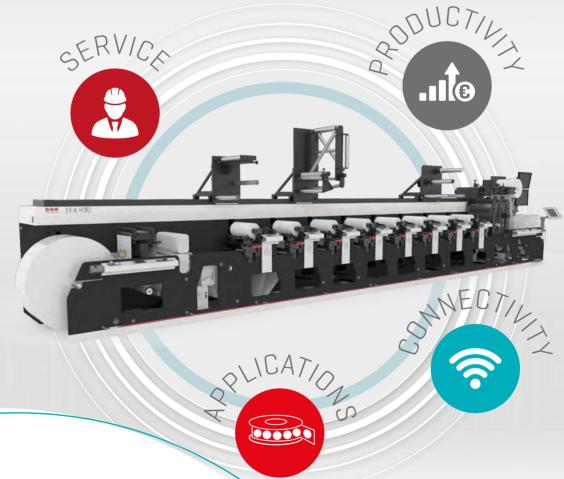
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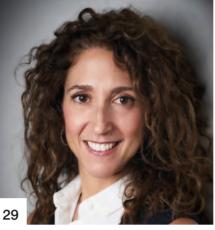
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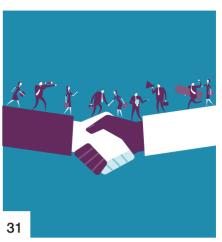
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Contents













Regulars

- 9 Editor's welcome
- 10 News
- 17 New products
- 21 Installations
- 25 Appointments
- 27 Mike Fairley column
- 29 Branding and design
- 31 M&A
- 32 Q&A:YPN
- 151 Label trends
- 152 Label society

Trends

41 Workflow automation drives Esko World agenda

Digitize, Automate and Connect were the key themes at EskoWorld 2019 in Nashville

- 51 Alpine Packaging innovates Women-owned and operated Alpine Packaging is always on the lookout for innovative ways to diversify
- 59 Japan plots sustainable and smart paths

Japan's biennial Label Forum showed trends towards artificial intelligence and sustainability that will impact globally

69 LMAI hosts fifth conference The fifth bi-annual conference by Indian association LMAI discussed the way forward for the local label industry

Features

- 39 Quality control at the digital pre-press stage All4Labels' Trittau site has integrated
- pre-press inspection with its workflow to optimize production
- 45 Yerecic Label keeps it lean and fresh

As the Pennsylvania-based label converter specializing in fresh food industries celebrates 50 years in business, the next generation is leading improvement

55 Gurong Printing embraces digital

After installing two new Konica Minolta presses, Chinese converter Gurong Printing aims to become a digital-only print house in order to enhance its brand and sustainability image







Online Contents



Read L&L issue 4 online (magazine) Previous issue of L&L is now available to read online at www.labelsandlabeling.com



Labelexpo founder honored (video) Clive Smith, Labelexpo founder, receives Special Recognition Award

Labelexpo Europe review

131 Labelexpo Asia preview The ninth Labelexpo Asia takes place in Shanghai on December 4-6

135 Future-proofing pharma labels

Pharma label converters must not only follow the evolving regulatory environment, but also prepare for technological developments emerging in the fight against piracy

139 Right prescription for Erdt Group

Erdt Group, a contract packer for medical devices and pharmaceuticals, has revamped its validation process thanks to Printronix Auto ID T8000 series printers

141 Web inspection, cleaning and control

Web inspection, cleaning and control are crucial factors in ensuring the quality and consistency of printed labels

- 74 Show overview
- 78 Label Industry Global Awards
- 81 Press technology
- 93 Plates and platemaking
- 95 Workflow and inspection
- 103 Substrates and adhesives
- 111 Inks and curing
- 113 Dies and tooling
- 115 Finishing and converting
- 121 Ancillary equipment
- 125 Show floor sales



Pioneer Award (video) MCC's Jim DeFife honored at Label Industry Global Awards



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Winner of the 2019 Environmental and Sustainability Award, Label Industry Global Awards

Thirty years ago (L&L issue 5, 1989)



P18 L&L spoke to Denis Crosby, chairman and CEO of Samuel Jones, one of the early pioneers of self-adhesive technology in Europe. Samuel Jones, then under new owner Princeton Packaging, was looking to increase its presence in the roll material market and to build further on its well-established converted sheets, packaging tapes and die-cut label business.



P20 Visiting Novarode in Belgium, Mike Fairley noted its transformation from paper and board operations to one of Europe's leading paper converting and laminating plants, achieved in just ten years. Under the leadership of its owner and president, Louis-Yvon Schmitz, the company undertook considerable investment in coating and finishing.



P83 Advert for the first Labelexpo at Brussels Expo. It had run annually in England for its first three years, but soon grew so much that manufacturers wanted a more international venue. This led to the show, now known as Labelexpo Europe, moving to Rogier Center in Brussels in 1985. A second show there followed in 1987, before the move in 1989 to Brussels Expo.



P102 Japanese manufacturer Ko-Pack launched a new press, named Model003. It provided label converters with a new option for high quality, multi-layer coupon 'Piggyback' label production. It was equipped with automatic register control, and print-to-print and print-to-die-cutting register in one operator friendly form.

Labelexpo Europe 2019 review special

Editor's note

abelexpo Europe. Don't be fooled by the name. Not only is the Labelexpo Global Series' flagship event truly a global show - 140 countries were represented this year, up from 125 in 2017 - but the 2019 edition was a landmark in its evolution from a dedicated label exhibition to a technology behemoth incorporating multiple areas of package printing.

Attendees numbered 37,903, broadly similar to 2017's figure of 37,724, but there were many reasons - both statistically and in terms of the technology on show – to view the event as the most successful in its 40-year history. As well as the increase in countries represented, show floor space rose from 37,600sqm in 2017 to 39,752sqm this time. There were more exhibitors, too: 693 compared to 679 two years ago. And there were increases in visitor numbers from various

"It was notable that three of the show's most significant conventional press launches were geared towards mid-web flexible packaging and shrink sleeve production"

markets already sending large delegations, including Brazil (14 percent up), Russia (14 percent), India (8 percent) and Japan (6 percent). Eighty-three percent of exhibition space was rebooked onsite for Labelexpo Europe 2021.

But statistics never tell the whole story. Anecdotal evidence from the show floor suggests that the quality of visitors was improved. Nilpeter's Jakob Landberg spoke of 'serious visitors, with serious plans, for serious investments.' MPS reported record press sales at a show: Konica Minolta doubled its leads compared to 2017.

Labelexpo Europe 2017 marked the beginning of a shift towards package printing particularly flexible packaging. Two years on, it was notable that three of the show's most significant conventional press launches – Lombardi's Invicta i2, Nilpeter's new FA-Line and Omet's X7 – are geared towards mid-web flexible packaging and shrink sleeve production. These wider-width presses offer label converters opportunities to diversify their businesses into new areas of production.

At the Flexible Packaging Arena, meanwhile, visitors could see demonstrations of pouch printing on a Bobst M6 flexo press and a Xeikon CX500 digital press. The main focus of HP Indigo's booth was its 'Digital Pouch Factory', showcasing stand-up and three-side-seal pouch making printed on its 20000 press and converted on Karlville's Pack Ready lamination system.

Alongside the show's mid-web focus, hybrid printing came of age. Inkjet technology's improvement in speed and print quality was a key theme at Labelexpo Europe 2017; two years on, this translated into a host of hybrid presses on show in a variety of configurations.

You can read our full review of the event starting on page 74.

James Quirk Group managing editor

Nervs



Avery Dennison expands in Luxembourg

Graphic Materials Europe; Kamran Kian, vice president, global operations and supply chain, Label and Graphic Materials; Etienne Schneider, deputy-prime minister, Minister of the Economy, Luxembourg

\$65m USD invested at Rodange plant

Avery Dennison has opened its expanded production facility at the Rodange plant in Luxembourg, completing a \$65 million USD project to strengthen its European manufacturing footprint. The previously announced investment is one of Avery Dennison's largest operational initiatives globally in recent years.

'This investment creates a number of advantages for Avery Dennison in Europe,' said Tim Presto, vice president of supply chain and operations, Europe, at Avery Dennison. 'It gives us a more flexible and agile production network, increases our topcoating capabilities and helps us to better address fluctuations in customer demand. With its modern set-up and central location, the new expansion supports our sustainability ambitions. It leverages our footprint to minimize our CO2 impact by reducing the need for transport within the production process, while putting us closer to more of our customers. Finally, and most importantly, it gives us state-of-the-art machines and equipment that strengthen our product quality while maximizing uptime.'

The expansion incorporates a state-of-the-art, multi-capability coater, additional slitter capacity, a new packaging line and an automated warehouse.

The total space in Rodange has increased by more than 12,000sqm and is designed to deliver sustainability benefits related to waste management, energy consumption and water-use efficiency. In addition, by building the facility in a location closer to more of its customers, the company said it anticipates an annual reduction in greenhouse gasses of 700 tons from reduced delivery-related energy consumption.

Etienne Schneider, deputy-prime minister, Minister of the Economy, said: 'The expansion of Avery Dennison's Rodange production facilities confirms the dynamism and healthy growth of the Luxembourg industry – with a strong focus on Industry 4.0 digital technologies like automation, robotics or big data. I strongly welcome that Avery Dennison values the Luxembourg economic environment for innovative and sustainable manufacturing and has built its project on sustainability right from the beginning."

Labelink acquires Labelix

Labelink has acquired fellow Canadian company Labelix, a pressure-sensitive label converter based in Quebec.



Armor acquires Intercode

Deal to boost Armor's India market share to 50 percent

Armor has signed a purchase agreement to acquire the thermal transfer business of its Indian competitor, Intercode.

After the acquisition, Armor estimates it will increase its market share from 30 percent to 50 percent, consolidating its position as the local market leader. The thermal transfer business of Armor has been posting double digit growth in India, higher than the market average of around 10 percent.

With Intercode's manufacturing facility in Delhi, Armor has been establishing greater proximity with customers in the north of the country while continuing to serve the south from its existing slitting site in Bangalore.

Hubert de Boisredon, CEO of Armor, said: 'Intercode is a company very much like us. Fair pricing policy, sense of ethics, customer portfolio and also responsiveness and flexibility - many areas of similarity that will ensure a successful integration. Becoming a wholly-owned subsidiary of the French group, the newly acquired company will be progressively integrated within Armor. All of the thirty employees will retain their jobs. Services offered to customers will be maintained and improved. And prices will remain the same.'

Armor bases its growth on co-industrialization, a concept that consists of maintaining production in France while seeking out growth opportunities abroad in order to stimulate domestic employment. Armor's thermal transfer facilities in La Chevrolière, France, produce semi-finished products which are further processed at industrial slitting units located around the world.

'The acquisition of Intercode marks a further step in the group's co-industrialization model, which is the reverse of offshoring. By increasing our market share in Asia, and particularly in India, for thermal transfer ribbons used in the printing of variable information on packaging and barcode labels, we increase production in France of semi-finished product reels. We are building a virtuous circle for the future,' concluded Hubert de Boisredon.

Arjobex bought by PE firm

Prudentia Capital, a French private equity firm, has carved out Arjobex from Arjowiggins Group, a manufacturer of creative and technical papers. Arjobex specializes in the production of synthetic paper used for tags and labels (food, industrial and security applications) sold under the Polyart brand.

News



Wink acquires Jeurink and ImaPack

Die manufacturer goes back to its roots

Wink has acquired the steel rule die maker Bandstahlschnitte Jeurink, based in Neuenhaus, Germany, and its Munich-based subsidiary ImaPack Stanzformen, as it seeks to expand in the packaging market.

The takeover closes a circle, because it was the company Bandstahlschnitte Jeurink, from which Wink emerged in 1989. At that time Wilfried Jeurink, who had worked in his father's company for many years, set up his own business with Wink. In 2006, Ferdinand Oetker, Günther Skrzypek and Alan de Natris became new Wink shareholders. Meanwhile, the Neuenhaus-based company has become one of the world's leading manufacturers of die-cutting tools for the graphics industry.

Wink managing director Alan de Natris explained: 'Through their shared history, people know and appreciate each other. Both companies have developed outstandingly and enjoy an excellent reputation. The same applies to ImaPack, which has been part of the Jeurink Group since 2001.

'We ourselves and our customers will both benefit from the bundling of decades of know-how in the field of cutting technologies."

Holger Jeurink, the previous owner of Jeurink and ImaPack, said: 'The continued existence of my company and the future of my employees had top priority for me. I have followed Wink's continuous development and know the sustainable philosophy of the new owners. In a way, what belongs together is now growing together again.'

The acquisition of the Jeurink Group offers strategic opportunities for Wink. 'We are already represented in the packaging industry with rotary tools and are now even broader with flat dies,' explained de Natris. 'We continue to see great potential in this market and will use our competencies and technologies to further optimize our tool portfolio for packaging manufacturers.'

ETI Converting to open new technology center

ETI Converting Equipment is to open a new Technology and Innovation Center at its main facility in Canada.

The Technology Center is a showcase dedicated to new projects and is equipped with a complete laboratory and supported by a team of designers, application engineers and operational personnel experienced in machine design and operation, product testing and development.

ETI counts Bostik and Evonik as partners in its Technology Center as it looks to offer customers a 'turnkey technology package', combining ETI, Evonik and Bostik expertise in self-adhesive labelstock manufacturing and label application performances.

ETI said it will invite customers for an open house in Spring 2020.

News in brief

L&L appoints deputy editor

Labels & Labeling has appointed Piotr Wnuk as the magazine's deputy editor.

Wnuk arrives at L&L with extensive experience in business journalism and digital content management, having previously worked at The Intelligent SME, pharmaphorum and NZR Group. Based in London, Wnuk will cover the European label and package printing market.

Wnuk joins a global team of editors based in Europe, North America, India and China, and correspondents covering Latin America, Japan, Africa and Oceania. James Quirk, group managing editor, said: 'We are delighted to welcome Piotr to the team. He has excellent experience across a wide range of industries and publishing formats, and we have no doubt he will be a first-rate addition to the magazine."

All4Labels acquired by Triton

Private equity firm Triton has acquired All4Labels together with current management who will continue to run the business. The financial terms of the transaction were not disclosed; however. current minority shareholder Genui Partners will sell all its shares and the owner families will

'We are pleased to welcome Triton as our new partner. Based on their experience from prior investments, they have demonstrated deep sector knowledge and will be real drivers towards digitalization. Triton is clearly the right partner for us for the future,' said Adrian Tippenhauer, Co-CEO of All4Labels.

Inkjet Solutions to represent Colordyne

Inkjet Solutions, an expert in retrofitting monochrome and CMYK inkjet print engines, will distribute Colordyne Technologies' aqueous pigment print engines throughout the United Kingdom, India, Canada and United Arab Emirates.

Colordyne recently announced the development of a digital inkjet print engine using Memjet's DuraFlex printhead technology. This single-printhead engine offers full color, CMYK, aqueous pigment inkjet production running at speeds up to 150ft/min (45m/min).

Customers can work with Inkjet Solutions to retrofit this new digital inkjet print engine onto existing equipment. For customers interested in a standalone system, Inkjet Solutions offers labeling machines through its partner Daco Solutions or can work with other OEM upon request.

News



Constantia acquires majority stake in TT-print

Russian converter rebranded as Constantia TT

Constantia Flexibles has acquired a majority stake in the Russian group of companies TT. Now known as Constantia TT, the plant in Voskresensk mainly produces packaging for the pharmaceutical

Constantia TT is the second plant of Constantia Flexibles in Russia, the first being Constantia Kuban located in Timashevsk. More than 100 employees at the new site help meet demand for flexible packaging in the pharma industry of Russia and neighboring countries. The pharma product portfolio of Constantia TT comprises printed blister foil as well as sachet and coldform material. The company's second business pillar consists of packaging materials for customers in the food and dairy industry.

Based on an initiative of Ruslan Chuev, founder of TT-print, the site recently finished construction and validation of cleanroom facilities to classification D of the Good Manufacturing Practice (GMP) standard at European Union level. To comply with this standard, all core working steps are carried out in a clean area under the conditions defined in the standard GOST R ISO 14644 'Clean rooms and associated controlled environments'. Process steps range from goods handling, slitting of raw materials, and printing on various packaging types for pharma products.

'By implementing this concept for Constantia TT, we have become pioneers in the Russian market. Together with the long-term experience in the field of flexible packaging, our dedication to clean and stable production conditions makes us the perfect partner to pharmaceutical producers in Russia as well as in Kazakhstan and Uzbekistan who aim to protect their life-saving products,' said Pierre-Henri Bruchon, executive vice president, pharma, at Constantia Flexibles.

Ruslan Chuev said: 'The reasons for TT-print's growth the last 20 years has been the dedication and professionalism of the local team, our carefully selected suppliers as well as our commitment to stay ahead of industry standards and continually improve our technological solutions. The acquisition is just a logical step towards an equally successful future.'



Mark Andy opens Dubai operation

Mark Andy aims to strengthen its presence in the Middle East and Africa with the appointment of Flexo Image Graphics (FIG) the company's long-term distributor in South Asia – as its representative for MEA.

The new organization, which will be based in Dubai, is to be headed by Gourav Roy, managing director of FIG.

Huhtamaki adds capacity in India

Huhtamaki has agreed to acquire the assets and operations of Mohan Mutha Polytech (MMPPL), a privately-owned flexible packaging manufacturer located in Sri City, Andhra Pradesh, India.

The acquisition allows Huhtamaki to speed up its growth in India by improving its capability to serve customers in the south of the country.

MMPPL has around 160 employees and its net sales in 2018 were approximately 9 million euros. The business will be consolidated into the Group's flexible packaging business in India. The debt-free purchase price is approximately 10 million euros. The transaction is expected to be closed by the end of 2019.

Loparex acquires Infiana

Silicone release liners manufacturer Loparex has acquired engineered polyolefin films specialist Infiana.

Infiana's expertise in highly engineered films and Loparex's global specialty release liners knowledge is a combination expected to build stronger release liner capabilities, cement further both companies' position on the market and accelerate technological growth plans.

'I am looking forward, with excitement, to this great opportunity. As we move into integration, we will seek to leverage the strengths of Infiana and Loparex while identifying synergies and growth opportunities helping us to become the universal release liner solutions provider of choice,' said Simon Medley, CEO of Loparex.

Esko adds UK warehouse

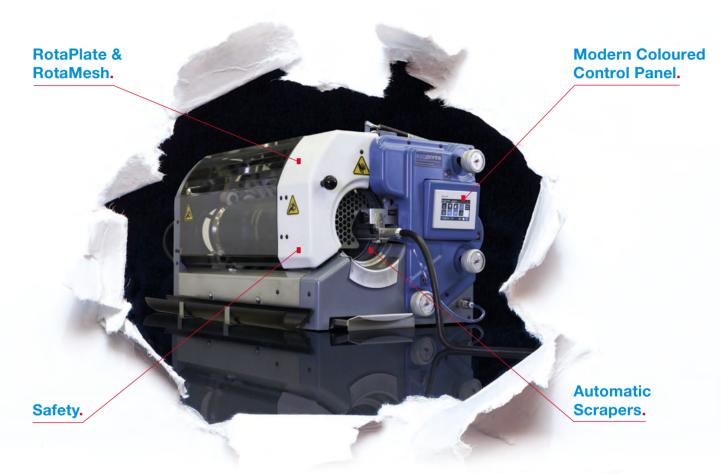
Esko has opened a new UK warehouse to bring faster direct shipping to its customers.

The new Esko facility, at Solihull's Rhodium Blythe Valley Park, is dedicated to the company's UK customer base, housing consumables for online sales, parts, engineers and servicing.

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News



Coveris acquires UK converter Amberley

UK converter to strengthen Coveris' Labels & Board business

Coveris has acquired 100 percent of the shares of Dorset, UK-based converter Amberley Adhesive Labels.

The acquisition by Coveris, which will strengthen its Labels & Board business, follows a three-year modernization program and investment in state-of-the-art equipment.

'Introducing our Coveris strategy, we clearly committed ourselves to invest and grow our business in high potential areas. The acquisition of Amberley clearly underpins this endeavor. We are very much looking forward to a successful expansion of our labels capabilities and further develop the potential of our new facility,' said lakob Mosser, CEO of Coveris.

The labels business of Coveris currently focuses on serving the fresh, chilled and ambient markets, while Amberley's footprint is dedicated to the personal care and home markets. With extensive digital printing capabilities, the integration of Amberley marks not only an expansion into new markets but also an increased focus on extending its digital printing technology capabilities.

'Amberley is a successful business with a proven track-record with a clear focus on providing bespoke high-quality solutions to its customers and is the perfect addition for Coveris to broaden its market presence in the labels business,' said Dennis Patterson, president Labels & Board, Coveris.

Amberley will be integrated in the Labels & Board division of Coveris with a clear intention to further invest into the business. 'With Coveris we found the right partner for a strong future. Together we will leverage off Coveris labels know-how and resources to take our business to next level,' added Trevor Smith, CEO and owner of Amberley.

New Labelexpo in Mexico

The organizer of the Labelexpo Global Series has announced a new show serving the Latin American market. Labelexpo Mexico will take place on 23-25 June 2021 at World Trade Center, Mexico City.

This builds on the annual Label Summit Latin America, which rotates between three locations, and Labelexpo Americas, which takes place every two years at Donald E. Stephens Convention Center in Chicago. Labelexpo Mexico 2021 will also include the co-located 2021 edition of Brand Print Mexico and will be supported by local associations Ametiq and Acoban.

Lisa Milburn, managing director of Labelexpo Global Series, explained: 'Labelexpo Mexico joins our portfolio of hugely successful Labelexpo trade shows. At Labelexpo Americas 2018, we saw a 95 percent jump in visitor numbers from Latin America since 2016, while simultaneously, our Label Summit is expanding with each edition. Both events are proof that the label and package printing industry in the emerging market of Latin America is booming. So introducing a dedicated three-day Labelexpo to the region is the next logical step. It absolutely won't replace either event, but fully complement them.'

Kezzler and Arca partner

Serialization technology specialist Kezzler has partnered with Italian label converter Arca Etichette to promote brand protection technologies in the pharmaceutical, chemical, cosmetics and food industries.

Under the agreement, Kezzler and Arca Etichette will work together to promote Kezzler's Authenticate brand protection technology mainly in Italy, but also in other European countries where Arca has customers.

Kezzler Authenticate is an end-to-end system that enables consumers to verify their products.

Mark Andy adds South American agent

Mark Andy has appointed Novaprint Group as its distributor in Chile, Argentina, Uruguay, Paraguay and Bolivia. The Argentina-based company has been supplying the region with digital printing equipment for label, packaging and textile production for more than 15 years.

EyeC expands distributor network

Inspection systems specialist EyeC is expanding its distributor network across eastern Europe, appointing Nuera UAB as its agent in Lithuania, Estonia and Latvia, and Paritet System to cover Belarus.

INX names new distributor

INX International has signed an agreement with Quality Discount Press Parts & Equipment for distribution of its narrow web series presses in North and South America, including the new NW340 model.

Lemu Group appoints Russian agent

Spain-based finishing equipment manufacturer Lemu Group has appointed B2Print as its distributor in Russia. B2Print also represents manufacturers such as Durst, MacDermid, RotoMetrics, Ruco and Esterlam.

PCMC expands offering

Paper Converting Machine Company (PCMC) has acquired RDP Marathon and IPT Digital to include digital printing technology in its offering. Through this partnership PCMC will provide systems that convert existing presses into high-speed digital printing platforms, broadening its capabilities and reach across multiple packaging markets.



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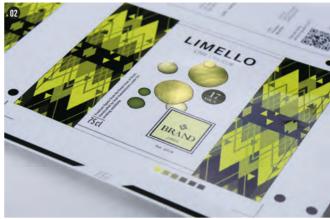
Empowering Our Partners With Labels & Packaging Printing Technology



WE ARE R&D

New Products









• Pentalabel Eklipse and stand-up pouch

Avery Dennison

These additions are part of Avery Dennison's broader strategy to help converters grow their businesses with innovative and eye-catching packaging formats for premium foods and snacks, household products and beverages, and other segments. The new pouch can be printed and formed into pre-made pouches or pouched directly through form-fill-seal lines. This design can also accommodate zippers, spouts and other closure systems with a sealant film that blocks oxygen and moisture. The solid construction features puncture resistance, hot tack, and low seal initiation temperature for higher filler throughput. White and clear versions feature a corona-treated polyester film for flexographic printing, also available in metallized PET version for surface-printing. The second of the new products, Pentalabel Eklipse, is an opaque shrink film

that blocks nearly 100 percent of UV light. According to Avery Dennison, it is the brightest white opaque film technology available, with high shrink properties and compatibility with both glossy and matte varnishes.

@ KPW XU cold foil Kurz

German thin film technology specialist Kurz has unveiled the new KPW XU cold foil for narrow web printing. It is claimed to combine good processing characteristics and overprintability as well as excellent finishing results. KPW XU is characterized as a versatile grade that offers a high covering power and edge definition, high-gloss finish, and good adhesion when applied. The newly developed cold foil makes processing easy for label printers. Provided the machine and materials have been precisely tailored to one another, trouble-free application of the KPW XU can be expected. Optimal decoration results can

be consistently achieved, when using this cold foil, regardless of the design,' said Jens Niemann, head of Application Technology Graphics at Kurz.

3 Spectrum 4.0 Software Loftware

The latest software release has optimized printing from mobile devices and introduced label comparison. The new user provides flexibility to configure and run applications for all activities, enabling supply chain partners to print labels on demand and track print job status. Version 4.0 also integrates DaVinci system allowing easy label comparison to speed up creation, review and approval process. Moreover, Spectrum 4.0 introduces user experience enhancements with easier navigation to key functions such as label design, status, applications and printing. The release also introduces new colors and styles and a redesigned user workspace.

DTM CX86 e color tag printer

DTM Print

The new color tag printer is claimed to be the world's smallest LED dry toner color label printer using the latest digital LED technology. During the electrophotographic LED printing process the image is developed on a light-sensitive drum, then it is transferred by electrostatic charge via an image transfer belt and fused by heat to the media. The system requires the user to only change a three-color toner cartridge that guarantees thousands of prints. This eliminates the need to stock individual toner cartridges and the device is ready to use again in just a few seconds. Further components of the printer such as drum unit, transfer belt and fuser have been designed for a long service life with more than 100,000 prints. With a wide range of interfaces such as USB, Ethernet, WLAN (optional) and control interfaces, the CX86e

New Products









can be used as a stand-alone unit, in a network or in an automated environment. The external material feed of dry toner approved labels and tags are possible via roll, continuous feed paper in zigzag folding or single sheet. Single sheets must have a size of 25-86mm in width and 53-551mm in length.

© XAH flexo plate Flint Group

The new smooth surfaced, hard round top dot plate expands Flint Group's offering for the flexible packaging and label markets, and is claimed to offer reduced operating costs and increased productivity. The new flexo plate is formulated with AIF technology which keeps plates cleaner on press and results in faster print runs with fewer press stops. It offers the benefits of the nyloflex Xpress Thermal System such as lower operating costs, higher sustainability and producing plates in under one hour from imaging to finishing. The nyloflex

XAH Digital is a high durometer flexo plate that reproduces sharp details and is perfect for applications with solvent-based inks and UV inks used in the flexible packaging and tag and label markets.

1 Bio-based and biodegradable films

Taghleef Industries

Taghleef has unveiled two bio-based and biodegradable films claimed to meet the principles of the circular economy. The polylactic acid Nativia D813 is claimed to be the first bio-based and biodegradable I-IML film on the market and is designed to run on reel-to-sheet offset printing machines. It can achieve good printing speed and excellent ink adhesion, making it appealing for the growing bioplastic-based container market. The second film is the ultra-clear floatable Shape360 TDS, a low-density shrink sleeve label film that minimizes the impact on PET recycling systems and reduces

the weight of the label. The shrink shrinkage.

(Haptic effect' for Panther

The new effect is achievable thanks to a combination of the Xeikon X-800 workflow and the PantherCure UV ink that can generate a tactile layer. The new haptic printing process boosts the range of possible applications for high-end label markets but also helps to save time by avoiding modifications to the pre-press files. The time-consuming pre-press work can now be handled in a fully automated way by the X-800 digital front-end, without intervention at any stage in the production process, as it automatically reduces the white layer. The extent of reduction will depend on the colors that come on top of it. The result is an increase in uptime during the manufacturing process - both in printing and converting – as users can run larger rolls. In

addition, the company claims that curve guarantees up to 65 percent converters will be able to become more cost-effective because of the reduced amount of white ink and the reduction of waste.

[®] Ultrasonic clear label sensor **Tri-Tronics**

Tri-Tronics has introduced an ultrasonic clear label sensor with a high-performance OLED on-board display. Claimed to be an industry first, it's designed for printing, converting and application machinery. The sensor gives a view of easy set-up, calibration feedback, auto adjust feature and built-in scrolling instructions. It includes a visual scope that provides users confidence that the sensor is set up correctly. The sensor features visual OLED confirmation, one button autoset (gap set), timers and delays, auto adjust on each input and durable and robust housing.



For more new products, go to www.labelsandlabeling.com/ news/new-products



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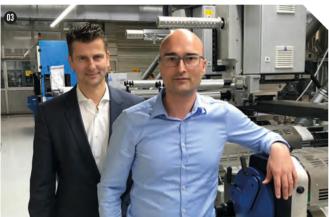
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Installations









AB Graphic Digicon 3 Abbey Labels, UK

This latest purchase is the start of an 18 month £1m GPB (\$1.2m USD) investment plan which not only includes new machinery for both the digital and flexographic departments but also the increase in the size of its 25,000sq ft factory by another 3,500sq ft. Tom Allum, chairman of Abbey Labels, said: 'The options we have specified will make the machine capable of fulfilling the needs of our customers in the food, drinks, beauty and retail markets.

Multiple Nilpeter FA presses Albéa, Brazil, India and Poland

Albéa, the world's largest manufacturer of laminate tubes for cosmetics and oral care packaging, has further invested in Nilpeter technology with the acquisition of new FA-presses for company sites in India, Brazil, and Poland. Most have already been installed, with installation on-going in Brazil.

The collaboration between the two companies dates back to 2008 when Albéa, through its former UK division, Betts Group, acquired two original FA-4 flexo presses for locations in India and Indonesia. Interested in adding new technology, the Albéa head office in France reached out to Nilpeter once again, and after a comprehensive vetting process with testing, trials, and visits with competing suppliers, chose Nilpeter's new FA to be installed in India, Poland and Brazil.

Xeikon CX3 press Argraf, Spain

Argraf, best known for manufacturing food and high-end wine labels, enlarged its self-adhesive department with two digital presses just two years ago. This year the converter has invested in dry toner technology by installing a Xeikon CX3 digital press. The CX3 is based on Xeikon's Cheetah technology, printing at a maximum speed of 30m/min (98ft/min) without

the need for pre-printing. This digital press enables the use of dry toners that comply with the regulations of the American FDA on food contact, and the printing of white toner with high levels of opacity in a single pass.

[®] Gallus Labelmaster Advanced press

All4Labels, Germany All4Labels installed its second Labelmaster Advanced from Gallus to improve tube laminate production and reduce waste. The press is a modular line for narrow web products, equipped with ten flexo units that can be used for color printing, cold-foil or varnishing. 'Because of our very good experience with the first Gallus Labelmaster, installed at All4Labels Schweiz in October 2016, we decided for this modular label press at our production site in Lübbecke. Due to short set up times and the high printing speeds of our new conventional printing press, we were able to increase our overall

productivity significantly,' said Matthias Michel, plant manager at All4Labels Lübbecke. Labelmaster Advanced offers printing speeds up to 200m/min (656ft/min), a printing width of 440mm (17.3in) and is suitable for running a broad range of substrates.

Nyloflex Xpress Thermal System, Flint Group

Neuefeind, Germany The main driver behind the installation Flint Group's Nyloflex Xpress Thermal System was an increasing demand for flexibility in plate production, coupled with environmental compatibility without sacrificing on quality. 'VOC restrictions and the ongoing trend towards sustainability in the printing industry are currently providing a thrust for the thermal plate processing market outside the label industry, particularly in the flexible packaging and corrugated board markets,' said Friedrich von Rechteren, global commercial vice president of Flint Group Flexographic.

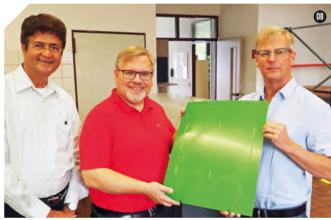
Installations











6 GM DC330Mini digital finisher

Mercury Walch, Australia Mercury Walch, one of the longest continually operating print houses in Australia has invested in a DC330Mini digital finishing system from Grafisk Maskinfabrik (GM). 'Mercury Walch has been producing pressure-sensitive labels for the Tasmanian market for over 10 years and is always looking to invest in the latest and best machinery to assist us to continue to supply the highest quality of labels to our many varied customer base,' said Gary Nilsson, general manager. The converter chose the GM's equipment for its longevity, ease of operation and production capacity. The new machine is the main piece of finishing equipment for the label division and contributes to the expansion of the printing output. The GM equipment was supplied and installed by Aldus Tronics, GM's distributor in Australia.

6 ALE Hercules laser engraving machine

Acme Rolltech, India Indian anilox roll manufacturing company Acme Rolltech has installed an ALE Hercules laser engraving machine for producing anilox cylinders and sleeves. Parag Patel, managing director at Acme Rolltech, said: 'We wanted to go for the best equipment in the global market to start the first indigenous anilox manufacturing company in India. After considering many machines, we realized that 90 to 95 percent anilox manufacturers worldwide use ALE engravers, which says a lot about the company's expertise. After taking tests of a range of screens, seeing the engraving process and the capabilities of the machine, we finalized our order for the 4.5m Hercules Laser Engraving system. ALE has been exceptional in installation, training and its service. The machine is a wonder to work with.'

© CEI Bossfet powered by Domino hybrid press Orion Labels, USA

Wisconsin-based converter Orion Labels has installed a CEI Bosslet powered by Domino hybrid press. The press was installed at the beginning of the year. Eric August, partner at Orion Labels, said: 'We got started like most people do, with basic flexo equipment, but realized that we were going to need to do something to start to differentiate ourselves from the competition that we have in this area. Our customer base was showing a need for something outside the standard flexo. In walks Domino; in walks CEI. Once we started comparing them to other digital engines out there, it was just a no-brainer for us. It's gotten to the point where people want to run this piece of equipment, because it's new and it's exciting.' This hybrid press, which combines flexo and UV inkjet, has reportedly increased Orion Labels' efficiency.

[®] Verica Zahara NWL plates Etikettenfabrik Küchler, Germany

German converter Etikettenfabrik Küchler has completed a switch to waterless Verico Zahara NWL plates as it seeks to improve reliability, performance and print quality. Küchler has exclusively relied on Verico Zahara NWL plates for the last 12 months. 'For long-run print jobs, in particular, the reliability of performance over the run is important. It is this that allows to estimate accurately and to expose, for example, the right number of replacement plates for a 40,000 impression job,' said Dirk Handler, CEO. 'Reliability is important and that's what we achieve with the Zahara plate.' According to Handler, since completing the switch platemaking and the plates themselves have become problem- and maintenance-free.



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

Embrace the possibilities



In an ever-changing world with rapidly alternating trends and demands, time is a critical factor. The use of industrial-scale inkjet production systems can help turn challenges into opportunities in the self-adhesive label market.



Today's marketplace is characterized by an extremely high complexity. What seems to be a desirable aim today may be outdated tomorrow. Spurred by intense competition and globalisation, shorter product innovation cycles and turnaround times are critical success factors.

More product variations and shorter time-to-market put enormous pressure on the value chain. From a manufacturing perspective, higher flexibility, such as short lead and turnaround times is required. Likewise, each and every new product has to contribute to revenue and market share growth and brand building.

Digital printing offers a few distinct benefits that perfectly fit to the emerging requirements of the packaging value chain. Digital printing is not just changing the printing process itself; it impacts the entire value chain. It can increase the manufacturing flexibility with just-in-time and on-demand production.

In addition, the inherent capability of digital printing to easily change

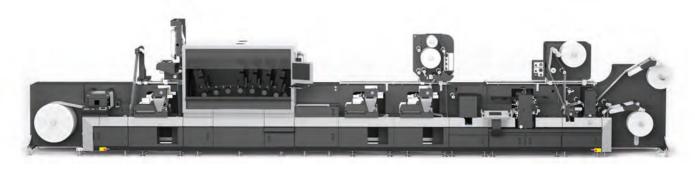
content and artwork from print to print makes it a powerful tool to increase the overall communication effectiveness and drive sales with shorter time-to-market. Target group specific messaging from versioning down to personalisation helps to grow revenues, extend market shares and support brand building.

However, the growing acceptance of digital printing in the self-adhesive label market requires new production methods to cope with the growing demand. A new level of productivity and single-pass label conversion is needed to cost-efficiently produce short to medium runs on an industrial-scale

The Océ LabelStream 4000 series has been designed with this requirement in mind. Building on reliable UV inkjet technology the 5 colour press (CMYK and White) offers print speeds of up to 75 m/min and two print width of 330 mm (13") or 410 mm (16"), resulting in an industry-leading overall output of 1845 m²/hr. Offering various digital white opacities of up to 80% in a single-pass at different print speeds, allow users to balance application costs and quality for

the most cost-efficient production. The system can be expanded to a full hybrid configuration with a custom mix of additional flexo, embellishment and finishing units turning it into a fully integrated single-pass label conversion line to meet various demands and budgets. This mix of conventional and digital technologies enables fast and affordable production of high-quality self-adhesive labels.

Although innovative technology is important, it only contributes to a profitable digital printing business. As worldwide market leader for webfed inkjet production presses with more than 1.500 installations. Canon also knows about the importance of reliability and uptime for a predictable and hassle-free production to meet the tightest deadlines. Therefore, Canon offers a complete package consisting of innovative technologies integrated into comprehensive end-to-end solutions and supported by first-class technical service business consultancy to develop and grow a sustainable and profitable digital business.









Appointments



Alexander Baumgartner Chairman Flexible Packaging Europe Baumgartner will be an authoritative voice for the association which is dedicated to food safety, the avoidance of food waste, and sustainability. He takes over from Gérard Blatrix of Amcor, who served two terms and made a substantial contribution to giving flexible packaging an important role within the current packaging arena.



Martin Davis President, film division Davis joined Coveris in 2015 as chief operating officer. A graduate in business administration and management, he has spent more than 25 years in the packaging industry performing a range of leadership roles, both in the UK and overseas. His appointment completed Coveris' leadership team.

George Ashmore Technical sales manager Pulse Roll Label Products He joins the company's UK sales team and will be responsible for supporting customers in the north of England.



Peter Jones Development manager, labels business Durst Iones' new business role will cover the Durst RSC Tau UV inkjet portfolio and associated software offered by Durst **Professional Services** including Durst Workflow Label combined with the Durst SmartShop and integration packages. Jones had spent 25 years in a variety of management roles for Esko and most recently as global solutions manager for Danaher.



Simon Roberts Managing director Integration Technology Roberts takes on operational responsibility for managing the UK-based business, working alongside founder Adrian Lockwood who remains as chief executive. His skills span technical consultancy services, software, engineered products and capital equipment, new product development and the commercialization of engineered products.



Bob Spiller Director \overline{TLMI} Spiller, current president and CEO of RotoMetrics. has been nominated to the TLMI's board of directors and will replace Linnea Keene, who stepped down from her board position. His experience includes running a privately held high-security printing and anti-counterfeiting technology company, leadership positions with Graphic Packaging International, Bertelsmann AG (Sonopress Division), and Avery Dennison.



Odd Joergenrud CEOMaxcess Joergenrud comes to Maxcess from BBB Industries, a global automotive parts remanufacturing business, where he was president and CCO. Prior to that, he spent 23 years with Robert Bosch in executive roles that took him all over the world. In his last position at Bosch he was president of the aftermarket business in North America.



Marcus Wassenberg CFO and member of management board Heidelberg Wassenberg succeeds Dirk Kaliebe, who left the company at his own request. Wassenberg was most recently chief financial officer at Rolls-Royce Power Systems in Friedrichshafen. Before that, he was CFO at plant manufacturer Senvion SE.

New leadership team OKI Europe OKI Europe has appointed new deputy managing director Marzio Gobbato, reporting to Dennie Kawahara, who continues as managing director. Gobbato held a series of senior positions within the print industry including at Samsung and HP, across different geographies. New appointments also include Chiharu Asai as vice president of corporate planning, Susumu Miura as vice president of operations and special projects, Koichiro Fukano as vice president of operations and Shu Watanabe as vice president of industry print.

Brinder Gill Area sales director for the Eastern United States and Canada UPM Raflatac Gill brings to the position more than 10 years of experience in the packaging and logistics industries, with a particular focus on sustainable packaging.

Robert Stabler Managing director Koenig & Bauer Durst Robert Stabler has global experience in technology companies servicing the graphic arts and document management industries. Before joining Koenig & Bauer Durst, he was senior vice-president with Xerox's Continuous Feed Business, based in Rochester, New York, USA. Previous executive roles also include HP and Agfa.



Shaun Thompson Technical sales director INX International Thompson has held a number of notable jobs in the ink industry for almost 35 years. Most recently, he served as global sales manager for two-piece inks at Sun Chemical. Thompson's new job combines the role of technical services manager, Europe – which belongs to Bob Marsh, who will be retiring in January – and will expand to oversee Europe, the Middle East and Asia.

Paul Dustain Executive VP of sales and marketing, commercial team DataLase Dustain brings over 20 years of sales experience to the role and will promote the company's photonic printing and case coding products globally.



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ARCONVERT presents X-Dry[™] technology, the revolutionary waterproof solution for premium paper labels to overcome the extreme fridge and ice bucket environments.







The Mike Fairley column Digitization and automation a very different future

What has already been achieved in digitization and automation is only the beginning

he label industry has long been at the forefront of digitization and automation – often termed Industry 3.0 – with a record of innovation and development in these fields initially going back to the 1980s and 1990s.

From first steps in digital pre-press and origination to digital printing using the electrophotographic and inkjet processes, as well as ever-increasing levels of automated press set-up, the world of label printing has already undergone quite significant change in a relatively short period of time.

Yet what has already been achieved in digitization and automation is perhaps only the beginning of where the industry will be in another 10, 20 or 30 years as label production moves ever-faster to Industry 4.0, a transformation in which technology will combine digital information with the physical world to add value to a converter's business.

A world in which automation – incorporating the Internet of Things, cloud computing, cognitive computing - will bring a future where its role will be far more important than can even be imagined today. A world in which productivity will continue to improve, IT costs will be reduced, efficiency will be enhanced and time-to-market reduced.

Recent announcements from leading industry suppliers show the changes taking place. Software and workflow specialist Esko, for example, has unveiled Share & Approve technology that enables Automation Engine users to improve productivity by uploading, sharing, annotating and approving label projects in one centralized online tool. Designed as a cloud-based service, there are no IT overhead costs or efforts involved for customers, compared to traditional on-premises solutions.

AVT has linked its inspection systems to Esko's Automation Engine and X-Rite Color Cert, allowing automatic set-up of jobs for inspection on both conventional and digital presses, including inspection of barcodes and variable data.

Global Graphics Software has developed a suite of screening technologies which is able to correct quality defects in inkjet output, overcomes streaking, mottling and banding.

Start linking such advances together and it then becomes possible using, say, a Cerm system, to analyze plant performance, including using a personalized dashboard accessible by tablet or smartphone.

In terms of equipment manufacturers, the baseline of Refine's production involves digital technologies. The company designs machines with a clear focus on automation through Industry 4.0, cloud computing and IoT. This allows for real-time monitoring of machines, full remote control through existing network infrastructures, and consolidation of machine and job data in the cloud. Data is used for problem-solving, preventive maintenance and machine efficiency reports, to name a few.

Press-side corrections of ink formulations to reduce the number of ink corrections needed to achieve accurate color are now provided by Baldwin Vision Systems' ColorTrack, while Bobst's DigiColor, an in-line closed-loop color system, enables digital color adjustment during printing. Many other label suppliers are also



Esko's Share & Approve technology enables Automation Engine users to improve productivity by uploading, sharing, annotating and approving label projects in one centralized online tool

"The move to Industry 4.0 is a transformation in which technology will combine digital information with the physical world to add value to a converter's business"

developing automation, monitoring, correction technology and cloud-based links.

Automated set-up

So, where is all of this taking the label industry of tomorrow? We are already seeing most production lines becoming modular and flexible, with increasingly automated set-up and changeover, integrating digital and conventional processes, adding in-line monitoring/control of ink, register, color, barcodes, variable data and much more, facilitating press-side corrections, and real-time performance monitoring of production equipment.

Such futuristic production capabilities now enable enormous amounts of data relating to production, materials, performance and customers to be generated and evaluated, while also offering the possibility of new services and products. Cloud computing is currently being used successfully in many companies and offers the possibility of using many services independently and flexibly. The Industry 4.0 platform is already improving existing and future offerings by establishing various standards in the area of digitization.

While too soon to evaluate what the label industry will really look like in the next five or 10 years, it is certain that it will become very different to what it was 10 years ago, or even what it looks like today. Like its predecessor, Industry 3.0, the new generation Industry 4.0 technology will also be a change for good.



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



Packaging: The secret weapon in omnichannel marketing

Packaging is an integral part of omnichannel marketing campaigns, writes L&L's new branding and design columnist Vicki Strull

ny brand worth its PMS colors knows that it takes multiple touchpoints to engage consumers and create a loyal following. And you may be thinking that most of those touchpoints today are e-driven, because we certainly live in a digital world. Many industry experts believe that the rise in e-commerce and online omnipotence has caused everything from the demise of retail giants such as Sears and ToysRUs to the rise of a new breed of retailers without walls, such as Dollar Shave Club and ThirdLove.

But as a design strategist and consultant to hundreds of brands, I know for a fact that brands cannot – and do not – live by digital alone. The multiple touchpoints of an omnichannel marketing campaign must tap into our senses beyond the screen. They must include a secret weapon. That secret weapon is print.

After a decade of hearing 'print is dead' (it wasn't) brand owners and marketers are touting it as a crucial piece of the brand puzzle known as omnichannel marketing. Or, as Forbes recently called it, 'harmonized retail.'

Omnichannel marketing includes a cohesive combination of messaging: direct mail pieces, email campaigns, a website, an app, signage, social media, live events, brochures, pop-up stores - you name it. It's really omni-storytelling, designed to evoke an emotional connection with consumers. And that is print's sweet spot, with its ability to engage all of our senses in a way that content on a screen can't.

Print is tactile, with its substrates and magical inks and embosses and foil and sheen. It enables brands to communicate touch, sight, smell and even sound (the turning of a page, the ripping open of an envelope) so a brand's message meets the different ways that different people remember and catalog information.

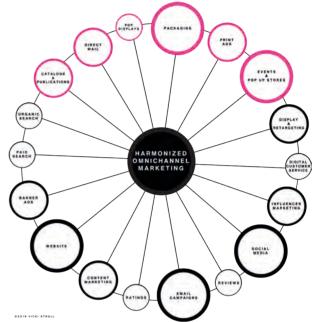
Print also helps give a brand substance. We all know ultra-successful digitally-native brands that are seemingly born overnight. But what separates the real players from the pretenders? A website? Sure. A logo? Ok. How about a business card? Isn't that still a litmus test for credibility? Apparently so. According to Small Business Trends, 72 percent of people judge a person based on the quality of their business cards. Thirty-nine percent would choose not to do business with a company if they had a 'cheap-looking' business card. Packaging could be viewed as a brand's calling card; done right, it delivers both heft and credibility.

The retailer's site vs the retailer's shelf

One of the most obvious examples of print's weaponry is consumer packaging disrupters such as Amazon, eBay and Boxed, who are selling millions of products and not one of them from a retail shelf. While these disrupters have radically changed buying behavior, the brands they sell are relying even more on print – specifically packaging - as a differentiator.

A brand's packaging on a retailer's website serves a different purpose than its packaging on a retailer's shelf. The packaging that customers see on online needs to look the same as when it arrives at their homes. Otherwise customers begin to question the quality and authenticity of the product.

Imagine you ordered a luxury cosmetic item online. One thing that attracted you to the product is the way it looked. Maybe it was finished with foil or had a clean, refined look. If the package that



Omnichannel marketing, with the print in pink and the digital in black. Brands need to rely on both for successful marketing campaigns

"Print's sweet spot is its ability to engage all of our senses in a way that content on a screen can't"

arrives on your doorstep doesn't have that same luxury style – if the paperboard is flimsy, or there's no branding on the box – you're suddenly not sure if the product is genuine or even safe. Once again, print matters.

You'll notice that I'm not advocating for print as a standalone powerhouse. Print works best when it's a fully integrated part of the

In fact, print is an impressive portal back to its digital campaign counterparts. You take a picture of a specially-designed image on a package and it leads you to a campaign landing page. Or it takes you to an augmented reality experience. Or it captures your information and saves you time when you're ready to repurchase.

When brands fully employ a print strategy within their omnichannel marketing plan and treat it with the same importance as their content marketing, social media strategy and e-everything, they're creating a more seamless purchasing path. A more memorable moment. A more engaging experience. One that feels cohesive and intentional.

One might even say harmonic.



Vicki Strull is a design strategist and speaker who advises top-tier and emerging brands how to leverage the power of print and packaging. Download her Packaging Innovations $Check list\ at\ vick is trull. com/packaging-innovation-check list$



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The six essentials of every M&A transaction

Navigating buyer/seller objectives effectively is what makes or breaks a deal. Six imperatives need to be explored, writes Bob Cronin of The Open Approach

ven in today's opportunistic market, buying and selling shouldn't be taken lightly. While more companies are jumping into M&A, many are falling short in reaching their objectives. Entrepreneurs tempted by the 8X+ multiple their neighbors are (supposedly) getting are failing to think past the 'advertised' sell price. While valuation is important, it's only one part of the equation. There are numerous considerations that affect your outcome.

1. Does the company really want to buy or sell? The hype surrounding M&A draws in plenty of prospective participants — some who in no way can manage the venture. Whether selling or acquiring, consider the following. What is reason for purchase or sale? Is company leadership cognizant of the prospective implications? Are systems in place to accommodate a new entity or a move to a different platform?

Get to the heart of leadership motives – and 'acceptance platforms' – before you leap. Many players are still small, family-run entities that have a lot of moving parts. Determine first the ownership structure. Are the people seeking the buy/sell the actual decision-makers? Have they demonstrated – through representation, investment, or action – that they're equipped to follow through? The question of preparedness must be raised and answered.

2. What are the company objectives, and will an M&A deal accomplish them? There are a variety of opportunities that a client may wish to pursue. But the entity will benefit only if the outcome of the selected opportunity achieves the intended goal.

As you consider a purchase/sale, define your full objectives. The more specific you are, the better your chances of attaining them.

Look at the opportunities, challenges and constraints. Then consider what's realistic. If M&A is the best option, involve the right team to manage it. If your collective company objectives don't merit an M&A move, don't attempt one. Today's market is alluring. But misaligned efforts can be problematic.

3. What is the ownership structure, and what is each party's influence? Many of the greatest, most innovative label businesses today are still family-run. A multi-person ownership structure can be arduous if everyone isn't in agreement. We've had a number of deals break down because one of the owners didn't like their slice of the transaction. Whatever you do to grow, get all decision makers on board from the start. Have all voting parties weigh in on their vision and their thoughts on reaching it.

4. Are the financials in good shape, and ready for scrutiny? Nothing guarantees a doomed deal like having an issue with the

"While valuation is important, it's only one part of the equation"

financials. Financials spell out a company's revenues, earnings, cash flow, profitability, debt, etc. They also track history. Buyers want to see growth in all key measures, with any negative fluctuations explained. They want the assurance that their move is warranted, and that 'hard data' (numbers) support their proposed investment.

That said, you may wish to present your financials with any applicable add-backs and adjustments that will result at deal consummation. Owner salaries, incentives, and other perks can be large numbers at privately held businesses and can drastically change your EBITDA.

5. Is the end vision/exit realistic? As you consider your M&A path, clearly define your objectives. If multiple ownership parties have various hopes, lay them all out. Then, determine whether these are actually attainable in this market, with your particular company, at this juncture. You may have a monetary target, but the post-exit structure can be even more important. Many times what happens to the remaining employees, brand, buildings and other assets factor in above and beyond. All of these need to be understood and a direction determined prior to heading to market.

Buyers have different considerations. Their end vision – and what's important in the future – may not immediately seem to align. The key is to identify the sales and profit-enhancing synergies and market advantages. From there, you can create a great transaction for all.

6. Is this really the right time? Optimal timing of any deal – hot market or not – is what best ensures transaction, integration, and ongoing business success. As you continue to hear and read about the current M&A frenzy, it may be hard to believe that it might not be the right time for your business. But you need to consider a couple things. What does the current market look like for financing? What are the results of similar, recent transactions in your particular business segment? These two items will greatly impact both sides of any deal. Evaluating these ahead of time is vital.



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 (+1) 630 323 9700



L&L: Why did you decide to rebrand?

Mikaela Harding, Pulse Roll Label **Products:** We felt that the Young Managers Club, as it was previously known, had lost traction. We were losing members and the congresses were not as popular as we would have liked. We thought that with all significant events happening in the industry this year - such as the 40th year of Labelexpo and the 60th anniversary of Finat – it was the perfect time for us to come away from the Young Managers Club idea. The name didn't sound serious enough. We also felt that the term 'managers' was restrictive, as members do not have to be a manager to join. The Young Professionals Network (YPN) idea is a better fit to build this network. It has worked well so far: since taking over as president, I have been promoting the network in every company I speak to and any customer that comes to visit my company. I always explain the idea behind the YPN, which seems to work well as we have new members signing up. In fact, just thanks to networking at Labelexpo, there are new members joining as we speak.

L&L: What are you hoping to achieve with the rebrand?

Matthias Vollherbst, Vollherbst Druck: I think we have two main tasks to fulfil. Firstly, we create something for the industry. That's our main challenge as a young group. We have to develop interesting content and show interesting perspectives that maybe the older generations in the industry don't have. Secondly, we have to disrupt and develop the culture of the industry: we don't believe in awards; we don't believe in shoulder tapping and playing golf together. It's not only because it's 'old school': we believe this approach actually creates barriers. We love the concept of 'mistake nights' where we all share the mistakes that we made, and this helps us to understand how to solve them in the future. I think that this is what an industry network should be about.

L&L: Have new members been joining since the rebrand?

Mikaela Harding: Yes, definitely. We've had a large number of people interested in joining since we rebranded. I think the presentation we gave at the European Label Forum definitely made an impact



Pictured above: Mikaela Harding and Matthias Vollherbst present the YPN's rebrand at Finat's European Label Forum Pictured opposite: Standing L-R: Jerry Willems, SPGPrints, Netherlands; Elke Verbaarschot, Finat, Netherlands; Beate Blecker, Avery Dennison, Germany; Mikaela Harding, Pulse Roll Label Products, UK; Leo Becker, Avery Dennison, Germany. Kneeling L-R: Matthias Vollherbst, Vollherbst Druck, Germany; Josh Yerecic, Yerecic Label, USA; Stefan Vollherbst, Vollherbst Druck, Germany; Alessia Guerra, graphic design student, Italy; Zsofia Kovats, Delfort, Hungary

"We have to disrupt and develop the culture of the industry: we don't believe in awards; we don't believe in shoulder tapping and playing golf together. It's not only because it's 'old school': we believe this approach actually creates barriers"

with senior management in the industry. A lot of managing director-level executives are now more interested in sending their young employees to join our network. We presented more insights as to who we are and what we want to achieve. I feel like they are much more engaged with our message than ever before.

L&L: How have you benefited from YPN membership?

Josh Yerecic, Yerecic Label: I have been a member for the last two years. One of the biggest benefits for me has been learning about sustainability. Europe does it in such an amazing way. Our company is always at the forefront of new technologies, so to learn from the young teams, but also the whole of Finat, and to understand how they're approaching the situation, allows us to get ahead of the game. We know there is the Swiss compliance system, and a different compliance system in the UK, but we also know that compliance is common in America. So, we want to be prepared for that compliance, making sure that we are prepared before it comes to our side of the globe.

Chris Spooner, Label Traxx: I joined during the previous Labelexpo in 2017. I didn't really know anything about it. I was back in the industry after some years outside it and the YPN was a great way to network. It is fantastic to have like-minded people around, supporting you and going through similar experiences. Finding your way in the industry through collaboration was for me a fantastic way of being reintroduced to the world of labels.

Zsofia Kovats, Delfort Group: I have been a member for the last four years and I joined because of a colleague of mine, who was already a member. He suggested that it is a really good place for young people with a great, supportive atmosphere. It is a great arena to discuss the latest technologies in the label industry. We gain access to information that is not attainable in other places.

Mikaela Harding: A tangible example at Pulse, we were doing a trial with a very specific type of screen. We had some questions, and thanks to a conversation with a friend from the YPN, I knew straight away how to fix the problem and the trial was very successful.

About the YPN

Finat's Young Professionals Network was established to bring together label industry professionals under the age of 40 and offer opportunities to exchange experiences, initiate common projects, participate in exchange programs and discuss topics such as succession, leadership, intercultural management, lean management and innovation. There are currently 66 members from 20 countries around the world.

Matthias Vollherbst: For me the biggest benefit is networking, but not in a business sense. That's not what the YPN is about. From the first moment it was a group of friends and people of a similar age who can really trust each other, and that is super beneficial. For example, whenever I have a problem with one of the machine suppliers I know there will be a YPN member who I can call for advice.

L&L: It seems you are a close-knit group. Are these friendships also beneficial for business?

Mikaela Harding: I know that a lot of people at management level may not see it this way, but if I am friends with a converter, that friendship could be turned into a business relationship. When I am visiting my customers as their supplier, I often hear about their struggles in certain aspects of the business. Thanks to the YPN, I might know someone who's really great in this area and put them in touch. This way we can easily convert it into a new business.

L&L: What initiatives have you got planned for the near future? Mikaela Harding: During this year's



"For our generation, it's not necessarily about the job and it is not necessarily about the money. For most of us it is the support we receive from our companies, and the work-life balance. These are the things I think are really key and important to young people today"



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YPN board mwembers

Mikaela Harding, Pulse Roll Label Products: Chief disruptor

Charlotte Ellison, OPM (Labels & Packaging) Group: Treasurer

Matthias Vollherbst, Vollherbst Druck: Event manager

Zsofia Kovats, Delfort Group: Online marketing

Arnie Ellison, OPM (Labels & Packaging) Group: Sponsorship manager

Labelexpo Europe, we held a series of flash talks at the Finat stand, which were very popular. We didn't have a congress this year, because we merged with the Finat European Label Forum (ELF) to announce the rebrand. However, next year we are planning a big conference. We are going to ask all members for feedback on the thoughts and ideas that we have already discussed at board level. We want to find out how to attract more members to our congresses and how to convince them to spend two or three days away from their working schedule, and -

most importantly – how we can appeal to senior management in the industry so they see the value of our events. Every time we meet, we create new content with fresh ideas that we share with management to show that we are constantly working on hot industry topics.

L&L: How do you stay in touch outside of the events?

Mikaela Harding: We stay in touch mainly thanks to our WhatsApp groups: we have one for the board members and separate group with 35 YPN members. It is a fantastic tool. For example, the members who were not able to make it to Labelexpo Europe will soon receive information and pictures of our activities, and I am sure they will engage with us using the group chat. WhatsApp proved to be the best platform to stay in touch, but also provides all members access to each other's phone number. If I ever need any information from our members our WhatsApp group is the first place I go to. Very often we use another member's knowledge and resources to gain information. It's all about building connections. In the future, one of the members may want to know more

"We are going to see a huge swing in a decade or so - many senior managers in the industry are approaching retirement age. Then, fingers crossed, we will rise to the top and will be running the industry"

about the varnishes my company offers and speak to me about it. It is not what YPN is about, but occasionally, these conversations may turn into business. It often turns into collaborations and projects and that's what I love about it. It is difficult to explain to senior management, who are covering our membership fees, but for me it's more about staff retention. The fact that my business is willing to put this investment into me and





Finat names #Labelicious winners

At Labelexpo Europe, Finat announced the winners of the #Labelicious contest in three categories: smart labels, design and sustainability. The competition's goal is to attract next-generation talent in design, engineering and product development to the labeling

Alessia Guerra from Italy won the design category award, and Lucas Debock and Niels Hyde, both from Belgium, won the award in the smart labels category and the sustainability category respectively. The jury underlined the innovative and open-minded approach of the students and noted that multiple entries combined both design and smart technology categories in one submission.

As the industry innovates, the need for young generation professionals with both traditional graphic skills and new digital skills is growing. According to the latest Finat Radar report, respondents from European countries place workforce challenges among their top five priorities.

'Attracting next-generation professionals is not something that will materialize without substantial efforts from all stakeholders, and of our sector as a whole,' commented Chris Ellison, president of Finat.

The competition, launched by Finat last year, gathered registrations from nearly 100 young talents from 22 different countries in Europe. The three winners received their trophy and a financial prize and a full week of work experiences provided by the Platinum partners Avery Dennison, Gallus and HP.

"I used to work for a printing industry training provider and attracting young people was very hard. They didn't necessarily understand the industry, or didn't consider it particularly sexy. But the industry is evolving. Printing companies have become modern environments. We have seen incredible technological advancements in automation, workflow, e-commerce - all of these are creating new roles in the industry"

let me grow through this group is the main reason why I am so loyal to the brand.

L&L: Do you think this could be a decisive factor for a new member to join?

Mikaela Harding: This is what we were trying to convey during our presentation at the European Label Forum (ELF). Retention of young people in the industry is a massive issue and everyone is talking about it. Of course, we have people within the YPN who still leave the industry and our network is not a guarantee of staff retention, but it is definitely a step in the right direction. For our generation, it's not necessarily about the job and it is not necessarily about the money. For most of us it is the support we receive from our companies, and the work-life

balance. These are the things I think are really key and important to young people today.

Matthias Vollherbst: I personally think you can sometimes feel alone as a young talent in the label industry. I'm saying that because I have seen a lot of people leaving the industry in a quite frustrated way. I would tell anybody who is keen to stay in the industry to join us - you will make friends and find people who support each other and learn from each other.

L&L: How do you convince senior management of the YPN's importance?

Mikaela Harding: During our ELF presentation, we told the industry's senior management - in quite a blunt form that they effectively are the issue. In our opinion, they need to send young people to the YPN to give them more confidence, to make them feel like valued members of the team who are worth investing in. Senior leaders also need to think about succession planning. There are several customers who I have spoken to who are worried about the future and, for example, where they will find engineers for the presses. Converters are also worried about who is going to be selling to them in 10 or 15 years' time. We are going to see a huge swing in a decade or so - many senior managers in the industry are approaching retirement age. Then, fingers crossed, we will rise to the top and will be running the industry.

L&L: How would you attract young people to the label industry?

Chris Spooner: I used to work for a printing industry training provider and attracting young people was very hard. They didn't necessarily understand the industry, or didn't consider it particularly sexy. We need to educate people about the different career pathways within the print industry. It's not necessarily about being a printer: it's about management structures, sales, marketing and business solutions. The industry is evolving. Printing companies have become modern environments. We have seen incredible technological advancements over even the past five years in automation, workflow, e-commerce - all of these are creating new roles in the industry. Who would have thought ten years ago that social media could become a full-time job? In my opinion, this is not the end of the road: the industry is going to evolve and improve in the coming years.



Read more about the Young Professionals Network on Finat's website: www.finat.com/about/ypn





Quality control at the digital pre-press stage

All4Labels' Trittau site has integrated pre-press inspection with its workflow to optimize production. James Quirk reports

ccording to All4Labels, its site in Trittau, Germany, has developed over the last three years into the world's largest print center for adhesive labels.

As such, given the volume of orders received and frequent changeovers, optimization of production processes has become All4Labels' main priority. Last year, the company integrated its pre-press inspection – provided by EyeC – into its Esko workflow, resulting in increased efficiency and reliability.

All4Labels installed EyeC's Proofiler 600DT in Trittau in 2016 for automated print sample inspection of pharmaceutical labels, alongside workflow software from Esko. Following the successful automation of the production process, the company turned its focus to its pre-press processes, integrating them in 2018 into its existing workflow using EyeC Workflow Integration.

Automated incoming data checks

In recent years, requirements across all industry sectors, in particular for pharma products, have increased across the production chain. Before the workflow integration, the incoming data inspection at All4Labels was largely completed manually. With the help of a soft proof, the customer data was standardized in the pre-press stage and approved by the customer before printing.

The unique challenge here came in dealing with print data without a prior approval process. In addition to the risk of changes, such as shifts or missing design elements, manual inspecting was also time- and resource-consuming. Production processes that were already automated were also slowed down by manual pre-press inspections. Along with increased productivity, automated inspection of texts, graphics and 1D as well as 2D codes with the EyeC Proofiler Graphic now provides additional reliability within the incoming data controls.

The configuration of artwork inspection was completed in cooperation with EyeC so that inspection is now possible across almost all jobs. In comparison, the inspection of print data with high customer requirements, such as pharma labels, is carried out with different inspection parameters. Based on the respective customer number, the parameters are automatically selected so that inspection is carried out in the workflow according to customer requirements and without manual steps. Today, the right configuration of the inspection profiles ensures the consistent quality of all delivered print jobs and gives those responsible more security in the preparation and execution of print jobs throughout the pre-press and production stages.

'Among other things, we decided on EyeC because, from the beginning, it was clearly communicated what the system could provide us. Together with EyeC, we configured the variety of setting possibilities for the inspections to meet our specific requirements. Furthermore, there are additional options available such as Braille inspection, which we can profit from in the nearer future,' said Michael Koch, head of pre-press digital printing at All4Labels.

Fully-automated Inspection of 2D Codes

In addition, the step-and-repeat files from two major customers are automatically inspected with the help of the EyeC Workflow Integration at All4Labels in Trittau. Therefore, the EyeC Proofiler Graphic is used for the inspection of 2D codes. For this, the QR



"Especially in the pharma sector, we see great potential in digital printing with variable data and have already set up a closed-loop workflow"

code provided by the customer is entered into the MIS through the Account Manager in the first step. After the print job has been created, the Proofiler Graphic inspects the codes in the pre-press stage against stored data. In addition to the readability check, the system inspects the information contained in the codes, such as the article number so that variety mix-ups are excluded.

The pre-press inspection of personalized pharma labels continues to present a challenge. Because the required evaluations in the workflow are both time- and resource-consuming, an adaptation of operational processes and the appropriate configuration of inspection parameters are required.

'Especially in the pharmaceutical sector, we see great potential in digital printing with variable data and therefore have already set up a closed-loop system in our workflow,' says Koch. 'In the future, the multi-page PDF provided by the customer is loaded directly on the press and will automatically be inspected. Print defects are automatically detected and marked or reprinting is directly initiated. In addition, the final report contains all information for the automatic replacement of defective labels and serves as proof to the customers. With EyeC's system, we are already prepared for future challenges today.'

All4Labels

All4Labels has more than 3,000 employees at 29 locations worldwide. The site in Trittau employs almost 200 people, including more than 105 experts in the digital printing sector.



Read more about workflow developments on page 95



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FLEXIBILITY













Workflow automation drives EskoWorld agenda

Digitize, Automate and Connect were the key themes at EskoWorld 2019 in Nashville. Andy Thomas-Emans reports

ow in its 28th year, Esko's annual customer event brings together brand owners, designers and print service providers from across the packaging value chain to interact and exchange ideas, giving Esko the chance to lay out its technology roadmaps and undertake more detailed training and drill-down sessions on specific products.

Over the last two decades Esko has established a key position as workflow integrator between brands, converters and suppliers, establishing links between brand color management, pack specification, pre-press and workflows onto both digital and conventional presses, closing the loop with automated quality assurance systems. It has achieved this by establishing links with a wide range of partners across the value chain, many of whom were present at EskoWorld to talk about roadmaps to an automated, Industry 4.0-driven future.

Speaking at a press conference, Esko president Mattias Bystrom said changes in the wider retail landscape - particularly the growing success of 'challenger' brands - are already affecting Esko's development strategy.

'We see more design being done by people with no idea of color, and smaller brands are rising which are experts in their own products but whose knowledge of packaging is quite limited. And there are competitors out there offering "quick and easy" print results, so we need to make the case for why professional solutions are

Bystrom said that packaging components that are changing in the search for more sustainable products. 'We see end users asking for recycled and recyclable packaging, and solvent-free inks, but with the same performance characteristics.'

How will these factors impact pre-press professionals? 'We need to find automated ways to avoid errors in submitted artwork and mitigate time pressures, while we wrestle with unclear communications and cope with the new demands for physical materials.'

Esko's survey results, quoted by Bystrom, show that 71 percent of consumers trust the information they read on packaging, in contrast to a lack of trust in other media sources. 'We must safeguard this trust,

so we should not leave this to untried software."

New products and workflows

Automation roadmap. With Automation Engine 18.1 announced at the event, Esko estimates that 45 percent of pre-press and preproduction tasks can be automated with existing technology. Automation Engine's scalable workflow is already at the heart of a range of automation initiatives with OEM partners. One example in the label sector is the integration of Automation Engine and sister company X-Rite's ColorCert with AVT's AutoSet in-line print inspection system to automate color inspection and measurement, launched at Labelexpo Europe. The digital link between ColorCert color and AVT's Spectralab in-line color measurement device automatically sets up a job for in-line color measurement and generates color scorecard reporting on color quality performance after printing. This integration delivers better visibility into color performance based on measurable, objective results for increased color consistency.

ArtPro+ addresses PDF concerns. Esko acknowledges the increasing usage of PDFs by packaging professionals, and the latest release of ArtPro+ is designed to support pre-press operations going through that transition phase.

Frank Woltering, product manager at Esko, noted that PDF editing, a 'critical stage' in the pre-press process, 'is known for introducing errors that create waste downstream."

ArtPro+ opens any classic ArtPro file or normalized PDF file and turns it into native PDF. Crucial production metadata, such as barcode properties, screening or ink information, is translated into the latest PDF ISO specifications, and both the graphical content and packaging relevant metadata are migrated.

Another enhancement is in Esko's non-destructive warp system, which compensates for distortions in the packaging production process. Warping grids created in ArtPro and PackEdge are now fully protected by ArtPro+, meaning any PackEdge or ArtPro grids can be used in ArtPro+ for warping new designs. Esko says the new algorithms create higher



"We see more design being done by people with no idea of color. and smaller brands are rising which are experts in their own products but whose knowledge of packaging is quite limited. And there are competitors out there offering 'quick and easy' print results, so we need to make the case for why professional solutions are required"

quality pre-deformation allowing for design changes even after the warping process.

Smart preflight profiles have been enhanced with dedicated layers to prevent conflicts between the design and technical information - avoiding knocking out die lines, for example. Another key feature is a

patent-pending object-based trapping algorithm.

EskoWorld coincided with the announcement that the company's Print Control Wizard was shortlisted for the Innovation award at the Labelexpo Label Industry Global Awards. Print Control Wizard offers a standardized approach to screen and curve creation, outputting a new Crystal Screening algorithm to address a wide range of potential print issues.

As Esko product manager Robert Bruce explained: 'Vignettes are smoother with no inflection points or bridging and there is also a considerable reduction in plate cleaning frequency. Increased stability and predictable results on press are a clear enabler for flexo printers to move to fixed palette printing, leading to increased productivity and press uptime.'

At Labelexpo Print Control Wizard was shown for the first time driving the Esko CDI Crystal 4835 XPS flexo imager with PlateHandler

Cloud connections. Cloud connectivity is a major focus for Esko's development roadmap. The company's private cloud infrastructure built for its software applications is already delivering benefits, as Jan de Roeck emphasized. 'Cloud computing delivers savings and benefits in supporting IT functions, a business domain where many converters suffer from scarcity of skilled resources as well as scalable and up-to-date equipment. Applications that run as a service in the cloud don't require an expensive IT infrastructure and software updates no longer need the dedicated attention of an IT engineer.'

A great example is the recently released Share & Approve proof approval tool, which runs as a service on Esko Cloud and enables anyone in the label workflow to upload, share, annotate and approve packaging and label jobs in 2D and 'hyper-realistic' 3D.

'Share & Approve is an application which makes use of the Cloud to enable any user to invite an external party to review and approve a job,' explained de Roeck. 'And now also Automation Engine makes use of the Esko Cloud. For customers, this means it has just become significantly easier to use expert skills like 3D artists – even if they are residing at a remote facility – or to easily move jobs to another site in an effort to balance workload."

Esko is developing a series of 'Cloud connectors', which hook its applications into the Cloud infrastructure – a recent example being the Automation Engine Cloud Connector. 'We will continue unlocking more applications that run as services in a cloud infrastructure and releasing additional "cloud connectors" for software and hardware tools, and in this way effectively connecting the labeling ecosystem,' said de Roeck.

Esko's commitment to driving automation through its extensive range of OEM partners was also emphasized by de Roeck. At Labelexpo Europe, for example, Esko was co-operating directly with a diverse group of suppliers including Cerm, Codimag, Dantex, DuPont, Epson, GlobalVision, HP Indigo, Label Traxx, MacDermid, Mark Andy, MPS, Omet, Sun Chemical, The Gray Elephant, Theurer, Vianord, X-Rite Pantone.

Technology sessions

EskoWorld includes a wide range of deep-dive workshops on specific products, and this year's event was no exception. Some standout sessions this year included:

- Grey Elephant's Brain4Tools. This software package optimizes organization of print tooling. Where the printing sequence is usually determined manually by evaluating individual separations, Brain4Tools compares print sheets with existing printed separations/tool combinations and generates an optimal print sequence in under a minute.
- End user seminars. These included Kevin Ford of Miller Coors talking about building a connected culture throughout the brand; Anne Samoyedny of Pepsico talking about packaging management best practice; Frank Goddiess of Colgate-Palmolive



Prairie State Group shows flexible packaging samples imaged on new Esko CDI Spark 4835

Commercial to packaging

Esko is encouraging wide format commercial printers to look at entering the high growth packaging sector. Marketing director Jan de Roeck described the trends which are currently disrupting the packaging sector. 'The days of highly efficient long runs are over; the market is consolidating; there is a relatively large amount of pack format switching happening due to the anti-plastic movement; and brands are demanding more innovation to meet the needs of their vocal, often online consumer.

De Roeck pointed out the issues commercial printers must consider before adding packaging printing to their mix. 'If a wide format printer only has a 4-color press, they would be challenged to produce packaging which typically demands 6-10 colors today to meet stringent brand management needs. Process work is available but it is often in combination with jobs that require spot brand colors. In addition, if they have pre-press facilities in-house, do they have the skills to handle short run, complex jobs and the necessary pre-press software and hardware solutions to minimize costs and waste to operate efficiently?

De Roeck added that it is not simply a matter of the relevant equipment and software. 'There's a great deal of knowledge and experience that goes into packaging production that is not immediately apparent to a wide format printer when you're getting into the business.'

on the company's experience switching to Web Center for the artwork process and user feedback; and Angela Clinefelter at Kimberly Clark explaining how a print quality program was set up using X-Rite's ColorCert.

- Customer presentations. These included Turner Labels' Kristen Estep giving designers advice on factors to take into consideration including brand identity (strategy), brief (communication), research (What's new, what's used?) and functionality.
- Flexo screening/RIP roadmap. This session looked in detail at how different combinations of amplitude modulated and randomized screening can be used to obtain different print effects such as apparent fades to zero.
- G7 for Flexo. Esko's flexo expert Mark Samworth presented on the current status of G7 certification, explaining the technical details behind G7 Grayscale, G7 Targeted and G7 Color Space, as well as how the standard relates to both digital and offset.



The next Esko World event will take place on April 27-30, 2020, in Dallas

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Print Width: 350mm / 13.75" Speed: 75m / 250' per minute



PicoJet 350 R

Ultra-high Speed Reel to Reel

This UV inkjet label press is equal in speed and performance to its sister model, the 350RF. It is built for high volume and ultra-high speed production for use with offline-finishing systems. It is capable of printing up to 7 colours and offers high productivity and superior quality.

Print Width: 350mm / 13.75" Speed: 75m / 250' per minute

PicoJet 254 R

High Speed Reel to Reel

The new 10" PicoJet press has the same specifications as its bigger sisters, however, it is engineered as a 5-colour press, CMYK + W. With high speed, high productivity and superior quality, this versatile press is ideal for use with offline finishing systems.

Print Width: 254mm / 10" Speed: 50m / 164' per minute



Leading agility





Yerecic Label keeps it lean and fresh

As the Pennsylvania-based label converter specializing in fresh food industries celebrates 50 years in business, the next generation is leading improvement. Chelsea McDougall reports

n a recent Friday morning – promptly at 10am – Yerecic Label's leadership team gathered for the second of three daily walks through the label manufacturing facility in New Kensington, Pennsylvania, outside Pittsburgh.

It was just before Labor Day in the US, and for label suppliers specializing in the fresh food industries, it's a busy time of year.

These tours through the facility, called Gemba walks, cover three shifts at Yerecic Label and are an integral part of the company's 'lean journey'. Labels & Labeling was invited to join to get an inside look at the company's organized, thought-out and efficient operation.

'Speed of fresh'

At Yerecic Label, they don't just talk about lean manufacturing; they walk the walk – quite literally. The company has been practicing lean manufacturing principles since 1993, and adopted daily Gemba walks five years ago. It's all part of a strategy the company calls the 'speed of fresh.'

The walk included senior personnel from production, marketing, purchasing, human resources, sales, IT, maintenance and a shift manager. President and CEO Art Yerecic was there, as was VP of production Brian Hurst and VP of purchasing and administration Linda Ciuca.

Gemba walks, derived from the Japanese root word meaning 'the real place' or 'the place where value is created', were pioneered by a Toyota executive. They are fundamental to the lean manufacturing philosophy, and at Yerecic Label it allows leaders to engage with employees, to observe work processes and look for opportunities for improvement. At Yerecic Label, they believe improvement is a moving target.

'Improvement initiatives are coming from our associates,' Hurst explains. 'Our associates decide where the barriers are and whether we need more training, better tools, or whatever we need to remove those roadblocks that are preventing them from doing their job.

'We believe in continuous improvement. We're never done improving, because we've always got room to get better.'

The walk that Friday morning started at a quality board, moved to sales, color separation, and finally the production floor where each press operator recapped press performance during their shift. Gemba walks allow management to deal effectively with problems as they arise, while giving managers a chance to champion the success of their employees. As Art Yerecic says, Gemba walks 'provide complete transparency into all facets of our operations'.

The company's lean philosophies extend throughout the building: it operates on a cellular concept, in both the front office and on the manufacturing floor. In the office area, the cellular model means each 'cell' has a consistent team including a key account manager, graphic artist and sales coordinators that can all consult clients from beginning to end.

'The cellular model is a critical competitive advantage for Yerecic Label,' says Ciuca. 'Our customers love working with our cellular teams.



"Our goal is to keep the presses running, and the way to keep the presses running is to keep the operator in the cell. We created ways for our press teams not to cross paths and we've to reduced redundancies to make our production floor the most efficient possible"

On the production floor, the cellular model means each press 'cell' includes a team of three, with helpers grabbing tools, changing rolls or moving boxes to the skid, so the press operator can focus solely on turning raw material into finished product.

'Our goal is to keep the presses running, and the way to keep the presses running is to keep the operator in the cell,' says Hurst. 'We created ways for our press teams not to cross paths and we've reduced redundancies to make our production floor the most efficient possible.'

The press cells also track exactly how the press operated on each shift. They track how much down time there was, how much waste was generated, how fast the presses were running, how long



Yerecic Label: a leader in the industry

Yerecic Label leaders often credit trade associations for much of their success over the years. The company joined TLMI in 2001 and always has a large presence at association meetings. Art Yerecic joined the board and later became the TLMI chairman from 2011 to 2012. Yerecic Label recently joined its European counterpart, Finat, to become one of only a handful of US members. Finat's UV Food Safe group was a big draw for joining the association, Art Yerecic says, but they since have learned immensely from colleagues in Europe. The company attends both Labelexpo Europe and Americas to stay on top of key industry trends, knowing that innovation continues between Labelexpo editions.

Art Yerecic was honored as converter of the year in 2014, the same year the company earned TLMI's environmental stewardship award. The company has 99.5 percent landfill free status and has been Life (Label Initiative for the Environment) certified from TLMI since 2010. Yerecic Label is also participating in merging to Sustainable Green Printing Partnership (SGP) certification through TLMI's partnership.

'The only thing that goes to landfill is our kitchen trash,' said VP of production Brian Hurst, adding. 'But we're working on that.

Label waste matrix is baled on site and sent to a facility in Ohio that mixes matrix with other waste products to be converted from waste to energy.

"When you're driving a car, the windshield and the rearview mirror are both important. You have to look through both, but we always want to focus on the larger outlook, the windshield, to see what's coming"

changeovers took, and any other barrier the team may encounter.

It's a remarkable amount of detail. This information not only tells the story of that press on a single shift, but it can point to larger press or operator performance issues that can be dealt with more effectively and armed with data, without pointing fingers.

Yerecic Label's production manager Josh Yerecic explains: 'We're not asking who caused this press to underperform, but rather, what's broken in the system that caused it to underperform? What processes and procedures need to be changed? What tools are needed to change it?'

This lean journey and 'speed of fresh' mentality allows Yerecic Label to be nimble in ways that, for the industries it serves, is crucial.

Josh Yerecic continues: 'In the fresh industry, we understand that, for example, the grapes our customers harvested yielded more than what they expected, so we may have to move around jobs to accommodate rush orders. We have to be nimble and flexible. Our team is very capable of it, but for us, it can be like a chess match.'

'Catching excellence'

Yerecic Label's approach to lean manufacturing has led the company to invest in the latest digital UV inkjet equipment from Domino. In 2018, Yerecic Label installed a Domino N610i, running in-line with an AB Graphic Digicon Series 3 finishing unit.

This press and finishing unit gives Yerecic Label greater flexibility in constructions and capabilities on-press.

'We went after markets were never able to before,' says Kristin Yerecic Scott, marketing director.

Hurst and the Yerecic Label team spent nearly three years exploring and researching before investing in a digital press.

'We are able to satisfy even the most color-sensitive customers with the high density dual white ink and 6-color expanded gamut (CMYK+OV) that accurately reproduces over 92 percent of Pantone colors,' Hurst says of the Domino press. 'The press/finisher speed of over 150ft/min was just as important in convincing the Yerecic Label team that it was time to invest in digital capability."

Yerecic Label is beta-testing a Swiss and Nestlé compliant ink system that Domino launched at Labelexpo Europe 2019. Domino's UV95 ink will open more opportunities for Yerecic Label's fresh food customers.

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capable of printing 12 colors, each with a slitter and turret rewinders, round out Yerecic Label's press fleet.

'We are learning every day about being lean with our digital press,' said Elizabeth Yerecic, key account manager. 'After 50 years of flexographic printing, perfection won't come overnight but like one of our favorite quotes says, "We'll chase perfection relentlessly, and along the way we shall catch excellence."

A family business

Yerecic Label turned 50 this year. Art Yerecic Sr, Art's father, started the company in 1969 out of the garage of the Yerecic family

By 1995 Art Sr stepped down, and made way for his son, Art Yerecic to become president of the label company. The father and son team shared an office for 20 years, until Art Sr passed away in 2001.

Art Sr's desk remains in the corner office the two men once shared, but now it is covered in the awards that Yerecic Label has earned since his passing, including an environmental leadership award from TLMI (see boxout), and the Freedom Award from the US Department of Defense for the



"Improvement is coming from every level of the organization. In 50 years, we never had this much improvement at Yerecic Label"



support Yerecic Label gives to employees serving in the military. Most recently, the company won its first World Label Award for an extended content label printed on a Mark Andy P7 press.

Of the seven Yerecic children born to Art and Sue Yerecic, three of them are active in the family business: Kristin in marketing, Josh in production, and Elizabeth in sales.

The three of them are poised to take Yerecic Label into its third generation and the company has started down a strategic path to pass the torch to its future leaders.

Kristin, Josh and Elizabeth each lead 'cross-functional teams', meaning they work across traditional boundaries to explore areas for company improvement. They have a mentor or coach, who is part of senior leadership, along with coordinator and other up-and-coming leaders that make up each cross-functional team. Much like the Gemba walks, these crossfunctional teams are taking a data-driven approach to improvement.

'The idea for our cross-functional teams came from Paul Brauss' recent book Dare to Improve Your Legacy and Paul helped us launch them,' Art Yerecic explains. 'The teams look for barriers to order flow and come up with solutions for improvement.

"We wanted the next generation to be the team leaders, and the senior management to work with them as mentors. We want the next generation at Yerecic Label to sharpen their leadership skills"

Typically, that might be led by senior leadership but we wanted the next generation to be the team leaders and the senior management (Brian Hurst, Linda Ciuca and Jon Boyer) to work with them as mentors. We want the next generation at Yerecic Label to sharpen their leadership

He continues: 'Improvement is coming from every level of the organization. In 50 years, we never had this much improvement at Yerecic Label.'

Elizabeth Yerecic adds: 'The cross-

functional teams have been as much of a growing experience for Yerecic Label as they have been for us, personally. It's a chance to be hands on and work not only with our colleagues, but with the ideas that seemed unreachable before we had a team around us dedicated to improvement.'

The third generation Yerecics understand the weight of responsibility of leading the company to the next milestone, and no doubt will build on the successful groundwork laid by their father and grandfather.

'When you're driving a car, the windshield and the rearview mirror are both important,' Yerecic Scott says. 'You have to look through both, but we always want to focus on the larger outlook, the windshield, to see what's coming.'

She continues: 'On our 50th anniversary we're asking ourselves, "What is it going to like here in the next 50 years?" And we're doing a lot to ensure the next 50 years will be just as successful. We're keeping it fresh for our customers and for our associates who work with us in to the future.'



To learn more about Yerecic Label and its products, visit www.ylfresh.com

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Alpine Packaging innovates

Women-owned and operated Alpine Packaging is always on the lookout for innovative ways to diversify. Chelsea McDougall reports

n a recent tour through Alpine Packaging, the smell of bubble gum wafted through the air at the North Versailles, Pennsylvania, facility.

Alpine Packaging was producing 'scratch and sniff' labels for a line of car air freshers. It's not just bubblegum scents that it can produce: cherry, strawberry, citrus and jasmine are just some of the scents Alpine has in stock. While brands producing car fresheners love these products. Alpine has also found a new market - cannabis packaging. 'Cannabis companies like to put the scratch and sniff labels on their packaging so users can get an idea of what the products will taste like,' says Jan Lehigh. 'It's a whole new market for us.'

These scratch and sniff labels are printed flexographically - and slowly. The scented coating can be tricky to work with, so speeds need to be reduced. The scented labels use microencapsulated essential oils that are applied to the paper labels. The oil capsules are mixed with water to form the scented 'slurry', which is blended with adhesives for printing and requires special anilox rolls to apply. When the essential oils are scratched it causes the capsules to break open and release the scent.

The scratch and sniff job is just one of the ways that Alpine Packaging has diversified into new markets, as it has many times in the past.

Three generations

Alpine Packaging is a certified Women's Business Enterprise, run by twin sisters Jan Lehigh and Jill Grunst. The sisters took over the business in 2007, though the family history dates back to 1972 when Jan and Jill's parents, Bill and Sug Johnson, founded the company.

Jan and Jill have worked in many different areas of the business - they have operated machinery, answered phones in customer service, knocked on doors in sales. Today, Jan is the president and Jill is the company's chief financial officer, and the pair are ushering in the next generation.

Lehigh says: 'We're all about delivering quality and outstanding service. Our philosophy is simple. We just try to take care of our customers, because they're so valuable to us. Without them, there is no Alpine. And we take care of our 43 employees. We strive to work as a team - from customer service to graphics to production to scheduling. Because we are family owned, we treat our employees like



'We're not just label printers; we're label engineers'

they're family. They really are.'

Jan's sons Chase and Chad, the third generation at Alpine Packaging, are working at the business as a digital print specialist and a sales manager.

Alpine manufactures bottle wraps and prime labels for a variety of industries, including Fortune 500 tire companies, as well as craft breweries and craft food and beverage markets. A smaller part of their business is manufacturing gusseted, bottom sealed plain and printed poly bags. Alpine Packaging produces plates in-house with the Cyrel Fast system by DuPont.

The company has 14 flexo presses capable of printing six colors and up to 13in, and in 2016 began digital label production with a Screen UV inkjet press. Digital jobs are finished on a CEI unit.

'About 20 years ago we started to do prime labels,' Grunst said. 'But in the last couple years, the prime label market customers were asking for a little more than what we could offer. We were missing a lot of opportunities because we could not do small runs - the main reasons why we started to look into the digital press.'

Alpine Packaging searched far and wide for the right digital press to add to its fleet. At Labelexpo Americas 2016, the company chose the Screen L350UV inkjet press.

Alpine serves the durable goods markets, so ink durability, lightfastness and a wide ink gamut was important when choosing a digital supplier, as was the ability to print on a wide array of substrates.

'We're not just label printers; we are label engineers. We're working with complex label constructions and vast array of label materials,' Lehigh said. 'The Screen press has done really well for us. It's put us into a lot of new markets and allowed us to do

things we were never able to do before particularly with short runs, and it's opened the door for serialization, wine bottles with unique codes. The craft breweries and craft food markets are ideal for it.'

Alpine's focus for the future is in RFID and smart labels. Prototypes of labels with RFID chips were developed and converted for one of the tire companies for tracking tires for a recall, security and inventory control. Additionally, Alpine Packaging is researching equipment to manufacture shrink sleeves for the craft breweries and other customers.

Landslide damages Alpine

A landslide in April 2018 caused significant damage to Alpine Packaging's facility, which the company is still dealing with today. After days of heavy rain, mud from a large hill behind the company slid down, affecting Alpine and six nearby businesses. More than 200 feet of a nearby highway tumbled down a hillside in the area outside Pittsburgh. According to media reports, 31 residents were displaced from their homes.

The mud at Alpine destroyed a building connected to its main facility, and caused cracks in the walls in the area where it stores printing plates. When L&L visited in August, bulldozers were still clearing the area. The damage resulted in costly repairs and no public funds were available to businesses to make the needed repairs.



To learn more about Alpine Packaging, visit www.alpinepackaging.com



Make the right choice with Domino at Labelexpo 2019

Domino Digital Printing Solutions is all about offering its customers added-value digital printing solutions with flexibility and choice to suit their individual, specific requirements. Labelexpo Europe 2019 was used to showcase these solutions and from the moment the show opened, Domino struggled to contain the number of visitors gathering to watch their daily product demonstrations.

The '20 minute Production Efficiency Challenge' conducted on the Domino **N6**10i digital ink jet hybrid press integrated with AB Graphic's Digicon 3 finishing line was extremely popular. Setting a new standard in label converting productivity, this ambitious challenge was to demonstrate in a single print, finish, slit, inspection and turret rewind process, the production of three different jobs with a total of ten SKU changes, a substrate change, three die cut changes,

cold-foil change, silver spot change and varnish changes with output all produced and boxed ready for shipment in less than 20 minutes! See the delight on the faces of Tom Couckuyt from Domino and Ben Gregory from ABG (pictured left to right in middle diamond above), when they successfully completed this challenge in just 13½ minutes!

After watching this hybrid demonstration at Labelexpo, Mr K H Lee (pictured second from left in the left diamond above), President of Yum Kwang Ind, a label printers based in Ansan, South Korea was convinced that a digital hybrid press was the solution for his business. He signed the order for a 5 colour Domino **N6**10i integrated with a Spande flexo and finishing system and became the first Korean label printer to invest in a Domino digital hybrid press.

Xavier and Tony de Vos (pictured middle and right in the right diamond above) from Label-Pak International, a successful family-owned Belgian-based label converter, visited the Domino booth to view their 7 colour roll-to-roll Domino N610i ink jet label press, being demonstrated on the stand with Domino's new UV95 food packaging compliant UV digital ink set.

Xavier says, "We needed to invest in digital ink jet in order to expand our business and extend our product offering to our customers. We are delighted to take this step in partnership with Domino, whose extensive experience of developing and manufacturing proven and reliable ink jet technology was a key factor in our decision to invest in the Domino **N6**10i."

Domino's ink jet solutions help you 'do more'

Another exhibit attracting a lot of interest at the show was Domino's latest innovative development in digital cold foil and spot varnish, printing a range of creative brand-enhancing embellishments and security features using a newly developed and unique UV-curable clear ink. Incorporating two 333mm Domino **K6**00i dual bar systems installed on an AB Graphic's Digicon 3 finishing line, these modular units can be interchanged between printing digital UV-curable adhesive for cold foil lamination applications or printing UV-curable spot varnish. Jim Orford, K600i Product Manager at Domino Digital Printing Solutions said, "This takes finishing into the digital age, removing what many of our customers see as the production efficiency bottleneck, offering greater efficiency to produce short and medium run, added-value embellished labels quickly, and with significantly reduced man hours and material waste."

With over 700 installations worldwide, Domino's versatile **K6**00i offers exceptional productivity and efficiency.

To complement 41 years' heritage of developing proven and reliable digital ink jet printing solutions, and in their continuous quest to provide customers with added value services that help to grow their businesses, Domino Digital Printing Solutions also launched two new after-sales solutions at Labelexpo. **Evalu8**. is a secure. cloud based Total Cost of Ownership (TCO) estimation tool, developed to help Domino's customers maximise their investment and profitability. It provides estimated ink usage and TCO reports for each job and allows customers to compare production costs between different printing technologies. Following on from its successful introduction in the US, Domino's Digital Solutions Programme (DSP) was also launched in Europe. This programme can be tailor-made to suit each customer's specific requirements and can include a combination of flexible training modules and bespoke consultative services.



During the show, Domino was delighted to welcome Francisco Fernández from GrafiSoft (pictured right in above image) onto their booth where he signed the contract to become the official distributor of Domino's **N6**10i digital colour label press and '**K**' series monochrome ink jet printers in Chile, Colombia, Ecuador and Peru.



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Gurong Printing embraces digital

After installing two new Konica Minolta presses, Chinese converter Gurong Printing aims to become a digital-only print house in order to enhance its brand and sustainability image. Yolanda Wang reports

ocated in Dongjing Industrial Park, Songjiang District, Shanghai, Gurong Printing was established in 2015 and integrates design, printing and postprocessing in the same operation. Its main products include high-quality PS labels for household chemicals, foods, medicine, electronics, stationary and toys, along with printed products such as poker cards, envelopes, user manuals, product catalogues, painting albums and books. The workshop has a production area exceeding 1,200sqm and more than 60 employees. Its annual output value exceeds 20m Yuan (\$2.90m USD).

Explains Gurong's founder and director Lawrence Zhang, 'Gurong Printing was set up less than four years ago, but our participation in adhesive label printing can be traced back to 1998. Previously, our company was located in Jiading District, Shanghai, as a subordinate branch of the Shanghai Zhanwang Computer Advertising Printing company. As business increased and we met more demands to transform to more sustainable practices and introduce digital printing technology, we registered Gurong Printing in 2015.'

New machinery

In 2018, Gurong Printing installed the first Konica Minolta AccurioLabel 190 digital label press in eastern China, and in April purchased its second digital press – the latest KM AccurioLabel 230.

'As with our original intention to establish Gurong Printing, we are aiming to follow the latest trends in the adhesive label printing market and retain the capability to keep innovating and transforming the business,' explains Lawrence Zhang.

Recent years have seen increasing requirements from end users for short-run orders and personalized products, which has put pressure on label producers regarding production speed, lead time and cost control. And with the improvement of digital printing technology, more and more Chinese label converters are adjusting and moving into digital production.

'Actually, we first tried digital printing five years ago,' says Lawrence Zhang. He selected a second-hand digital press and went to Beijing personally to see it in action. However, once installed, the press malfunctioned frequently and was not suitable for full scale production. It now lies unused in the warehouse.

Looking back, Lawrence explains there were not many brands of digital label equipment in the Chinese market at that time, and technical support was not as developed as it is now. What's more, he did not know much about the technology and the company had not prepared for it. So the failure was understandable.

That experience made him more cautious when he later selected a new digital press. 'The production mode of a digital press is completely different to a traditional printing press. We don't have practical experience using digital equipment and we have not been able to try for all the different kinds of label with a digital press. In this regard, we are more concerned about the brand reliability of the press rather than the machine itself,' said Zhang. 'The performance and reputation of Konica Minolta across a wide range of digital press applications eliminated our anxiety to a large extent. We trust this brand, and we believed they could handle any problems which we may meet when using the press.'

Zhang says that the electrophotographic toner print technology of the AccurioLabel 190 provides more stable and brighter colors, 'and the color gradient effect is splendid. In particular, the digital press completely eliminates problems of missing dots in the

"We will gradually make our traditional equipment obsolete. Using one digital press substitutes for three traditional presses, and we are planning to achieve a comprehensive digital-only production capacity"



Konica Minolta AccurioLabel 190 installed at Gurong Printing. From left: Lawrence Zhang; Jean Li, managing vice president of the label printing branch of PEIAC; Jia Yan, vice secretary of the label printing branch of PEIAC

Konica Minolta AccurioLabel 230

The Konica Minolta AccurioLabel 230 incorporates significant improvements on the 190 model including printing speed, warm-up time, printing length and media compatibility. Print speed is up to 23.4m/min (76.6ft/min); warm-up time is a mere 0-0.5min, which raises the overall productivity of the machine; the printing length now supports continuous printing of 1,000m; it is compatible with a wider range of label substrates; and overprinting on pre-printed media is available after installing the optional 'overprint element' – and this overprinting is highly accurate, says Lawrence Zhang. The toner used in the press is

The AccurioLabel 230 press also allows addition of a wider range of post-printing units, including laminating, varnishing, cold-stamping, die-cutting and slitting, either in- or off-line. Those post-printing units are supplied by Konica Minolta's strategic partner Brotech.

The unwinder/rewinder units of the AccurioLabel 230 are also supplied by Brotech in countries such as China, while other areas are supplied by Grafisk Maskinfabrik.

'This press is targeted at the high-end printing market, to better help customers cope with the growing demand for personalized and customized printing,' says Ding Zhigang, deputy supervisor of Konica Minolta's China-based printing systems operation.



Konica Minolta AccurioLabel 230

"We are more concerned about the brand reliability of the press rather than the machine itself. The performance and reputation of Konica Minolta across a wide range of digital press applications eliminated our anxiety to a large extent"

Environmental Impact Assessment (EIA)

Lawrence Zhang built sustainability into his business model from the outset, and at the time of registration, Gurong Printing obtained formal approval from China's national environment protection agency.

Today Gurong Printing's print shop includes a Label Source 9-color full rotary letterpress, Nickel intermittent letterpress and Reborn high-speed die-cutting machine alongside the new digital presses. Implementing environmental protection policies means in practice controlling raw material selection and properly discharging the wastes produced from print and post-print processes.

The Environmental Protection Tax Law of the People's Republic of China came into force on January 1, 2018. Domestic label converters are widely impacted by this policy, especially in Shanghai, which has some of the most stringent standards in China.

'Digital technology will save the costs of plate-making, reduce consumables waste from calibration and makeready, and allow us to produce on-demand, just like using high performance office photocopying equipment. Therefore, the digital press results in fewer pollutants to the environment compared with the traditional label press,' says Zhang.

Pan Xiaodong, secretary general of Shanghai Digital Printing Association, tells L&L: 'Currently, there is no exact industrial document or policy indicating that digital printing needs no EIA, but at the same time digital printing is not listed as a printing process which definitely requires an EIA.'

Jean Li, executive vice president of the Label Printing Sub-Association of PEIAC, says her organization, as the liaison between the government and the printing industry, will be responsible for drawing up relevant standards for digital print and will try to solve any potential environment protection problems label converters may face during the transition to digital.

Digital label printing accounts for less than 5 percent of installations in China, and these are mainly international brands.

highlight area you find during conventional printing."

Describing the 'click payment' business model, Zhang says: 'It is cost-effective because we only pay according to printed meters, and Konica Minolta provides all the maintenance and free replacement of spare parts. So it fits perfectly for a small company like us which adopts digital printing for the first time.'

All these factors facilitated investment in a second digital press at Gurong Printing - the Konica Minolta AccurioLabel 230.

Digital transformation

Despite the AccurioLabel 190 digital press only being installed at Gurong Printing in July 2018, today digital accounts for 70 percent of the company's gross value, with 85 percent of smaller orders printed on this machine. The press has printed over 100,000 running meters a month at peak demand.

Almost 90 percent of labels produced on this press are exported, which requires higher printing quality and shorter lead times.

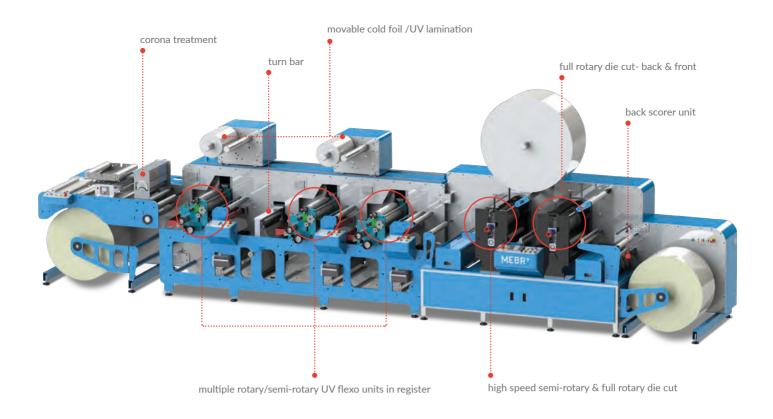
Gurong Printing is now focusing its abundant technical know-how and professional experience accumulated during years of traditional label production into the digital operation. 'We will gradually make our traditional equipment obsolete,' said Zhang. 'Using one digital press substitutes for three traditional presses, and we are planning on achieving a comprehensive digital-only production capacity.'

Digital transformation is only one step in the company's brand development. 'We have been carrying out our "Gurong Brand" strategy for a long time, looking to win business by quality, sincerity and good service rather than the vicious competition with low price and low quality. We will consistently promote the quality management concept and quality system and standards to the end,' says Zhang.

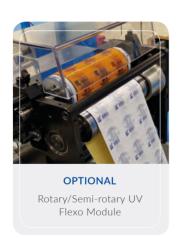
He appreciates that this branding strategy requires not only high quality labels but also innovative solutions for customers. 'This is why we purchased our second digital label digital press. We hope to cooperate with the famous international brand Konica Minolta in unlocking more and the newest applications of digital printing. We will try to become a model enterprise for technical transformation.'



Konica Minolta demonstrated its AccurioLabel 230 at Labelexpo Europe 2019. Go to page 81 for more



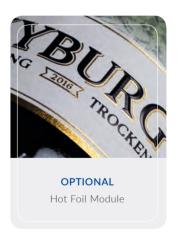
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Japan plots sustainable and smart paths

Japan's biennial Label Forum showed trends towards artificial intelligence and sustainability that will impact globally. Andy Thomas-Emans, the event's chairman, reports

apan is an advanced economy which is facing a series of challenges: succession of natural disasters, an ageing population, shrinking workforce and high production costs compared to its Asia-Pacific neighbors.

The Japan Label Forum, now in its 13th year, addressed these issues head on, and the potential answers which emerged, driven by artificial intelligence, connected devices (IoT) and environmental responsibility, demonstrate how the label and packaging industries might contribute to a more sustainable future for all advanced societies.

The tone of the conference was set right at the start. After delegates were welcomed by Japan Federation of Label Printing Industries (JFLP) president Yu Tanaka, Lintec Corporation CEO/COO Hiroyuki Nishio explained that the Japanese label industry is now fully committed to the circular economy. Last year the JFLP set up a special committee to examine reducing the burden of labels on the environment.

Hayato Ueda, managing editor of Label Shimbun – which celebrated its 50th anniversary at the event – looked at trends in the wider Japanese market. 2019 has seen a 1.6 percent decline in label demand, while the label industry has seen a series of price increases, including major paper price increases in January driven by a shortage of

Although the Japanese label industry's output has recovered since the devastating earthquake and tsunami of 2011, this has only been by 0.6 percent, and last year's typhoon Jebi further hit productivity. This run of natural disasters, with a consequent reduction in tourism and economic activity, hit the wider Japanese economy hard, and with it label industry profitability.

Looking in more detail at Japanese label usage, Ueda said shrink sleeves and in-mold labels rather than pressure-sensitive are driving growth. Thermal label volumes have declined as more billing-type products move to smartphones, and label users are starting to consider other packaging and decoration methods, particularly flexible packaging.

The continued growth of flexible packaging reflects changes to Japanese lifestyles, with demands for increased

"Although the Japanese label industry's output has recovered since the devastating earthquake and tsunami of 2011, this has only been by 0.6 percent, and last year's typhoon Jebi further hit productivity."

shelf life and convenience to match consumers' time-poor home/work life balance. Flexible packaging is growing fastest in the delicatessen sector, for eating on the go. In print technology, flexible packaging is moving from gravure to flexo, with water-based inkjet the next wave of technology, said Ueda.

Another sign of the drive to sustainability is a 9 percent increase in folding carton volume as buyers return to paper/ board-based products in a continuing flight from single-use plastics.

Turning to label printing technology, Ueda noted that Japan remains overwhelmingly a letterpress-driven market. More than 90 percent of Japanese label converters operate flatbed letterpress machines and 40 percent semi-rotary letterpress. Flexo accounts for just 3 percent of the press market.

Interestingly, digital has seen a surge in adoption, with one third (150) of label converters surveyed by Label Shimbun having installed digital presses of some kind.

Ueda's advice to converters is to invest in automation of factory processes, noting a 40 percent increase in investment in automated inspection systems in the last five years. These are being hooked up to management information systems with smart tools revealing how much time is spent on makeready, so problem areas can be visualized. 'To increase sales you need high margin work. So as not to make defective products, look at automated color and registration systems which match with the master data.'

Automation is critical to addressing Japan's acute labor shortage with its ageing population – one in three will soon be over 55 - and to combat 'the increased efficiency and lower costs' of overseas competitors.







Women in the workforce

A lively panel discussion focused on the difficulties of recruiting and retaining skilled staff and on the increasing role of women in the workforce. The panelists were Yoshiteru Kuriyama, manufacturing manager, Shimokuni; Kenji Sasahara, general manager, Shinwa Label Printing; Yoshiaki Inoue, president, Seieido Printing; and Yoji Hiraki, president, Maru-Sin.

All speakers expressed an increased interest in recruiting female operators, with one panelist noting: 'We had the notion that women could not work here because of the shift patterns and strength required to operate our presses. But we are getting rid of that fixed idea and bringing in more diversity."

Another speaker said his company had been hiring female operators for 20 years: 'They are very good at abiding by rules, and are dexterous. With today's lifestyle changes, to retain them we have created day care with a government subsidy so they can come back if they have babies. We even get women coming for interviews with their kids.'

Other companies had created maternity leave systems. 'We want to create an environment where women find it easy to work.

Later in the Forum, Multi-Color Corporation's Brenton Barrett informed delegates that 35 percent of MCC's workforces in Asia is female.

Concluding, Ueda listed key packaging trends in Japan as flexible packs with reclosable labels, conformable labels and innovations in label functionality. Smart labels are another key development, linking to wider 'Society 5.0' trends. Ueda said that by 2025 all products at drug stores will have RFID labels and all smaller stores will be 'smart' (more details later in this article). 'There are 20,000 smaller retail stores in Japan with an average of 30,000 items each, so by 2025 the number of RFID tags in all retail environments could be 428.5bn tags. All these things mean the label industry will keep growing.

ASEAN trends

Widening the discussion of market trends beyond Japan, Brenton Barrett, president Asia-Pacific at Multi-Color Corporation, looked at the forces driving development across the APAC countries, which form an increasingly important market for Japanese manufacturers.

Barrett noted that a general global slowdown and the China-US trade war had impacted regional economies, though the





"We need everyone to share information from in-store cameras and RFID electronic price tags. With camera data you can see how people select goods and why they return them to the shelf. And from wholesaler data you know when to supply more of that product and what products are not moving. Here you can change the price digitally - lower the price to shift otherwise dead stock. This all comes from data sharing"

five-year forecast is for a healthy 5 percent growth, driven both by increased domestic spending and exports.

PS labels are achieving the highest growth of all label technologies, with 7 percent volume increase predicted between 2018-21. Sleeving and glue-applied are both set to average 6 percent growth, while in-mold is not far behind at 4.4 percent. PS and wet-glue each have roughly a one third share of APAC production volume, with sleeving at 27 percent. IML accounts for just 1 percent.

Turning to per capita PS consumption, one can see why there is so much growth potential in the wider Asia-Pacific region. While Japan's per capita consumption is 10.7sqm – still low by northern European standards - ASEAN sits at 1.6sqm. China is at 3.3sqm per capita and India less than 0.5sqm.

The surging growth of PS is driven by increasing urbanization and the continued emergence of a middle class in the region with increasing disposable income, encouraging global retailers to invest in modern stores and infrastructure. PS is also finding new applications - on cans for example.

Among the key industry challenges cited by Barrett - most of which matched those cited by Label Shimbun's Ueda - are rising costs throughout the supply chain;

'the overriding need for speed'; shorter run lengths and lead times and more SKUs; and environmental compliance requirements from brand owners, such as score cards and audits ('everybody wants sustainability but nobody wants to pay for it'). At the same time, global brand owners are coordinating decisions on a global basis and expect the same levels of service in developing markets as developed markets. They are also demanding innovation from suppliers, such as late stage differentiation, and solutions to protect their brands through the supply chain.

Barrett's list of packaging innovation trends was particularly interesting, including not only a continued migration to shrink sleeves, but also track and trace, flexible packaging, laminate tubes, e-commerce and data mining.

Sustainability focus

A series of presentations demonstrated how embedded sustainability and the circular economy now are in the Japanese label economy. In many cases Japanese brands and industry suppliers are far ahead of their US and European counterparts.

Takashi Yamamato, market development manager at Lintec, announced the development of a biomass-based adhesive sourced from plant-derived rice husks which has now been certified by Japan's Organic





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Model	Web width	Max. Printing width	Thickness of printing material	Printing length
WJPS-350D	350 mm	340 mm	60-350 g/m ²	170-345 mm
WJPS-450D	450 mm	440 mm	80-350 g/m ²	210-420 mm
WJPS-560	560 mm	540 mm	80-350 g/m ²	210-420 mm
WJPS-660	660 mm	650 mm	80-350 g/m ²	210-420 mm

EUROPEAN HEADQUARTERS

Recycling Corporation. Biomass accounts for 10 percent of the adhesive formulation and Lintec is looking to increase this to

'We did have recyclable facestocks before, but the adhesive was the issue. We have now managed to keep the same performance as the original adhesive."

The biomass adhesive is being rolled out in six new products – 50 micron metallized and clear PET, a white 50 micron PET with up to 25 percent recycled content, white PP and white and gloss coated paper.

Lintec is currently looking at how the same biomass technology can be incorporated into its face material stocks.

Another new product announcement was non-transferrable void security labels, where the void mark is not transferred to the product. 'This means that if you had a nice-looking package, you can reuse it. So a cosmetics box can be reused as a jewelry

Japanese supermarket chain Aeon, which claims 3.6bn customer visits a year to its stores, has focused heavily on sustainability issues, explained the company's Mr Yasuyuchi. Procurement is now actively driven by metrics including human rights, sustainably sourced paper (FSC), sustainable palm oil sourcing, animal welfare and sustainable fish stocks.

'We focus on single use plastics a lot. Can we use fewer PET bottles? We have looked at replacing plastic containers with wooden boxes, but plastics are better to contain food, so there are key performance and cost issues we need to discuss more before we switch to recyclable materials."

UPM Raflatac's Jari Haavisto said the focus of the label industry has to move from recycling to designing for de-carbonization and reduction of fossil fuels. 'Recycled materials cost more than virgin materials, and a wider range of renewable materials such as clear and white RafBio PE and bio-based adhesives are now available. We can also reduce the amount of raw materials used by incorporating more recycled content, as with our Vanish PCR recycled content face and liner combination.'

Haavisto worried that many industry people 'still do not know what "sustainable" means."

Making a sustainable package

A presentation from Tsuyoshi Suganuma, team leader at Asahi Soft Drinks, described the brand's ambitious sustainable packaging initiative. The aim by 2050 is packaging with zero CO2 emissions through its lifecycle; 100 percent use of sustainable resources; and to actively create environmental value – in other words a fully circular packaging system.

'We had made good progress with Reduce and Recycle and now wanted to add another R - renewable,' said Suganuma. Since 2016 the company has been using 30 percent biomass-based plastics in its PET bottles, and has replaced PE bottle caps with a sugarcane by-products-based plastic.

Currently all of the brand's labels use some percentage of biomass materials, and this includes shrink sleeves manufactured from corn starch PLA. 'We are at 20 percent at the moment because of printability issues if you increase the percentage further.'

Now Asahi has turned its attention to label inks. 'We wanted to be the first to use rice-based inks. This is more environment friendly than soy because it uses discarded rice husks.'

The first trials were with 10 percent biomass. 'How would they adhere? In fact there is no difference from rice to conventional inks on most lots. So now using rice inks and bio label materials we are reaching 80 percent biomass on a label.'

Water-based flexo

It seems strange that in a country so far down the sustainability path, solvent gravure remains such a dominant print



"The continued growth of flexible packaging reflects changes to Japanese lifestyles, with demands for increased shelf life and convenience to match consumers' time-poor home/work life balance"

technology in the label market, primarily for sleeves and wraparound labels. As we have seen, the installed base of flexo in Japan is the lowest in any developed economy.

So it was fascinating to hear Ken Asano, chairman of Kinyosha Printing, explain why his company has taken the path of water-based flexo as a sustainable initiative.

Kinyosha already had a significant offset installation base before Asano introduced central impression flexo technology, installing machines from Soma, Bobst and W&H to produce wraparound labels.

The first problem to be overcome was an acute shortage of skilled flexo operators. 'We found we did not have enough operators for two shifts. Not many young people are interested in learning. So we tried to convince offset operators to swap to flexo.'

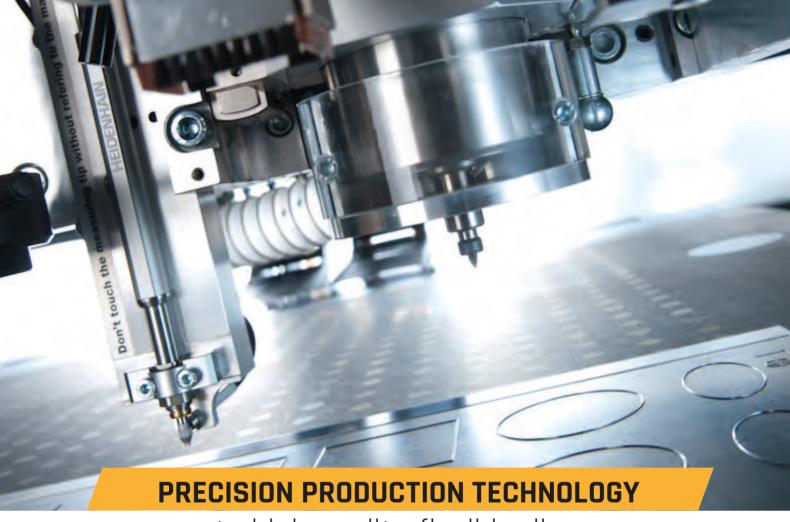
Why is flexo not popular in Japan? 'Gravure has the greatest presence and I'm not trying to say it's bad – solvents can be handled safely. But we were latecomers and had to do something differently. So we looked into water-based.'

Asano explained the challenges: water-based (WB) inks not drying as quickly as solvents, and a lack of development in WB inks compared to gravure. 'But the density of WB inks has become better and now flat-top dots have solved the gradation issue.'

Compared to offset, where 4-6 colors is the norm, in flexo Asano was now handling up to nine colors. 'So you have to carry a lot of inventory of inks and have to wash down the press when you change inks, which is more waste. There must be more room to reduce these costs.'

One significant move by Asano has been to reduce the number of colors used. 'We wanted to start with 4 colors, so we created a profile chart. We can always add another color or two if needed. This reduces the price for the customer and our total costs.'

Asano's supermarket customers only knew gravure and refused to pay more for water-based, 'even though we tell them WB is so much more eco-friendly and odorless. This means we have



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Managing the Nivea brand

A fascinating panel session brought together three companies who had worked together on an innovative label project for the Nivea Cream brand. They were Shinji Moriyama, director of advanced printing solutions business development at ink supplier Kao Corporation; Naoki Tani, a manager at Fuji Seal, one of Japan's biggest label converters; and Keisuke Ozawa, CEO of design agency MasterMind.

The Nivea Cream brand has a long heritage, having been founded in 1911. The original brief was to print small labels which would encourage consumers to engage with Instagram. The label material and printing process had to be environmentally friendly.

'Our first concern,' recalled Fuji Seal's Naoki Tani, 'was could we print on the film using our water-based inks and what about fading of the color on the sticker. Also in the middle of the container is the wording "Nivea" and we were concerned the sticker might cover it. And the brand

logo was embossed and how would that affect adhesion? Finally, we would need to match Nivea Blue using only four colors. So the technical hurdle was quite

After some discussion, Fuji Seal proposed a larger clear label which would cover the whole container, including the embossed logo. To meet the brand's sustainability criteria, a 50-micron PET with 25 percent recycled PET resin was selected, and printing would be with a water-based ink developed by Kao Corporation.

'Although we were initially worried, by the second trial we managed to get it working. The CMYK totally matched the Nivea blue,' recalled Naoki Tani. 'We believe this has great potential.'

Keisuke Ozawa from design agency Mastermind talked about the challenges of applying the labels without scratching the delicate label surface on the automatic applicator. Due to time constraints in the project, the decision

was taken to apply the labels by hand. 'To avoid fingerprints we had to wear gloves,' he recalled. The labels needed to be placed with a 1.2mm accuracy.

Four different designs were involved. 'We had to many times make plates and check the color,' said Fuji Seal's Naoki Tani. 'That is why we switched to digital, when it became much easier. We could keep the printer at our office because there is no odor, and we could print it and check there.' The labels were laminated as a final step.

The project was a success. 'Nobody could see there was a label there – so that was a great achievement,' said Keisuke Ozawa. 'A particular challenge was the "Winter" version - if we didn't have right white, that would undermine the Nivea image. In fact the word "Nivea" comes from the Latin word for "white as snow". So we did not print this digitally. We over-printed on a Lintec press. We sold all the products in this limited run in the first two months.'

"Can we use fewer PET bottles? We have looked at replacing plastic containers with wooden boxes, but plastics are better to contain food, so there are key performance and cost issues we need to discuss more before we switch to recyclable materials"

to talk to product planning teams and not procurement. And eventually they will listen. Once you say it's green and eco-friendly then they say "great, can you do everything!"'

Asano helped create a consortium of WB printers who all had the same experience. The group meets every two months and has now become an official body recognized by the industry. 'We will now go into all negotiations as a consortium with an installed total of 20 machines.'

The consortium's members are already benefiting from brand owners turning away from fossil fuel-based substrates and asking for paper-based materials, said Asano. 'Gravure cannot work with papers the same way they can with films – they can't print that nicely, and this is where flexo has an advantage.

Asano said buyers still insist on going through a more extensive audits for printers using WB inks. 'Nonetheless I am very confident I made the right selection. I'm gritting my teeth!'

Artificial intelligence and the smart factory

A key theme of the Japan Label Forum was the increasing use of artificial intelligence, or machine learning, to replace an increasingly scarce skilled labor force.

Yushige Miyazato, general manager of the sales engineering division of DAC Engineering, said the application of AI to inspection systems enables a move from finding defects to preventing them.

'It is harder to find operators who can set up complex inspection equipment, so it needs to be able to self-set,' said Miyazato. 'In the future, using artificial intelligence we will automatically collect, analyze and classify defect data on the cloud. We will analyze what kind of defects occurred and when, and feed back the results so ultimately we can aim at the unmanned plant. This smart factory is the future of the label industry.'

The Label Forum concluded with a presentation from a top official at Japan's Economy, Trade and Industry ministry

(METI). Michio Kubota, assistant director of METI's consumer affairs, distribution and retail industries division, explained why the Japanese government is encouraging retailers to adopt RFID and the Internet of Things (IoT) technology to increase efficiencies and reduce waste in the supply chain.

The factors driving the government's initiative include the shortage of labor caused by an ageing and declining population, a more diversified consumer base, and a high degree of inefficiency in retail supply chains. It is estimated that food waste is equivalent to a bowl of rice per person per day.

At the same time the global digital retailers are coming into the bricks and mortar world, for example Amazon's Go stores. 'Buying and selling is not what they do. They are creating a contact point with the customer and collecting data, then using that to generate new business."

What is required, Kubota stated, is for Japanese retailers to capture this data themselves and use it to develop a smart supply chain servicing a more diversified consumer base. 'We need everyone to share information from in-store cameras and RFID electronic price tags, for example. With camera data you can see how people select goods and why they return it to shelf. And from wholesaler data you know when to supply more of that product and what products are not moving. Here you can change the price digitally – lower the price to shift otherwise dead stock. This all comes

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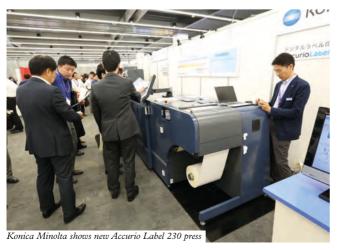




"To retain female operators, we have created day care with a government subsidy so they can come back if they have babies. We even get women coming for interviews with their kids. We want to create an environment where women find it easy to work"







from data sharing.'

The first trial of smart supply chain technology was carried out at the Lawson corner store retail chain in 2017. Electronic tags were attached to all products, so there are no shop assistants – the consumer simply bags the product, leaves and is billed automatically. 'Workers are happy because now they can concentrate on getting products onto the shelf, so it is already more efficient even without the wider data links,' said Kubota.

By 2017 all elements of the Lawson supply chain had been RFID linked, from factory and wholesalers to retail, with all information shared to a common cloud server. 'So now we keep track of what products have gone where. RFID allows you to keep track of specific SKUs – unlike generic barcodes.'

Last year all Japan's convenience stores, including 7/11, Family Mart, Lawson, Mini Stop and New Days, formed a consortium under the METI umbrella and issued a joint declaration to adapt to smart store technology by 2025.

Kubota conceded there are still major roadblocks. 'A problem is that the tag price is still too high – it must be less than one yen and not 4-5 yen. Also the electronic tag will need to be attached before shipment. Who will apply the RFID labels and who will pay? Manufacturers, wholesalers or retailers?'

To help address the ROI issue, METI examined the value brought by data sharing across the supply chain. 'Knowing the value of aggregated data means the supply chain may be prepared to pay for the cost of RFID.'

The next phase of the METI-led consortium is to understand the customer journey, including what happens at home. 'IoT should allow us to do this by creating linkage with the consumer. For example, if we want to reduce food loss, we need to be able to discount out-of-date products, but equally importantly we need to let the consumer know immediately. For example, consumers could use their shopping loyalty points via smartphone, or receive shelf signage that pops up on their smart phones or screens.'

All kinds of new services can be created if all items are tagged,' said Kubota. 'So for example if you have RFID tags on products in the consumer's IoT-enabled fridge and freezer, when you go out of the house and wonder if you had cabbage in the fridge you can now check. Or think of tags on children's toys, which help teach kids where to put their toys back. A smart garbage tag can tell you if a product is recyclable, greatly assisting wider sorting and recycling systems. These kinds of things can be done.'

Kubota emphasized the key benefits of sharing data and costs, rather than competing in those areas. 'This information platform should be created for Japan. We don't have much time, because Amazon wants to keep everything for itself – from Alexa to the Amazon washing machine is a closed loop where they keep all data and information. So that's why I am creating this world in my head already. I think companies are at the stage where they want to cooperate and as a government we would like to lead this process.'

Kubota concluded with a plea to the label converters in the room. 'I have a request for label converters: please support us – utilize smart label printing technology which can be built into the package at the time of printing. At this point we do not have the technology to put on a tag at the time of printing – this has to be developed by your industry.'

In an interesting Q&A session, delegates questioned whether RFID tags could reach the 1 yen level, while another asked who would create the information platform and what standards would be used. Kubota said these are exactly the kind of subjects the METI-led consortium and the packaging and label industry have to tackle together.



The next Japanese Label Forum will take place in 2021. For more details visit www.labelforum.jp/english/



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LMAI hosts fifth conference

The fifth bi-annual conference by Indian association LMAI discussed the way forward for the local label industry. Aakriti Agarwal reports

abel Manufacturers' Association of India (LMAI) hosted its fifth bi-annual conference, attracting more than 500 delegates from the label industry. LMAI president Kuldip Goel welcomed the fraternity and kick-started the three-day program in Kochi.

"India will have one billion internet users in the next three years. Mobile phones will be the go-to-device for developing any market through digitization"

Giving an overview of the industry, Pankaj Bhardwaj, senior director and general manager, Labels and Graphic Materials, South Asia, Avery Dennison, said that the company sees 30 percent penetration of pressure-sensitive industry at the moment with per capita consumption of 0.5-0.6sqm in India. 'We have significant room for growth but we need to make cumulative effort to grow the industry,' he said. He stressed the importance of working with brand owners, embracing new technologies and building a business with purpose.

Detailing Indian label industry trends, Manoj KM, director business development and international business, Avery Dennison, said that consumer behavior will force packaging to change. 'India will have one billion internet users in the next three years. Mobile phones will be the go-to-device for developing any market through digitization. It is, however, important to recognize that the Indian market will develop differently from the US and Europe."

He further predicted that dialog on sustainability will get stronger and customers will voice their opinion. 'Packaging trends such as connected packaging, closing the loop, reinventing the box and plastic-free will rule the roost. NFC, RFID and augmented reality will be more popular for more interactive and smarter



Printers on servicing customers and future trends

Privata Raghavan, director of Sai Packaging, said the company is always in the process of understanding the progress of its customers and providing services accordingly such as sustainability, recycling, and track and trace. 'We are moving towards smart labeling to address Gen Z and being environmentally friendly at the same time. The company has always had a new product cell that focuses on customer's future needs but now we have realized the need to have a pre-sales interface to engage with customers and global entities to understand their packaging needs. It's a structural change we are trying to bring in our organization,' she said.

Hemanth Paruchuri, director of Pragati Pack, agreed that it is important to understand customers' pain points and evolve services to cater to them. 'To be profitable, printers need to professionalize the business and have many accounts, rather than banking on a handful of large accounts.'

Mahendra Shah, director at Renault Paper, further added that every brand wants to have something unique. 'Special ink, screen, hot foil and good embossing is coming back. Premium products are adding RFID tags on the cap to avoid pilferage. Fighting out on the price will not help in long run. It is better to do

plain labels than to print a multi-color job and not being paid fairly for it.'

Echoing the same thoughts, Naveen Goel, marketing director at Anygraphics, said: 'This industry has evolved from printers being only manufacturers to being service providers. Therefore, focus should be on innovation than on price war.'

On future trends, Shakti Jain, managing director of Great Eastern ID Tech, said that RFID has been a natural progression for his company. 'A lot of our customers were looking at automation so RFID gives them the edge to collect data and putting it on cloud. That drove us to help clients get more visibility."

On adopting digital technology, Paruchuri said that companies should be prepared for a learning curve. Sharing his experience, he said: 'Short-runs will not necessarily make you money on a digital press. Adding value and printing variable data will get you rolling. Running digital jobs needs a different mindset than flexo so everyone from top management to the grassroots level has to be on the same page to make it a success.'

Speaking on all-digital operations, Denver Annunciation, director of Janus International, said: 'We will eventually be consultants rather than just being a provider of labels."



"The value of the flexible packaging market in India is 450 billion USD. The label market stands at 11 billion USD. The future, therefore, is wider widths and diversification into the flexible packaging segment"

packaging,' said Manoi. Other trends on the horizon include personalization, premiumization and online marketing that will shape packaging shapes and formats.

'Pressure-sensitive labels will continue to grow at 7 percent in the coming years and flexo will remain the dominant printing technology. Digital printing will be a significant contributor and water-based inkjet technology will show high growth,'

Parag Bagade, manager technical services, Avery Dennison, South Asia and Sub Sahara Africa, discussed key influences to sustainability and announced a matrix waste recycling program in India.

Ajay Mehta, managing director of SMI Coated Products, spoke about the technical aspects of labelstock applications and explained the importance of involving a labelstock manufacturer to avoid any challenges with the application.

Manish Jain, managing director of Loparex, pointed out that linerless thermal labelstock is an emerging disrupting technology and cited its benefits.

T R Ravishankar, management and strategic advisor, Retail Solutions and Technologies, said that according to the World Economic Forum, the Indian retail



market is growing at a fast pace and will touch 1 trillion USD by 2020. 'Grocery and food constitute 33 percent of the retail segment. The growth is not only in retail but also in digital payments, e-commerce, healthcare, government and manufacturing,' he said. He also discussed trends in barcoding and enterprise mobility.

Carrie Duan, international sales manager at Luster Lighttech, said that more than 80 percent of printers use off-line inspection but in-line inspection is becoming more important to prevent waste and control quality during printing.

Press manufacturers and suppliers suggested that converters opt for the right press for their jobs and discussed current trends.

Wider widths

Ranesh Bajaj, director at Vinsak, said that the industry must start thinking of themselves as 'solution providers' rather than just label printers. He described how increasing numbers of converters are moving to wider web presses. 'Those with 330mm width machines are already moving to 430mm and at least 20 percent of converters have already opted for 530 or 630mm width presses. The value of the



flexible packaging sector is 450 billion USD in India and the label market stands at 11 billion USD. The future, therefore, is wide width and diversification into the flexible packaging segment,' he said.

Echoing the same thoughts, Amit Ahuja, sales director of Multitec Aids, said: 'We see an increase of stand-up pouches being printed on wider width presses.'

A Appadurai, country manager for HP Indigo, pointed out that small and mid-sized companies are scaling up and therefore converters should focus on catering to them as they increase their volumes and SKUs. Citing examples of the craft beer industry in the US, he said: '6,000 craft beer companies together have impacted 30 percent of the volume of Budweiser's sales. We see this



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"This industry has evolved from printers being only manufacturers to being service providers. Therefore, focus should be on innovation than on price war"

happening everywhere, across different industries.'

He further said that the life-cycle of products has become very short, down to six months, and that it is going to become even shorter. Converters, he said, must gear up to cater to millennials.

Discussing hybrid label printing, David Ellen, divisional director at Domino, explained that a hybrid press is suited to long run jobs. 'It's a much longer machine so waste is more comparable to a roll-to-roll digital press. All units have to be set-up which increases the make-ready time. Do your due diligence and let your book of business decide which digital asset suits your needs. Factors to consider before evaluating a hybrid machine include total production length, number of SKUs, finishing capabilities, need of embellishments and metallic inks, and capital budget. Printers must also have a clear understanding of what digital is going to do for

Suppliers on the future of the industry

Bhupinder Singh, director of sales, Rolls and Performance Tapes, Avery Dennison, said that functional abilities of labels will increase and they will become more intelligent. 'With the government's proactive action, sustainability cannot be postponed anymore,' he cautioned.

Samir Patkar, president of Heidelberg India, said that printers must look at their pre-press, press and post-press processes and improve margins internally. 'Brand owners will not pay for your inefficiency so printers will have to be more proficient. Artificial intelligent and data mining are key to digitalization,' he said.

A Appadurai, country manager, HP Indigo, assured that anything that can become digital will become digital – without exception. He said: 'HP Indigo's annual budget on R&D is 250 million USD. We are innovating today to revolutionize the market ten years hence. Our innovations are around inks and mobile applications that can be bought and downloaded on the go.'

their business and how will it increase their margins,' he said.

Ian Pollock, director, UK and EAMER region, Mark Andy, spoke about the future of printing technology and summed up the requirements of converters. He said printers today want simple-to-operate presses with a shorter learning curve, advanced print quality, expanded capability with a wide variety of applications, flexibility to scale the equipment, faster changeovers, higher throughput for higher productivity, environmentally friendly processes to enable reduced waste of substrates and inks.

Samir Patkar, president of Heidelberg India, discussed challenges and opportunities. He said that 95 percent of printers outsource pre-press to a repro house, so most of them do not control the processes and quality in-house. 'Sometimes, they lose a lot of time if the plates are not made correctly. Waste management remains an issue.'

He added: 'Printers are trying to make a choice between conventional and digital processes. Anything you invest in should make money for you and get you return on investment.'

Manish Kapoor, national sales head for Nilpeter India, asked the audience about scale and scalability in the Indian label industry. 'One of the challenges is new entrants willing to take a blind leap of faith. We must do a careful evaluation of how to run this competitive business. Smart printers have been acquired or consolidated but smarter ones have evolved to sustain healthy growth,' he suggested. 'The solution to any problem lies in first accepting that a problem exists. Converters need to do a critical analysis of their own businesses and find a way forward."

The event also organized three panel sessions – one each with printers, suppliers and the young generation from family-run printing businesses (see boxouts).

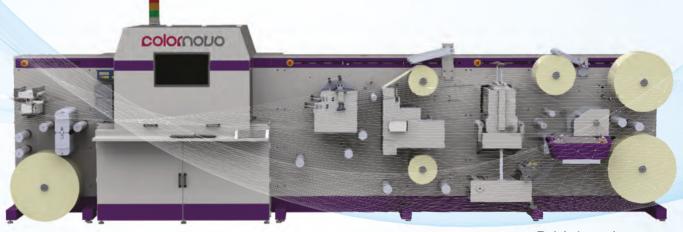
The conference was supported by more than 30 companies including Avery Dennison, SMI Coated Products, Pulisi Technology, Domino Printech India, DuPont Advanced Printing, Heidelberg India, HP India, Vinsak India, Apex Asia Pacific, Bobst, Brotech Digital Graphics, Dragon Foils, Flexo Image Graphics, Flint Group India, GEW, Insight Print Communications, J N Arora, Loparex, Luster LightTech, Multitec Aids, Nilpeter India, Numex Blocks, Retail Solution & Technologies, Rogler International, RotoMetrics, Weigang, Acme Rolltech, Baldwin Vision Solutions, Cosmo Films, hubergroup, Lintec India, Martin Automatic, Monotech Systems and Repro Graphics.



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Labelexpo Europe 2019 was notable for mid-web press launches, a proliferation of hybrid technology, and advancements in automation and sustainable materials, writes James Quirk

abelexpo Europe. Don't be fooled by the name. Not only is the Labelexpo Global Series' flagship event truly a global show – 140 countries were represented this year, up from 125 in 2017 – but also the 2019 edition was a landmark moment in its evolution from a dedicated label exhibition to a technology behemoth incorporating multiple areas of package printing.

Attendees numbered 37,903, broadly similar to 2017's figure of 37,724, but there were many reasons – both statistically and in terms of the technology on show – to view the event as the most successful in its 40-year history.

As well as the increase in countries represented, show floor space rose from 38,500sqm in 2017 to 39,752sqm this time. There were more exhibitors, too: 722 compared to 679 two years ago. And there were increases in visitor numbers from various markets already sending large delegations, including Brazil (14 percent up), Russia (14 percent), India (8 percent) and Japan (6 percent).

But statistics never tell the whole story. Anecdotal evidence from the show floor suggests that the quality of visitors was improved. Nilpeter's Jakob Landberg spoke of 'serious visitors, with serious plans, for serious investments.' MPS reported record press sales at a show; Konica Minolta doubled its leads compared to 2017. Wherever you looked, it seemed a deal was being signed.

Labelexpo Europe 2017 marked the beginning of a shift towards package printing – particularly flexible packaging. Two years on, it

was notable that three of the show's most significant conventional press launches – Lombardi's Invicta i2, Nilpeter's new FA-Line and Omet's X7 – are geared towards mid-web flexible packaging and shrink sleeve production. These wider-width presses offer label converters opportunities to diversify their businesses into new areas of production.

At the Flexible Packaging Arena, meanwhile, visitors could see demonstrations of pouch printing on a Bobst M6 flexo press and a Xeikon CX500 digital press. The main focus of HP Indigo's booth was its 'Digital Pouch Factory', showcasing stand-up and three-side-seal pouch making printed on its 20000 press and converted on Karlville's Pack Ready lamination system.

Alongside the show's mid-web focus, hybrid printing came of age. Inkjet technology's improvement in speed and print quality was a key theme at Labelexpo Europe 2017; two years on, this translated into a host of hybrid presses on show in a variety of configurations. The usual route may be a flexo press with an inkjet unit inserted in-line. But digital press manufacturers are increasingly partnering with converting equipment suppliers to create hybrid systems based around digital printing and a mix of conventional units. A further route, as evidenced by Gallus' launch of its Digital Printbar, is a module designed specifically for digital insetting of high opacity digital white or tactile variable varnish.

Sustainability has moved beyond the downgauging of materials.

REVIEWE

IN THIS SECTION:

 Label Industry Global Awards Press technology 93 Plates and platemaking Workflow and inspection Substrates and adhesives

Inks and curing 109 Dies and tooling 111 Finishing and converting 113 Ancillary equipment 119 Show floor sales 123

Developments in adhesives allow labels to fall away from the container in a recycling bath, which means that clean PET can be recovered and reused, feeding a circular economy. Labelexpo Europe also saw launches - from Avery Dennison, Synthogra and others - of materials using increasing amounts of post-consumer plastics and bio-based materials. At the Sustainability Insight Café, sponsored by Avery Dennison, Xeikon, Ravenwood Packaging and Sihl Artysio Packaging, visitors could to see how to boost their green credentials with a gallery of the latest sustainable innovations.

Advances in automation, another key trend at the show, are impacting both hardware and workflow. Manual jobs carried out by flexo press operators, such as monitoring print pressure and registration, are increasingly handled automatically by feedback systems. Color is being managed more in pre-press. By the time a job is on the press, operators are not chasing color. And with 7-color ECG systems, the matching of spot colors can also be fully automated and checked in-line on the press.

On the workflow side, artificial intelligence – or machine learning - is beginning to make an impact. Inspection system manufacturers at Labelexpo Europe showed cameras which can learn what a mistake is, referring back to the approved data from the pre-press stage and using that to monitor the job and make adjustment suggestions to the press. Intelligent maintenance systems can predict where problems might occur and prevent them before they do. At the factory level - where workflows are increasingly complex - intelligent systems can begin to help run the plant, automating the choice of printing and decoration processes, planning jobs and

buying stock for the warehouse. Not working autonomously, but working as a cyber assistant to human skills and judgment.

Lisa Milburn, MD of Labelexpo Global Series, said: 'Labelexpo Europe 2019 showed that the global label and packaging printing industry is still as vibrant as ever, and that the show – 40 years on from its foundation – is still a vital platform at the forefront of the entire supply chain.'

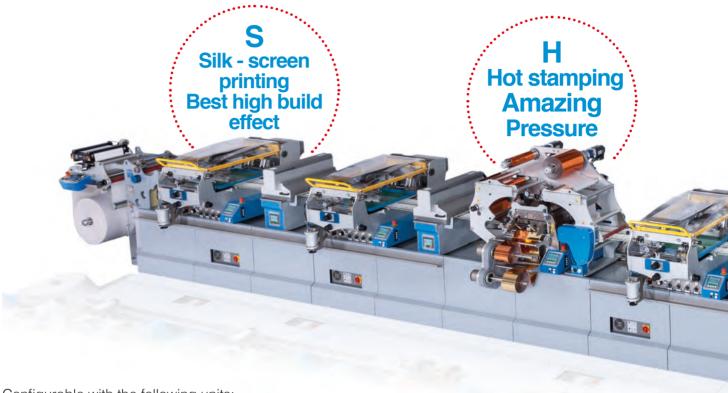
A two-day educational program – the show's most extensive to date – drew in attendees eager to boost their industry knowledge. Three expert-led Label Academy hosted master classes covered the hot topics of Inks, Coatings and Varnishes; Digital Label and Package Printing; and Flexible Packaging, while a workshop covered Self-Adhesive Label Materials.

"Labelexpo Europe 2019 showed that the global label and packaging printing industry is still as vibrant as ever, and that the show – 40 years on from its foundation - is still a vital platform at the forefront of the entire supply chain"



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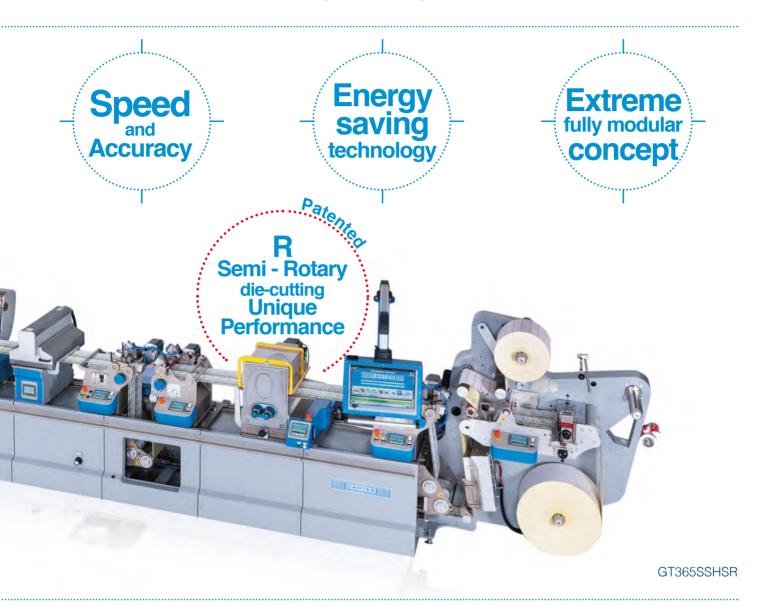
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Avery Dennison, Esko, GMG were honored for sustainability and innovation during the Label Industry Global Awards at Labelexpo Europe 2019, while Jim DeFife received the Global Achievement Award. Chelsea McDougall reports

'he Label Industry Global Awards at Labelexpo Europe 2019 recognized three companies and one individual for contributions to the label industry, as two new awards categories were presented this year.

GMG, Esko, Avery Dennison were honored for innovation and sustainability, while Robert Rae from GEW was named a rising star and Reynders was named European converter of the year.

The 2019 R Stanton Avery Global Achievement Award was awarded to Jim DeFife, VP of pressure-sensitive materials at Multi-Color Corporation.

This award, sponsored by Avery Dennison, honors the contribution an individual has made which has impacted the growth of the international label industry. DeFife has been a driving force in the global label industry for almost 40 years, beginning his career at Avery Dennison and for the past 17 years working at Spear and Multi-Color.

DeFife had known and worked with Stan Avery early on in his career. 'I think he'd be really proud of this,' he said, accepting the award. 'And I think he'd be proud of what the label industry has become today.'

During his 20 years with Avery Dennison, DeFife led the company's specialty films division, developing new filmic constructions. He subsequently led a global initiative for material down-gauging at Spear, C-Flex and Multi-Color.

DeFife has also been a pioneer in thin film technology, adding wide-web coating into Spear's facilities, including work with the entire supply chain incorporating film/ paper, adhesive and coating suppliers.

"Beyond his technical expertise, what also really stood out for us was Jim DeFife's ability to gain and retain the respect of the industry throughout his career - from suppliers, his peers and his customers"

He also developed the first plastic bottle recyclable PS label recognized by the APR.

The judging panel agreed that Jim DeFife was the stand-out choice for this year's Achievement Award. Mike Fairley, chair of the judges, said: 'Beyond his technical expertise, what also really stood out for us was his ability to gain and retain the respect of the industry throughout his career – from suppliers, his peers and his customers. What better moment to celebrate his achievements from an incredible 40-year label career than the 40th anniversary of Labelexpo.'

Awards for innovation, sustainability

The award for innovation for companies with up to 300 employees, sponsored by Flint Group Narrow Web, went to GMG for its Calibration Creation Wizard, which was developed to enable customers to create color-accurate mock-ups for labels, flexible packaging and cartons. The judges said they were impressed with how the company had connected GMG Color Management software with an Epson SC-S80600 to

Labelexpo founder Clive Smith recognized

A Special Recognition Award, sponsored by ILS, was made to Clive Smith, founder of Labelexpo, honoring his creation of the largest label and package printing exhibition in the world and a leading event for 40 years.



(LIVE SMITH, FOUNDER OF LABELEXPO



THE 2019 R STANTON AVERY GLOBAL ACHIEVEMENT AWARD WAS AWARDED TO JIM DEFIFE



REYNDERS WON THE EUROPEAN CONVERTER OF THE YEAR AWARD



AVERY DENNISON WON THE ENVIRONMENTAL AND SUSTAINABILITY AWARD



THE AWARD FOR INNOVATION FOR COMPANIES WITH MORE THAN 300 EMPLOYEES WENT TO ESKO



ROBERT RAE OF GEW TOOK HOME THE INDUSTRY'S FIRST RISING STAR AWARD



THE AWARD FOR INNOVATION FOR COMPANIES WITH UP TO 300 EMPLOYEES WENT TO GMG

achieve such accurate reproducible proofs.

The award for innovation for companies with more than 300 employees, sponsored by Xeikon, went to Esko for its Print Control Wizard software. The software was developed to simplify the implementation of screens and dot gain curves in the reprographics process. Its main feature is the ability to control where the transition from AM to FM occurs. The judges were impressed by the way that transition points can be changed at the touch of a button, enabling the operator to see the immediate impact on tonal values.

Labels & Labeling sponsored the environmental and sustainability award, which was awarded to Avery Dennison. The supplier was recognized for its recycled PET liners. The sustainable liners were made with 30 percent recycled PET post-consumer waste from PET bottles, while maintaining the technical qualifications the liner material needs for supply chain labeling success.

Rising star, converter of the year

Robert Rae of GEW took home the industry's first Rising Star Award, which was sponsored by the Label Academy and Avery Dennison. Rae joined GEW in 2014 and helped to develop a LED curing system introduced in 2016. More recently he was heavily involved in GEW's launch of its LeoLED system at Labelexpo Europe 2019. Rae has also been involved with the UVFoodSafe Group.

The European Converter of the Year Award, sponsored by GM, went to Reynders. Founded in 1956, Reynders has label plants in

"I think Stan Avery would be proud of what the label industry has become today"

Belgium, France, Poland, Spain and India. The judges felt that its recent developments in digitally printed full color booklets were noteworthy. After only 18 months, the company's investment in the production of 'loyalty stamps' has resulted in more than six billion labels printed and supplied all over the world.

Reynders also promotes environmental sustainability, with a planned installation of more than 800 solar panels and investments to reduce water, gas and electricity consumption.

As part of the Labelexpo 40th anniversary celebration, the awards evening had a 1980s theme and featured Tony Hadley, singer and former member of band Spandau Ballet, performing and acting as host for the night. Guests also had the opportunity to pose for photos with a replica DeLorean from the Back to the Future film, and play retro arcade games.



More photos on Label society page of this issue. To watch video highlights from the 2019 Label Industry Global Awards, visit www.labelsandlabeling.com/video

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Conventional and digital presses

This was one of the most exciting Labelexpo shows on record with the introduction of a new category of mid-web presses and a major push towards intelligent automation. Andy Thomas-Emans reports

or conventional presses, this was perhaps the most exciting Labelexpo show in the 22 years this writer has attended the Brussels event. Key trends seen at this year's show included the full integration of mid-web flexible packaging into the label industry, increased automation and integration of presses into factory management systems, and a whole range of new 'hybrid' press developments.

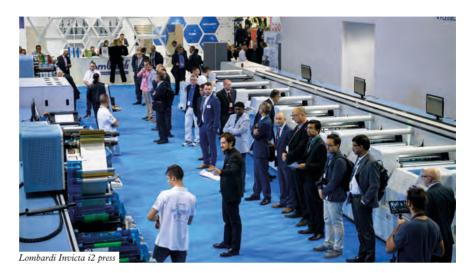
Mid-web for films

A standout trend is the rise of the mid-web press, typically 26in (660mm) wide. These presses meet the need for greater productivity but also the wider format required to produce filmic labels such as shrink sleeves, wraparound labels and flexible packaging.

These opportunities were well demonstrated on the Flexible Packaging Arena, where a **Bobst** M6 press was shown converting pouch material, alongside the new Xeikon Flexflow digital print and lamination system for the manufacture of stand-up pouches.

Looking in more detail at the new mid-web presses launched at the show, we start with Omet's XFlex X7. The standout feature was the water-based gravure unit with extended dryer, called by Omet the High Value Rotogravure (HVR) unit. The HVR can be added at any position on the press, with a typical application being first-down white. The unit is easily accessible, with print cylinder and inking tray loaded from the front side on exchangeable tooling trolleys. The direct-driven unit can print front and reverse and is equipped with integrated chill drum and front and reverse angle doctor blade. 'We believe the HVR will disrupt the way printers achieve special print effects on shrink sleeves and flexible packaging materials,' said Amerigo Manzoni, director of R&D at Omet.

Further decoration possibilities are opened up by the new Flexo Vertical unit, operating in either front or reverse printing



mode. The Flexo Vertical unit has an extended drying tunnel and is configured for dual UV - typically used for 'Soft Touch' finishes - water-based or solvent-based coatings. Also new for this press is a 670mm-wide rotary screen unit.

The XFlex X7 will handle flexible packaging and shrink sleeves down to 12 microns. Automation features include plate pre-registration, multiple-camera registration adjustment and automatic adjustment of print pressure depending on change of speed, substrate thickness and repeat length.

New from **Lombardi** is the Invicta i2 press, with a 36in (1m) repeat length and web width up to 43in (1,100mm). An advanced automation system includes sleeve pre-positioning depending on the change in print format - meaning there is no need for mechanical sleeve adaptors following a format change. Once set, the sleeves are held in place with a pneumatic locking system

Print pressure is automated with servos on both plate and anilox cylinders, with an additional servo driving chill drum rotation. Doctor blade pressure is automatically adjusted by Lombardi's Hi-DynamiX system. To keep the press running efficiently the ink chamber can be changed without changing the anilox. Other automation features include auto-register and servo tension control optimized for extensible materials.

Nilpeter was showing a 22in-wide FA-Line machine optimized for flexible packaging, incorporating both UV lamination and UV LED drying. The company was also previewing its forthcoming FA-26, a 26-in wide press optimized for short run flexible packaging and shrink sleeve production. The first press - a 10-color with LED-UV and EB lamination - will be shipped in March 2020, and Nilpeter hopes to have an 8-color machine in its demo room at the end of November. Print speeds will be up to 250m/min and repeat length 12in to either 25 or 32in. Screen, cold foil and various kinds of lamination will also be available.

Automation

As we have already seen, automation of the flexo process was a key theme at Labelexpo Europe 2019.

Automation has perhaps been taken furthest by **Bobst**, which showed fully automated changeovers on its Master M5 and M6 press lines with no operator intervention. Automated exchange of print cylinders, first seen in prototype form at last year's Labelexpo Americas, is now a production reality, with a 7-color job changed in one minute with less than 10 meters of waste. The next job can be set up while the current one is running, and once the new plate cylinders and positioned and locked, print and die-cutting pressure and registration are automatically set and maintained.

Mark Andy introduces Evolution line

Mark Andy introduced a new entry-level press line, called Evolution. Incorporating many of the elements of the company's existing Performance Series technology, the Evolution Series is designed to be simple to operate and is – unusually for an entry-level machine - fully servo-driven. The press will be available in 13 and 17in (330 and 460mm) web widths with production speeds up to 750ft/min (230m/min).



Also demonstrated on the Master M5 press was Bobst's new IOD (Ink-on-demand) technology, where ink is delivered directly to the anilox by a pipe, meaning there is just 30g of ink in the print unit at any one time and eliminating the need for ink pans and doctor blades.

IOD is the delivery method for Bobst's new Highly Automated Liquids (HAL) system, an off-line ink mixing station for producing Pantone colors from 14 basic inks. This means the press is configured both for ECG (CMYKOGV) and ECG+Spot color. Inks are now available to the press as a light and dark shade, and these are mixed and delivered to the press in real time with closed loop feedback from new DigiColor system, which monitors color to a specified deltaE.

A notable new entrant to Labelexpo Europe is China-based press manufacturer Spande, which has created a stir with its highly automated flexo and hybrid press designs. Here, the company launched its S7 flexo press, which has a 200m/min printing speed and is available in 370mm/445mm/515mm web widths. The press has eight servos in each printing station. Servos are also used in 'i-Pressure', a system to automatically adjust printing pressure. The 'i-Vision' intelligent registration system uses two cameras to ensure registration accuracy at each printing station, independently.

Semi-rotary format

Another trend worth noting is the continued demand for semi-rotary offset presses. The combination of high print quality, cheap plates, in-line decoration and tight integration with pre-press and standardized color matching options has kept the format very much alive, particularly in areas like premium food, wines and spirits. It is an area where Chinese manufacturers are making an increasing impact.

Codimag has been a long-time player

in this sector, and unveiled productivity improvements to its established 420mm-wide Viva 420 Aniflo (short inking) press, with a new web drive increasing maximum speed to 85m/min. A new integrated digital workflow linking to prepress was launched, allowing fast Pantone color matching and decreasing the minimum run length to compete strongly with digital.

Miyakoshi, another sector veteran, showed its enhanced MLP-C semi-rotary offset press, equipped with UV dryers and chill rollers. New features include Cold Start to save waste substrate, and Automatic Plate Change to improve timings on changeovers.

Chinese press manufacturer Wanjie now has its own European technical support base in Spain, and showed the WJPS-350D/450 semi-rotary offset press, incorporating flexo varnish and die-cutting stations as standard but expandable with rotary hot foil stamping, silkscreen and embossing. The press features an auto lubricating system and optimized ink feeding with 18 inking rollers per unit.

Zonten Europe is another Chinese manufacturer to establish a European support base, and showed its ZTJ-330 intermittent offset label press. The ZTJ-330 offers 50m/min printing speed on a 320mm printing width and 100-350mm printing repeat. The inking system has 23 inking rolls and four large diameter form rolls.

Guangzhou Nickel Printing Machinery demonstrated its FS350 semi-rotary offset press incorporating a PMAC motion control system. Each print unit consists of 19 inking rollers and four water rollers configured to prevent ink streaking and ghosting. Each print unit has an automatic positioning system with an inspection camera allowing vertical, horizontal and skew register to be adjusted without stopping the machine.

Weigang showed its ZX semi-rotary offset press, incorporating five offset printing units, rotary hot stamping, flexo

Fast change dies

Another major conventional press trend at Labelexpo was the integration of fast-change die-cutting units, both full and semi-rotary.

A new rotary quick-change die-cutting unit was the focus for Gallus' Labelmaster Advanced press on the company's stand. Change of die-cutting formats in under a minute was demonstrated. The Rotary Die-Cut Unit Quick is front-loading for easy operator access. It is optimized for thin liners and offers Gallus' lowest ever deflection under load and biggest anvil diameter.

Omet demonstrated for the first time the 530mm-wide Twistis front and reverse die-cutting station with the fast changeover slide-out Easy Change Die system. And on its new 17in FA-Line press, **Nilpeter** showed for the first time a new high-speed semi-rotary die-cutting unit.

Although not showing a working press, **Edale** did present its new EZ Die which allows a complete die change in less than 60 seconds as well as the FDC flatbed die-cutting module. The latter can be run either off-line or in-line with the FL5 press, combining low tooling costs with cut, crease, embossing and waste stripping.

Lombardi showed its Volo semi-rotary die-cutting unit, which runs at speeds of up to 80m/min with one magnetic cylinder for all print formats. **Bobst** also demonstrated fast change die units on the Master M5 and new DMS M5 presses.

varnishing, flat screen, flatbed embossing / hot-stamping and die-cutting.

Semi-rotary flexo is a relatively niche narrow web press format, and like semi-rotary offset has the advantage of no cylinder change between jobs. Iwasaki has been leading the charge here with its IF330 semi-rotary flexo press, demonstrated at the show.

Hybrid

With the bewildering number of different ways digital printing was integrated with conventional (flexo) printing, decoration and converting units at Labelexpo Europe, the term 'hybrid' is becoming more and more difficult to define.

When Bobst launched its first hybrid press, the company's Federico d'Annunzio said he 'hated' the word hybrid because it 'suggests a compromise. This is a digital label press printing ECG plus spot colors.'

Bobst's new Master DM5 press fully integrates the company's 'digital flexo' system with Mouvent's 'Cluster' inkjet



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engine technology. The press operates at speeds up to 100m/min at 1200 x 1200 DPI resolution.

As with the Master M5 press, the DM5 press carries out job changes on-the-fly, including flexo, digital, die-cutting and stripping processes. All analogue tools - print cylinders and flexible dies - are changed automatically. Waste stripping is also fully automated. Ink-on-Demand (IoD) will be an optional extra for the 'DigiFlexo' print units.

Another key hybrid machine launch was Canon's 16in Canon Océ Labelstream 4000, displayed in a single-pass hybrid label conversion line with speeds up to 75m/min, including flexo stations, cold foiling and semi-rotary die-cutting.

The major conventional press manufacturers all showed the latest updates to their established hybrid lines except Nilpeter. Company CEO Lars Eriksen said this is because Nilpeter is waiting to integrate the newly upgraded Screen print engine.

Lombardi launched its first hybrid press, the Digistar, using a Domino N601i print engine and Synchroline flexo and converting units. The new press incorporates electronical register and format control, a fixed magnetic cylinder with automatic format correction and the possibility of adding a wide range of units including flatbed screen, flatbed hot stamping and embossing and semi-rotary hot stamping with foil saver.

MPS focused heavily on the launch of a wider, 17in/430mm version of its established hybrid MPS EF Symjet press, developed in partnership with Domino. The new Domino N617i print engine is based on the company's proven N6-series inkjet product range, but was designed exclusively for MPS, and integrates with the MPS EFA flexo platform

The Symjet press was equipped with five flexo stations, digital cold foil, a Kurz cold foil unit for single images and optical effects, lamination and die-cutting. The press will still be available in its 340mm/13in variant as well as the new 430mm/17in width.

Mark Andy's Digital Series HD made its Labelexpo Europe debut, and the company has extended the format size to 17in (430mm) as a better solution to the high demand for digital hybrid shrink sleeve label production. Mark Andy also announced the introduction of Stitch AI, automated print head redundancy technology designed to minimize press downtime and maximize quality material throughput.

Omet showed the XJet hybrid press, which combines Omet's flexo technology with the Durst Tau RSC print engine. The 'XJet powered by Durst' offers a wide range of in-line multiprocess technologies including cold foil, hot foil, embossing, varnishing, peel and seal, delam/relam – as well as converting systems such as Monotwin-Cut variable size die-cut, Twist easy-change die and Rock'n'Roll matrix stripping. XJet is suited to short run work, though its speed of 78m/min combined with low ink laydown means it can also cater to medium runs. It prints at 1,200 x 1,200 DPI.

Pigment-based aqueous

In a significant move, MPS announced a partnership to incorporate Colordyne Technologies' new 3600 Series AP pigment-based aqueous digital print module into the MPS EXL-Packaging product line, primarily for mid-web flexible packaging applications.

MPS' Eric Hoendervangers said: After the successful experience of offering hybrid solutions for the narrow web market we strongly believe that the hybrid technology will also be part of the future for the mid-web packaging market.'

Colordyne's module is based on **Memjet**'s new DuraLink aqueous pigment printhead technology, and the MPS announcement came as Memjet took its first booth at a Labelexpo show, clearly signaling its intention to become a major player in the label and flexible packaging space. Memjet's aqueous pigment technology offers longer printhead life and enhanced durability through greater water fastness, light fastness and rub resistance.

Colordyne's 3600 Series AP digital print engine was shown on



Press new in brief

SPGPrints launched its new integrated RSI III rotary screen printing unit, operating at speeds up to 150m/min. The unit features a new long-life web-cleaning scraper that automatically removes ink splashes from the web after stoppages or operation in slow rotation mode. This enables drying of the substrate while minimizing contamination of the rollers. RSI III comes in a range of widths from 254mm to 660mm and integrates with in-line with flexo, offset, gravure and letterpress.

Focus Label Machinery showed peel and reveal label production on a new generation Proflex SE compact flexo press. The Proflex SE is a full servo driven, modular press available with print widths of 250mm and 330mm. The company also showed a 6-color, 330mm wide e-Flex press, equipped full LED and UV drying and chill rolls. The e-Flex can be integrated with the Focus digital print module.

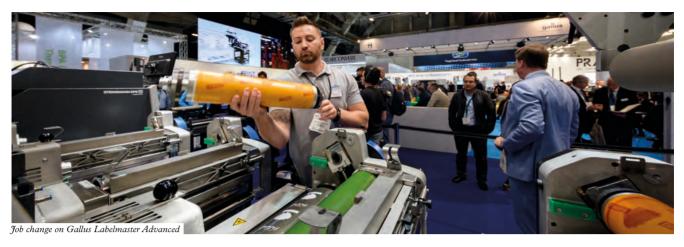
JD Press launched its JDF 420/330 series shaftless flexo press capable of printing on a wide range of paper and film-based materials. It features lightweight flexo sleeves, pre-registration system and intelligent overprinting system, as well as in-line stations such as cold foil stamping, lamination, delam/relam and turnbar. The press has a combination of UV drying, infrared drying and hot air drying.

Label Source showed its SWP-330-2C+2 CNC press equipped with flatbed screen printing station, flexo station, flatbed hot foil/embossing, lamination, flatbed and semi-rotary die-cutting, and chill rolls. The press has full servo tension control and each print group has automatic register control which takes into account different material characteristics.

Alongside the new Invicta i2 mid web press, Lombardi demonstrated the Synchroline servo-driven flexo press and a range of added value converting units. These included the Toro in-line flatbed foil embossing and hologram in-setting system with a turnable head to allow the processing of several foils in a single pass; the Bravo flatbed screen printing unit.

At its sixth Labelexpo show, Weigang showed the latest version of its ZJR flexo press incorporating Rexroth-Bosch servo-control technology, chill rolls and print sleeves. It has a wide substrate range from 12 micron PET to 350gsm cartons, including IML and shrink sleeves. New functions including in-line flatbed embossing and hot stamping.





the Kao Collins stand. Colordyne says the technology offers longer printhead life and prints with a resolution of 1,600 x 1,585 DPI with print speeds up to 668ft/min (204m/min). The pigment inkjet is compatible with a greater number of substrates, both coated and uncoated, than dye-based inks.

At the show, **Inkjet Solutions** was announced as distributor for Colordyne's aqueous pigment print engines in the UK, India, Canada and UAE. Inkjet Solutions will offer retrofits to existing equipment, or can offer a standalone system through its partner Daco Solutions.

Digital presses

Evolution not revolution was the theme in the digital print engine sector, with manufacturers concentrating on consolidating their

technology and increasing its efficiency. Notable trends in inkjet were wider press widths and growing use of low migration inks. On the electrophotography side key trends include fully embracing the flexible packaging world and the continued development of embellishment and workflow eco-systems around the press.

Inkjet

Durst launched a new version of its Tau label press, the Tau RSCi, which builds on the existing RSC but with a new more modular design. The press incorporates automated nozzle compensation, which uses a camera to detect missing print and automatically remaps the image to working nozzles. This can be retrofitted to older RSC machines. Jumbo winders and chill rollers are now standard.



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Print bars

One of the most versatile 'hybrid' technologies to emerge at Labelexpo is the press-wide digital print bar. It can be used to jet not only colors – typically black, a spot color of high opacity white – but also functional fluids such as adhesives, varnishes and other specialist coatings.

Two important introductions were made by Gallus and Nilpeter at the show.

Gallus demonstrated its new Digital Printbar on the Labelmaster Advanced press, optimized for opaque white. With a printing width of 430mm (17in), the moveable inkjet-based Digital Printbar achieves an opacity claimed to rival that of conventional screen printing. The module can be integrated into other systems such as the Labelfire hybrid press or the top of the range RCS 430.

Nilpeter showed a 17in-wide FA-Line press running with the company's new High-Build Inklet Varnish and High Opacity White Inklet units, both of which use Xaar 1003 printheads. Nilpeter demonstrated the versatility and value-adding capabilities of the press for wine and beverage applications combined with cold foil and lamination.

Domino displayed a dual bar version of its K600i UV inkjet module, in this case integrated with an AB Graphic Omega SRI inspection slitter rewinder to print 100 percent verified, machine readable codes onto die-cut labels. The K600i prints at up to 150m/min at 600 x 600 DPI.

Edale showcased its EFX Print Bar designed specifically for print finishing and embellishment and FujiFilm showed the Samba PS4300 imprinting bar.

Print speed of the new press is 100m/min (328ft/min) at 1200 x 600 DPI resolution and 80m/min at the maximum 1200 x 1200 dpi resolution. It will be available in wider 420mm (16.5in) and 508mm (20in) widths as well as the existing 330mm (13in).

Also announced by Durst was a new high opacity White Print Mode for all the Tau RSC printers and a High Speed White Mode that allows the RSC printers to run at up to 80m/min for all colors including white. Durst also has a new low migration inkset that is compliant with EUPIA and Swiss Ordinance regulations for food and pharmaceutical packaging

Bobst demonstrated the latest production prototype of its Mouvent water-based inkjet press, which is expected to be available in Q1 2020. Speed is currently at 50-60m/min but Bobst says the final version will print at 100m/min in 6-colors. The press will require specially coated materials, but Bobst Mouvent division is also working on a primer and inks, including an 80 percent opaque white. Actega is developing the varnish.

Mark Andv added two models to its entry-level toner-based digital press line-up, each with a print speed of 77ft/min (23m/min) on a 12.5in print width. The Digital Pro 1 is supplied as standard in roll-to-roll configuration with upgrade options for flexo print station and converting. The Digital Pro 3 includes a multi-purpose flexo station for in-line embellishment and a DFE that supports variable data printing and versioning. It can be configured with a single slot die station or with a semi-rotary die module with a standard 19in magnetic cylinder. Current Digital One press owners are eligible for a Digital Pro engine upgrade, increasing printing speed by 70 percent.

Epson showed its latest L-6534VW UV inkjet press in-line with a GM DC330 finishing system. The press, which can run at up to



50m/min in-line with the GM finishing system, features Epson's high-opacity white ink for printing on clear and metallic substrates. In-line digital varnish can be printed to give a gloss or matte effect, either overall or as a pattern or spot varnish. The Epson remote monitoring system (ERMS) allows engineers to provide remote diagnostics of print performance. A new in-line spectrophotometer designed to ensure consistent color output on all printed media, was also presented.

Screen introduced an upgraded version of its established digital label press, the L350 UV SAI. There are four variants starting with the entry-level CMYK L350UV SAI E printing at 50m/min (30m/min if an optional white is added), going up to the L350UV SAI Z variant with print speeds up to 80m/min and seven colors - white, orange and blue.

There is also an LM model using low migration inks and nitrogen inerting chamber for indirect food contact applications.

Space for an additional head is available inside the press and Screen is currently evaluating functional fluids. The press can also be configured with twin high-powered UV lamps for final cure, allowing new coating applications to be developed. The press web path has now been center-aligned to allow for easier in-line integration.

On its stand Screen was demonstrating a stand-up pouch application on a '+' model press, printing at 60m/min with two additional colors. LM has nitrogen chamber.

Xeikon introduced its new Panther DuraCure UV curing system, which combines LED and mercury technologies to optimize curing of the company's PantherCure UV inks. UV LED pinning of the white stops bleed into the CMYK inks and pinning after the black 'freezes' all colors across the image and maintains a uniform optimal color brilliance and gloss. It is the controlled mixing of LED curing deep into the ink layers combined with HG or mercury curing for lightly curing the surface of the UV ink. Haptic effects can be generated by controlling the cure using a new module in Xeikon's X800 front end.

· Dry and liquid toner

HP Indigo majored on a complete line for digital printing, laminating and manufacture of stand-up pouches, building on a Labelexpo-wide trend towards short run flexible packaging which HP itself has pioneered. The system consists of an HP Indigo 20000 digital press with Pack Ready Lamination and the Karlville pouch-making machine.

HP also showed an HP Indigo 8000 printing at 262ft/min in-line with the ABG





Inkjet round-up

Dilli showed its Neo Picasso Double White NP-210-6-W2PC-VF digital label press. With a maximum print width of 220mm, this press can print CMYK+ two special colors, with orange and green as options. Features of the press include corona treater, chiller and full variable data printing.

Dantex demonstrated standalone and in-line finishing versions of its 350mm-wide Picojet LED-UV cured inkjet press, which prints up to 75m/min at a resolution of 600 DPI at 2.5pl dot size. Features include temperature-controlled impression roller for heat-sensitive substrates with a range of in-line finishing options and VDP functionality.

Focus demonstrated the d-Flex hybrid press which integrates the latest Konica Minolta inkjet technology into a Reflex servo press with in-line UV flexo print head, die-cutting, slitting and rewinding.

HanGlobal, with European partner Opal Digital Printing Equipment, launched its latest LabStar 330 UV inkjet label press. It uses the new generation of Kyocera printhead technology. Its print

speed is up to 50m/min (164ft/min), with 220mm width, 600 DPI and four colors; or a more advanced version with 330mm width, 1,200 DPI and five colors.

KPG Europe introduced Digicase, a UV inkjet-based system developed for printers of artificial casings now adapted for label production. Digicase can print on a wide variety of filmic substrates including polyamide casings and bags, food packaging films and plastic casings in full color, plus white. Single and dual pass printing is supported in multiple web widths, and with a choice of print resolution and operating speeds. Options include flexo print heads and a chilled central impression drum.

Miyakoshi presented its new digital MJP13LXV UV LED inkjet press. This 6-color press runs at 50m/min with a resolution of 1200 x 1200 DPI. It comes equipped with an inter-color pinning system and LED curing with a nitrogen purging system which reduces odor and improves the curing process. Substrates finally pass over a chill roller for finishing and color fixing.



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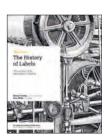
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Terminology, technic

Michael Fairle

First-ever China Day hosts more than 100

On the first day of Labelexpo Europe 2019, representatives from more than 100 Chinese label converters joined in the first-ever 'China Day' hosted by exhibition organizer Tarsus Group, writes Yolanda Wana.

Lisa Milburn, MD of Labelexpo Global Series, said: 'Thanks very much for coming here to visit Labelexpo Europe, and join the first "China Day" event. Labelexpo has very deep friendship with China, and the ninth Labelexpo Asia will take place in December in Shanghai. More and more Chinese enterprises are attending our Labelexpo shows and Summits held in Chicago, India, Thailand and South America, which reflects the rapid rise of Chinese manufacturers and the rising reputation of "made in China".'

Fast Track die and an HP Indigo 6900 with the new durable Pack Ready for Labels system. Michelman developed its DigiGuard 901 specifically for Pack Ready for Labels, a strengthener for HP Indigo validated UV OPVs used with Michelman's in-line primers, which enables enhanced water, chemical and thermal durability.

Turning to hybrid digital embellishment systems, HP Indigo demonstrated its ElectroInk Silver which metallizes the color gamut; the HP Indigo GEM UV inkjet embellishment system; and an HP Indigo 6900 digital press connected in-line with the Kurz DM-Jetliner for printing colorful metallic effects in-line.

HP also showcased its brand protection and security offering including HP Indigo ElectroInks invisible yellow and blue coupled with software and cloud-based systems that allow ant-counterfeiting marks, and protected track and trace systems.

In terms of workflow, HP demonstrated its latest online web-to-pack system and the latest HP Production Pro for Labels and Packaging, which allows for a faster rip and better connectivity through the cloud.

Xeikon's major launch at the show was the Flexflow in-line digital printing and pouch making system. This takes a digitally printed roll from a Xeikon CX500 press and passes it through the LCoat500 thermal laminator to construct the stand-up pouches. The Xeikon CX500 QB-toner has been designed specifically for food labels and takes upcoming migration regulations into account.

Also shown was the Discovery Package, an entry-level system consisting of a Xeikon 3030 digital press and Dcoat digital converting line with varnish, semi-rotary die-cutting, and rewind.

Konica Minolta launched the AccurioLabel 230 digital toner press, running at up to 23.4m/min on a wide range of materials now including PP, PET and synthetic papers. Print width is adjustable between 250 and 300mm. An overprinting option allows the AccurioLabel 230 to print on pre-printed media. Makeready times have been reduced thanks to the fuser being kept warm for up to 30 minutes. Developed and manufactured in Europe with GM, the AccurioLabel 230 has been built on Konica Minolta's own AccurioPress engine technology.

It is interesting that Konica Minolta also owns the MGI digital inkjet embellishment technology, and a project is now underway to develop a fully digital hybrid system with the 230. MGI is already integrating Konica Minolta color engine technology into its embellishment lines, which are capable of depositing high build varnish up to 230 micron along with digital foiling and variable print.

Benchtop systems

Designed for in-house print operations and label printers setting up bureau-type services, a wide range of benchtop digital label systems was launched at the show.

Astronova launched the QL-300, a 5-color, CMYK+White toner-based table-top printer designed for production label printing.



The company also launched the QL-120X on-demand digital color label printer using dye-based inks.

Bixolon introduced the 114mm-wide XT5-40 desktop thermal transfer label printer system. It is available as XT5-40 (203 DPI), XT5-43 (300 DPI) and XT5-46 (600 DPI) print resolution media options. The printer's standard model (XT5-40) supports fast data processing and print speeds up to 14ips (356mm/sec). It supports a media roll diameter up to 203mm, ribbon length up to 450mm, and features adjustable printhead pressure.

Epson launched four new ColorWorks on-demand digital label printers targeted in-house label users.

GoDex unveiled a new high-speed thermal transfer printer, the ZX1000Xi with print resolution up to 300 DPI print and speeds up to 14in/sec. Options include cutter, Bluetooth and wireless LAN connectivity, external label rewinder, label dispenser and internal rewinder.

OKI showed its 5-color (CMYK+White) desktop label printer, the OKI Pro1050, handling a wide range of media including textured papers and synthetics with white, clear, opaque or colored substrates. It is suited to industrial labels intended for harsh underwater environments and the toners are resistant to UV fading.

Printronix Auto ID presented the T4000 compact industrial thermal printer with a print speed of up to 8in/sec on label thicknesses of up to 0.28mm. Also on display, Printronix Auto ID's fully integrated thermal barcode printer and validator, ODV-2D, can now additionally validate QR codes as well as 1D and 2D barcodes.

Primera Technology debuted the LX610 all-in-one color label printer, developed for proofing and prototyping.

TSC Auto ID launched a new digital label printing system that includes the dye ink CPX4D and pigment ink CPX4P.

UniNet introduced the iColor 540 toner-based digital transfer A4/letter sized printer, printing full color combined with white overprint and underprint capabilities in a single pass; the iColor LF200 compact digital die-cutter and laminator; the UniNet iColor 200 desktop inkjet printer for continuous roll-to-roll printing with either dye- or pigment-based ink; and the iColor 700 digital label press using low fuser temperature technology to print on film-based substrates.

VIPcolor displayed the VP750 digital print-on-demand color label printer using water-resistant ink technology for producing colored labels for applications such as chilled food and other moisture-exposed products. The VP750 prints at up to 18m/min with a resolution of 1,600 x 1,600 DPI on a printable width of up to 215.9mm.

Additional reporting by Yolanda Wang



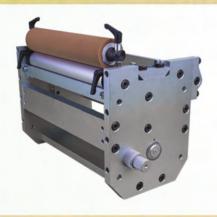
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Plates and platemaking

In-line automation of plate imaging and processing was a key theme at Labelexpo 2019, along with the continued evolution of non-solvent plate technology. Andy Thomas-Emans reports

abelexpo Europe 2019 demonstrated how flexo presses are achieving ever faster changeovers, allowing them to compete with digital on a wider range of short run jobs. The bottleneck remains platemaking, but 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 skilled manual operation.

Miraclon, the new home of Kodak Flexcel plate systems, launched in the European market its Flexcel Ultra technology. Still based on the core Flexcel technology, Ultra is a solvent-free, VOC-free, water-based processing technology which can produce a press-ready plate in under an hour. It is paired with the new Flexcel NX Ultra plate and Kodak Ultra Clean technology developed by Miraclon. The all-in-one processing system combines exposure, washout, drying and finishing in the same system with automated cleaning cycles. Flexcel NX Ultra flat top dot plates are available in thicknesses of 1.14mm and 1.70mm. The first product available is the Kodak Flexcel NX Ultra 35, which can produce plates up to 35in x 48in (889 x 1219.2mm) in size.

Esko demonstrated how flexo platemaking can be brought closer to the press with the launch of its CDI Crystal 4835 XPS flexo imager with PlateHandler, working in tandem with Print Control Wizard flexo platemaking and screening software. The XPS Crystal 4835 automates the plate imaging process. Following digital imaging and simultaneous LED-UV exposure main and back, the plate is sent automatically to the processor.

Print Control Wizard takes account of critical print parameters and variables, including substrate, anilox, press type, inks and tape to automatically generate bespoke screens and curves for each job.

Flint Group announced a strategy to integrate the imaging and plate systems from the Xeikon Prepress and Flint Group Flexographic sides of its business. This builds on ThermoFlexX thermal imaging technology, Woodpecker Nano screening and the nyloflex plate range. The ThermoflexX Catena-E80 LED-UV main and back exposure unit and can be added to a ThermoflexX 80/60 imaging system via the Rover bridge to create a fully automated system. Nyloflex thermal printing plates are available in both flat top and round top digital versions.



MacDermid continued to push forward its thermal platemaking technology with the first European showing of the new Lava NW-M thermal processing unit, shown alongside the expanded Lux ITP flat-top dot plate range, now including the Lux ITP Epic.

DuPont showed the latest generation of Cyrel Fast thermal processors and launched an upgraded version of its Cyrel Easy plates for the paper segment. The mid durometer digital plates feature a built-in flat-top dot structure and are designed for both coated and uncoated paper applications.

Continued elimination of VOCs and solvents was a key theme at the show, not only in thermal platemaking but also in water-based plate technology. As well as the Miraclon launch noted above, Asahi Photoproducts showed its AWP-DEW water-washable plates, the first to use the company's CleanPrint technology which reduces the surface energy of the printing plate, enabling better ink transfer to the substrate and reducing ink filling-in the mid-tone area, leading to fewer cleaning intervals and less press downtime.

Dantex, a long-time proponent of water-based processing, demonstrated its latest AquaFlex 920F processor, designed to work with the new RapidoFlex filtrationfree UV flexo plate. FujiFilm demonstrated its Flenex FW water washable plates and flexo processors, while Jet Europe showed its Aguagreen water-wash flexo plates, available in both analogue and CTP formats, and LSL water-wash letterpress and UV flexo plates.

Hamillroad Software has made a major impact with its Bellissima DMS (Digitally Modulated Screening) for flexo, and the latest version was demonstrated at Labelexpo. Bellissima DMS rasterizes the input and determines the correct shape and size of dots to use, as well as determining

where the dots need to go on the plate according to the image being printed. The halftone dots are small enough to be invisible to the naked eye, but large enough to withstand the rigors of the printing process. The dots are positioned to support each other on the plate, providing strength and stability.

Platemaking news in brief

MacDermid demonstrated its new Lava NW-M thermal processing unit for the first time in the European market, along with an expanded range of Lux ITP flat-top dot plates.

Toray unveiled its new Imprima LJ line of water-washable waterless offset plates which can be processed in most waterless processors. Imprima LJ does not require post-baking and this makes the plates easy to insert into any offset workflow.

TWS showcased Amsky's Aura 1524 flexo CTP system, imaging a plate size of 900 x 1,200mm (35 x 48in). This is complemented by the smaller Aura 800 AL and Aura 600E units.

Verico Technology teamed up with Codimag to run live demonstrations of the new Zahara NWL plates. The new Zahara NWL, debuting at Labelexpo, is chemistry-free and generates a latent image without the need for dyes.

Vianord Engineering unveiled new additions to its Wave range of processors for water-based flexo plates. Previously available for 90cm x 120cm (35in x 48in) formats, the new systems can process 106.7cm x 152.4cm (42in x 60in) formats.



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Workflow and inspection show automation gains

At Labelexpo Europe, suppliers of workflow and inspection systems showed how automation and artificial intelligence are shaping the factory of the future. James Quirk reports

utomation has impacted how hardware is integrated into the factory environment and workflow onto the press and between label converter, customer and suppliers. Whereas before it was necessary for an operator to perform many manual operations – for example checking printing pressure and registration - these can now be handled automatically by feedback systems on the press. Color is being managed more in pre-press, so by time job gets on the press operators are not chasing color. And with 7-color ECG systems, matching spot colors can also be fully automated and checked in-line on the press.

•••••

Artificial intelligence – or machine learning – is starting to make an impact, particularly with inspection systems. We are moving from detecting defects to preventing defects. Camera systems are learning what a print error is and how it is caused, and will increasingly make suggestions back to the operator, and eventually in a closed loop back to the press controls. We're already seeing intelligent predictive maintenance systems looking what might be wearing out before a problem becomes evident. These systems are going to get smarter, and will likely become standard on all levels of machinery.

Al-driven factory automation is another key trend, using intelligent systems to help run a plant. Today's label converting plant has increasingly complex workflows – conventional presses, digital presses and various kinds of hybrid, and printing many types of labels and now packaging as well. This impacts on stock holding and so on right down the line to the supplier.

The fully automated factory is where we are headed. Not working autonomously, but working as a cyber assistant to human skills and judgment.

AVT, co-located with its partner Esko, showed its newest automated inspection equipment supported by next-generation workflow automation for Industry 4.0 'smart factory' production. AVT's products enable converters to set cross-plant quality standards in tandem with Esko's Automation Engine (AE) and X-Rite's ColorCert.

AVT's AutoSet module automates job set-up by streamlining pre-press to pressroom connectivity from the Esko Automation Engine to AVT's inspection system. Meanwhile, the iCenter platform empowers converters to tightly control cross-site quality standards, ensuring global consistency.

For color measurement, the digital link between X-Rite's ColorCert color and AVT's Spectralab in-line color measurement device automatically sets up a job for in-line color measurement and generates color scorecard reporting on color quality performance after printing. This integration delivers better visibility into color performance based on measurable, objective results for increased color consistency.

For 100 percent inspection, AVT's Helios Turbo HD+ was on show. It provides high-resolution automatic inspection designed for exacting quality assurance of fine details, barcodes and variable data, and for customers operating wider-web platforms (445-670mm).

AVT conducted inspection demonstrations of packaging and shrink sleeve applications. These include Helios S Turbo+,



inspection equipment supported by next-generation workflow automation

an automatic inspection system for high-speed performance, complemented by the new continuous and random defect display for process defects monitoring.

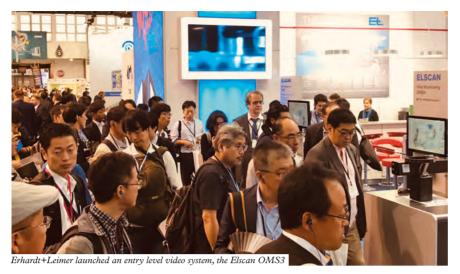
For digital printers, AVT offered its Helios D, a 100 percent automatic inspection system that addresses missing nozzles, ink drips, color uniformity and other sector-specific challenges – all in real time. AVT also presented integrated press control products for OEM digital presses, as well as dedicated in-line products such as JetIQ, a closed loop quality engine that works with press controllers to maintain print quality, offering full connectivity to all steps of digital inkjet printing.

Baldwin Vision Systems (BVS) showed developments in color management, inspection and print automation. The company was co-located at the show with AMS SpectralUV, another Baldwin company. Along with color and inspection products, BVS showed the latest additions to its portfolio – including Guardian RTM, a new real-time quality monitoring and reporting tool, and significant new capabilities for the ColorTrack software.

BVS also showcased the Guardian PQV 100 percent print inspection, which eliminates defects with an accurate, data-connected inspection workflow. PQV provides complete print quality verification from pre-press through production. Press managers can monitor changes as they happen, and make informed decisions about print quality, defect management, and even operator-to-operator performance. Guardian OLP Offline Proofing & Inspection focuses on pre-press proofing and pressroom quality control. Graphic-Vision 500 Series Web Viewing Systems quickly find defects such as mis-registrations, streaks, voids and fills.

For color management, BVS offered ColorTrack software, which facilitates fast, accurate press-side correction of ink formulations. ColorTrack integrates with ink recipe software to simplify workflow, and reduces the number of ink corrections needed to achieve accurate, optimal color.

BVS introduced its new ColorTrack Analytics software, which is designed to help printers deliver consistent, accurate color quality



and customer reports.

Brain4Tools was showing some interesting software to manage the print tool inventory - including determining ideal print sequence for faster job preparation. The company also demonstrated the Scan4Tools application which captures information during tool check-in and check-out, including archive number and job run length.

BST eltromat and technology partner Hybrid Software demonstrated software integration which closes the gap between e-commerce portals, pre-press workflows, MIS/ERP systems and printing presses.

In the web monitoring and 100 percent inspection area, BST's product line ranges from the TubeScan family of 100 percent inspection systems of partner Nyquist Systems, and the PowerScope 5000 video web monitoring system to the iPQ-View and iPQ-Check high-end systems.

BST eltromat sensors and web guiding systems for the narrow web market were also shown, including the CompactGuide and EcoGuide. Both are available in a range of sizes and can be flexibly adapted to individual requirements. The company showed the AR 4400 register control for offset, hybrid and label printing machines and the FSS 15 ink fountain control. In offset printing, the AR 4400 interacts with the FSS 15.

Two new software options for the modular iPQ-Center were presented: Color DataPreparation and Smart DataPreparation. Smart DataPreparation links the iPQ-Center with ERP systems so the iPQ-Center can directly use data from other systems.

CADlink Technology unveiled an all-inclusive label and sticker print or cut software. Digital Factory RIP software is claimed to provide a seamless workflow that enables automated production using inexpensive laser toner printers alongside desktop-sized sheet- or roll-fed cutting devices. It is described as a cost-effective

way of printing and cutting low to mid volume labels, stickers and tags.

Cerm demonstrated business automation software (ERP/MIS) developments. The Smart BI business intelligence platform now has a tool to analyze plant performance and includes a personalized dashboard accessible by tablet or smartphone. A live monitor shows real-time performance status of production equipment. At Labelexpo Cerm demonstrated a cloud-based link to display the performance of machines running on several partners' booths

At the Screen Europe stand, Cerm partnered with **OneVision** to show a co-developed automation suite for digital narrow web label printers enabling more efficient end-to-end workflow. The new software enables a smooth integration between MIS and PDF workflow application acting as middleware between the two systems. Once the order for a label job has been received in Cerm's MIS, OneVision's Label Automation Suite automatically prepares print data and finishing. Either of the two software systems can trigger the printing press and once the job is completed, it automatically communicates back to Cerm for dispatch and invoicing.

Colorware premiered new extensions to its MeasureColor device-independent color workflow system. ChromaTrack tells press operators how to navigate the shortest route to match the target color, while MeasureColor Reports allows converters to build specific print quality reports for individual customers, including live dashboards.

Creative Edge Software launched the latest version of its iC3D software, co-developed with API Group and focused on specialist print finish materials such as foils and laminates.

According to Creative Edge, version 6.0 is the world's first software allowing packagers to visualize and design new Fresnel Lens effects or holographic materials. The

software uses the iC3D Ray Tracer, which instantly renders images and effects in high definition and accurately conveying the optical effects.

The company teamed up with API Group to generate algorithms visually describing different angles that create the foils' effects. The model was used to embed API's library of foils and holographic materials into the new version of iC3D and enabled adding an editing capability.

DeCo System showed its Sentinel modular quality control system for inspecting the full length of the printed reel, detecting missing labels, splices, remaining matrix, flags on the web and other printing defects such as missing color, spots, substrate damage, color deviation and misregistration.

Erhardt+Leimer launched an entry level video system, the Elscan OMS3, incorporating the company's dualView technology and supplementing the current Elscan range. The OMS3 is a compact system with an intelligent camera, which only contains the main functions and, in this way, enables an 'inexpensive introduction' to web monitoring. The two 5-megapixel cameras offer a field of view of 100 x 75mm. The computer is integrated in the camera unit, which means only the cables for the mouse, monitor, synchronization and power supply have to be connected to the camera crossbeam when installing the system. The images can optionally be displayed on a touch monitor. The camera unit is mounted on a cantilever crossbeam and can be positioned either manually or by means of a motor. Also demonstrated was Smartscan, which combines web monitoring, inspection and label counting.

Esko featured several software technologies, including scalable automated workflow server Automation Engine, web-based project management platform WebCenter, flexo platemaking and screening software Print Control Wizard, the next-generation pre-press editor ArtPro+ and 3D packaging software Studio. Read more on page 41.

Ethic Software unveiled its Collection 2.0 ERP, which includes a web-based calculation engine available to process quotes. A 'customer area' space allows end users to follow their orders, renew orders and view order management data such as stocks, production and delivery billing.

EyeC demonstrated its latest inspection workflow developments, including a package which allows EyeC software to retrieve information from pre-press systems to speed up the inspection of imposition files. EyeC performed live demonstrations of the EyeC ProofRunner Web for inspecting narrow webs and the EyeC Quality Link,





which removes faulty material with the help of inspection data from the press. The company also presented new systems for wide web inspection up to 1,700mm (67in) and the EyeC Proofiler 1200 DT with scan size up to 1,270 x 915mm (50 x 36in).

To streamline inspection processes, EyeC and Hybrid Software have launched the EyeC Driver, a new application that integrates EyeC's PDF proofing technology – the EyeC Proofiler Graphic – into Hybrid Software's Cloudflow. The integration triggers inspection procedures within Cloudflow automatically, retrieving job data, files and inspection parameters from the workflow system. Pre-press files are inspected and released automatically if they match the approved artwork. Pre-press operators only have to intervene when deviations are detected. A task appears in their workspace that opens the EyeC Proofiler Graphic for an easy review of discrepancies.

Global Graphics Software, whose Harlequin RIP powered all HP Indigo's presses at the show, previewed Version 2.0 of Fundamentals. Fundamentals is a cooperation between Global Graphics Software and Hybrid Software, who have worked together to ensure that the essential software components needed to create a DFE are accessible from a modern web-based user interface designed to remove complexity from the print process. Providing a native PDF workflow, Fundamentals is branded and customized to the requirements of a specific press or application.

Fundamentals job management is based on Hybrid Software's Cloudflow workflow. In version 2.0 multiple users can submit jobs to the job queue. Jobs are easy to spot in the queue, indicators show their status, and operators can easily prioritize rush jobs or reorder them. Easily brandable, it is possible for a manufacturer to develop the same look and feel for a DFE to support all their printer models.

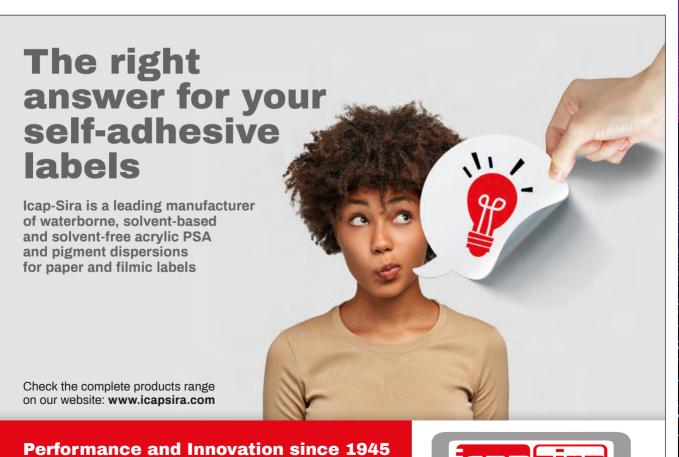
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Visitors could also see a demonstration of the Mark Andy version of a DFE created using Fundamentals in ProWorx on Mark Andy's booths (4C45 and 8A60).

GMG Color introduced a direct connection between its ColorServer and OpenColor packages which enables users to publish profiles created in GMG OpenColor directly into GMG ColorServer. The adjustment of paper tints, custom printing conditions or the change of printing parameters is now more efficient and automated. GMG will also demonstrate how complex packaging designs and layouts including spot colors can be simulated with color-accurate proofs on media close to packaging production substrates, including transparent or metallic film using the Epson

chemicals and polymers 5p



SC-S80600, GMG also introduced GMG ColorCards, which allows users to create digital color references in less than three minutes. Based on spectral color values, the digital color cards can be printed in various layouts and with accurate substrate simulation.

Hybrid Software held demonstrations for more than 500 companies during the show, and reported 27 sales of its VDP (variable data printing) software. VDP is available as an option for Hybrid's native PDF editors Packz and Stepz, with accelerated processing available through its Cloudflow workflow.

Hybrid Software's VDP implementation changes text, images, barcodes, colors and other elements linked to variable data sources, producing an optimized file for fast printing on all digital presses. It can be used to turn any PDF package or label design into a VDP design by simply indicating which elements are dynamic and linking them to the data source – without having to create a template for the label designer, first. Hybrid VDP is applied at the prepress stage, not in the pressroom, eliminating the up-front template creation that can slow down other VDP systems.

Label Traxx announced new software features including integration with HP Indigo, Esko and Herma systems. Label Traxx promoted workflow software dedicated to flexible packaging which helps with the accurate and consistent estimating of unsupported film, sachets and pouches by weight.

The company also demonstrated Siteline, its online interface, enabling end users to order repeat labels, view product specifications and see order history. Now, they can also approve projects from mobile devices.

Label Traxx also prepared presentations for HP Indigo press users who are now able to retrieve their actual clicks by job from the press for accurate job costing purposes thanks to the API access to HP's PrintOS.

Esko QuickStart users could see the new integration with Label Traxx, creating bi-directional communication between the two systems that enables to automate step and repeat, file planning of 'ganged' labels across the web as well as lead-in and lead-out frame

Label Traxx discussed upcoming integration with Herma's EPSMA barcode roll numbers which will be communicated to Label Traxx inventory when shipments are received.

Lake Image Systems launched entry-level inspection system Discovery PQExpress, which provides real-time viewing of 100 percent of the web. It detects missing labels, label matrix residue, die-cut errors, ink smudges and streaks, as well as surface imperfections such as creases, bubbling and wrinkles. It is available as a package which includes inspection camera, lighting and web rollers. The unit is available for web widths of 13in, 17in and 21in, and operates at speeds of up to 350m/min.

Luster LightTech Group presented an inspection system, color management module, newly developed LED light source for fully transparent material, and high-resolution camera selection. On display was a LabelRoll-F series inspection system that provides 100 percent inspection for all defects and substrates, including variable data verification and inspection. Only one master image is needed for job set-up and a PDF proved file can also be used as reference. The whole job set-up can be finished within one minute. PrintingProof software can control pre-press processes and ensure digital and sample files are 100 percent correct.

matchmycolor and Techkon partnered to provide new hardware and software services. matchmycolor's Colibri brand was acquired in a management buy-out in 2009.

On show was a new-generation Colibri one-software platform that uses a single data source, enabling communication throughout



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the color supply chain. The software is modular in structure, making it easy for users to design, specify, match, tint and monitor colors as well as to correct recipes. The system is based on the Colibri scientific engine, distinguished by its right-first-time recipecalculation function. The new Colibri software is suitable for both cloud and on-premise color management and uses advanced cloud-based data-analytics tools that allow monitoring of jobs and colors worldwide

Techkon demonstrated SpectroDens, a measurement device suitable for a wide variety of applications. It combines the qualities of a highly accurate spectrophotometer with those of an easy-to-use densitometer. Measurement is spectral, ensuring that the entire color information – or spectral fingerprint of the color – is precisely registered. This is converted into measurement data for descriptive analysis and display. SpectroDens has proven compatible with Colibri software and the two companies plan to take their development work further together.

Nikka Research presented camera technology for installation in printing presses and rewinders. The Alis product range covers web widths from 250 to 880mm and is offered in three lines: M1 entry level, L1/L2 modular and H1 high resolution inspection. A range of apps were demonstrated which extend camera applications into in-line measurement, data collection and process automation. Also on display was spot inspection technology – small camera blocks for collecting high resolution images from the web.

Nyquist Systems showed the new TubeScan Digital Strobe 4k equipped with 9-megapixel camera technology for 100 percent inspection. Also on display was a bidirectional label inspection machine with pharma mode. Further, QLink Workflow from Nyquist Systems offers TubeScan users new possibilities for synchronization, data handling, and error editing.

Odesyo unveiled its patented Smijet in-line color controller fitted with AI and a patented wide-spectrum sensor. Smijet checks 100 percent of the printed surface, instantly tracking the consistency of color reproduction and print faults. On inkjet presses Smijet instantly points out undetected missing or deviated jets. Its Al-based technology is claimed to model human visual perception, so does not register faults undetectable to the human eye.

Rheintacho extended its portfolio of stationary stroboscopes with an additional model with a length of 1,000mm. This stroboscope will light up large inspection surfaces with high performance LEDs. The light control is achieved by using special

Rheintacho also offered its RT Strobe pocketLED Laser. This smart function uses a laser beam to determine the synchronization frequency without manual adjustment or external sensor signals.

Sistrade presented the latest version of its MIS, with an enhanced job routing module that integrates with the planning and data collection modules. Also new is a module focused on flexible packaging, with better data visualization and the incorporation of a cylinder management workflow where cylinders are sent to or from the engraver. The revised Scheduling module is more intuitive, allowing anticipation of production changes. The new Sistrade Dashboard Builder provides a tool for creating customized dashboards to monitor the progress of the entire sales, stock or production process.

Techkon unveiled its new SpectroVision in-line quality inspection device that monitors three of the most important print quality factors: it offers live web viewing (registration, logos, text), ANSI/ ISO style barcode grading, and spectral-based color measurement capabilities in real-time at press speeds of up to 1,000ft/minute. Its compact design that allows it to be easily mounted into existing flexo, gravure and digital presses.

Theurer.com unveiled web-based mobile dashboards for its ERP system, simplifying communication within a company and between company locations.



Hybrid Software reported 27 sales of its VDP (variable data printing) software

Tilia Labs launched Tilia Aries, a cross-platform step-and-repeat tool for label printers that enables quick and easy layout for pre-print, cutting and finishing. Its simple user interface is based on Google standards and design. The user can select existing settings or create new impositions, easily adjusting sizes, margins and substrates as required. Artwork files are imported into the layout by simple drag and drop, while dielines can be stored and retrieved, or generated in an instant. Vendor neutral, Aries is designed to provide the same efficiencies with virtually all printing machines and finishing devices, for both seamless-repeat roll-based and sheet-fed production. Its modern architecture and use of open standards ensure that it will integrate into any workflow or MIS system and cut across the confusion of proprietary hardware and software.

Unilux demonstrated new inspection strobes equipped with Smart Assist multilingual controls and UV LED options for UV-visible inks and coatings. The LED27, showed for the first time, is claimed to be the brightest inspection strobe in its size and incorporates the latest advances in user controls with Smart Assist technology that improves access to advanced features, making it easy identify defects at full production speed.

Unilux also demonstrated the ability of its UV LED inspection strobes to inspect special security codes or clear-coat adhesives that are only visible in the narrow UV light spectrum.

Unilux launched the compact Mantis web viewing system for narrow web presses with limited mounting space. Integration of processor and camera into a single unit means the web viewer can be placed anywhere on the press and moved easily without the need to re-route wires.

X-Rite Pantone unveiled its i1Pro 3 Plus printing device, which helps to reduce color measurement variability allowing printers to create ICC profiles for several substrates and calibrate print production devices.

The new eXact auto-scan system is said to combine the portability of a handheld spectrophotometer with the speed of an automated scanning system. It was paired with the new Cup & Cylinder fixture, which helps converters in measuring and controlling color on cups, bottles, tubes and other curved surfaces.

X-Rite Pantone also displayed a wide range of existing products such as Pantone Live cloud-based technology and ColorCert software for color and print quality process control.



Read a report from Esko's EskoWorld event on page 41

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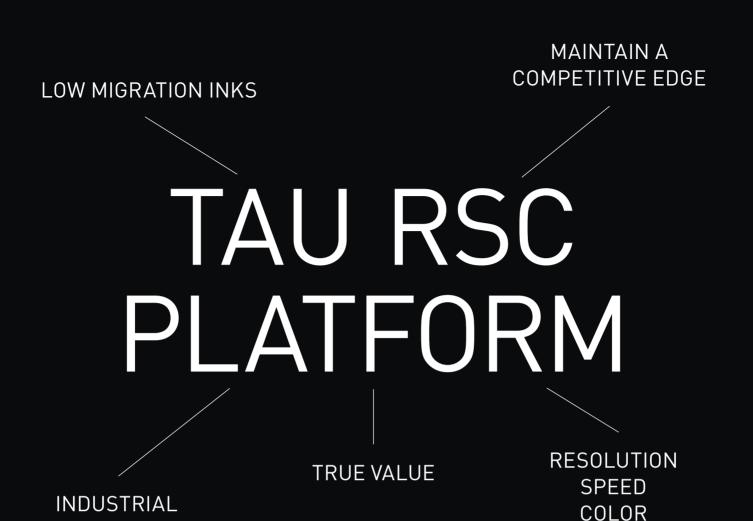






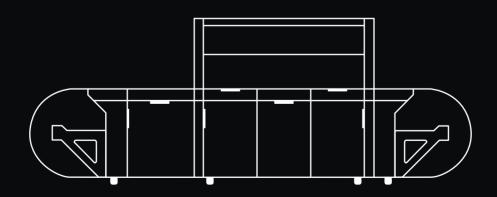






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SCALABILITY



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Material suppliers respond to industry trends

Material suppliers at Labelexpo Europe launched products in response to industry trends such as sustainability, premiumization, security, digitization and diversification. Aakriti Agarwal reports



Sustainability

Labelexpo Europe saw material suppliers launching products using post-consumer waste, renewable sources and steering towards waste recycling. Exhibitors and visitors were keen to explore more than just downgauging of materials. There were discussions on recycling and separation of waste in labels, and on using plastics from the same family for easy recycling than making multi-substrate flexible packaging.

In line with these trends, Acpo showcased recyclable flexible packaging films for digital as well as flexo presses.

Actega soft-launched Ecoleaf technology as a sustainable alternative to creating decorative metallic embellishments on labels, flexible packaging and folding cartons. It uses the precise amount of metal required to create the metallic image, thus eliminating the need for foil. This unit can be retrofitted to an analog or digital press or a finishing machine. It can produce tactile metallic effects without embossing, fine metallization at high resolution, and seamless and variable metallization on an inkjet press.

Avatack showed Eco film and Eco tape that uses less plastic but is waterproof and durable like traditional tapes. The company also showed biodegradable and compostable bags made from polyactic acid derived from plant starch.

Avery Dennison won the Environmental & Sustainability Award at the Label Industry Global Awards for its recycled PET (rPET) liner that is made with 30 percent PET post-consumer waste from PET bottles, while maintaining the technical qualifications the liner material needs for supply chain labeling success. Other sustainable products showcased included recycled content liner (rBG) made with 15 percent post-consumer waste, recycled content facestock (rPE), CleanFlake Flex Adhesive Technology, Wine Crush range and Sustainable Wine range.

Delfort showed its release base paper, Tersil UltraLight Base, which boasts a low weight of only 35gsm and incorporates recycled materials. The thinness of the product reduces the need for changeovers on the coater by 38 percent. Tersil UltraLight Base is offered in white and gold.

DP Lenticular showed new features of its MicroFlex rolls that are produced using PETG (Recycle Code: 01) resin and have now been made thinner by around 100 micron. According to the company, it makes them the thinnest press-stable lens array material available.

Folien Fischer launched its new line of eco-friendly FOFIGreen materials, scratch resistant films and outdoor films with laser printable coatings.

Henkel launched Aquence PS 3682 water-based pressuresensitive adhesive with wash-off characteristic to help material separation in recycling process.

Intercoat showed 100 percent recycled PE made with 50 percent post-consumer waste and 50 percent industrial waste. The film is offered in white and in clear-on-clear look. The company also showed down gauged 23-micron PET liner for clear-on-clear labels.

Italnastri introduced labelstock made from 100 percent cotton fiber. It caters to high-quality, special applications for shorter runs mainly for wine and spirits industry. The company is further trying to switch from film to transparent paper.

Innovia Films showcased Rayoface mBoss130 embossable BOPP facestock film and Rayoface Reclose92 high clarity monoweb film designed for wet wipe pack applications. An all-polyolefin wipe pack construction, Rayoface Reclose92, offers easier recycling after use versus alternative mixed material constructions. The company also showed Ultrafoil clear squeezable films which have been downgauged by around 40 percent.

Jindal Films offered a range of ISCC PLUS certified non-fossil based polypropylene oriented films. The films can be made with various renewable sources such as sunflower, soyabean, tall oil, amongst others via mass balance approach. The company also introduced Label-Lyte LCC conformable and squeezable OPP film that reduces the use of plastic by 40 percent compared to

conventional PE labels. This film is recyclable and can be separated by floatation when applied on PET containers with suitable adhesive. Jindal and Treofan also introduced downgauged version of ELR70.0 IML film.

Mitsubishi HiTec Paper launched barricote Bag WGOM, a fully recyclable barrier paper for flexible food packaging with multi-barrier against water vapor, grease and oil, oxygen and aroma as well as mineral oil migration. BAG WGOM can be heat-sealed and is approved for direct food contact..

Ritrama showed the Ri-move range of self-adhesive labeling materials developed to meet both recycling and reuse requirements for glass and PET containers and customer needs. The special adhesive technology ensures maximum adhesion during the product's life-cycle while allowing fast and clean removal of the label from the container during industrial washing.

Synthogra launched Pure-Durable, a printable sugar-based film made entirely from renewable sources. It is a 100 percent bio-based material where more than 70 percent is based on the waste product from sugarcane production. The remaining 30 percent comes from natural minerals. The material is suitable for tags, tickets, self-adhesive labels, loop labels and more.

Taghleef Industries (Ti) launched Nativia D813, the first bio-based and biodegradable IML film, made from polyactic acid derived from cornstarch or sugarcane. These films are designed to decorate bioplastic-based containers. The company also discussed about the ultra-clear floatable Shape 360 TDS film that minimizes the impact on PET recycling systems and reduces the weight of the label due to its low density

UPM Raflatac and UPM Biofuels joined forces to launch wood-based polypropylene film, UPM Raflatac Forest Film, and UPM Raflatac Fossil-Free Adhesive, a renewable multipurpose adhesive. Their main raw material is UPM BioVerno naphtha, which is a renewable component made from tall oil, a residue of pulp production. Both these products do not require any changes in production processes and can smoothly replace traditional fossil-based options.

The company also showcased PP Lite range that combines a lighter face material, a lower coat-weight adhesive and a lighter backing which makes them lightweight and optimizes the use of raw materials and resources. The company further showed Vanish PCR line of ultra-thin clear film labels available with 90 percent recycled content face and liners.

VPF launched materials that included grass, biological waste from agricultural processes and recycling components. Paper facestocks include FSC-certified VPF 1353951 made from 100 percent recycled paper and bleached without using chlorine; VPF 10929 and VPF 10930 manufactured from biological waste from agricultural process, such as after the harvest of corn, wheat, sugarcane and rice; VPF 10916 and VPF 10945 produced with low use of energy and water due to 40 percent share of grass from local pastures.

Yupo showcased IML film for no-label look that can be recycled with the container. The company is certain grades of material will be made of bio-mass resin to address sustainability.

Premiumization

Suppliers increased their portfolios of materials for added-value products requiring high levels of embellishment.

Acpo showed Sofsens film targeted at luxury packaging, as well as gold glitter overlaminated BOPP film for decorative labels and packaging applications. New products included non-sealable matte PET film and easy release polyester overlaminate.

Arconvert showed a new range of self-adhesive papers featuring X-Dry waterproof technology and High Opacity technology H+O, along with its new permanent acrylic adhesive SH9020 which ensures the increased performance of the label while maintaining the premium brand appeal. The company was celebrating 75 years



of the Manter brand and released two catalogs: Avec Plaisir! and Innovation & Inspiration.

Hueck Folien launched a metallized silver LDPE-based film, Sikskin, for conformable applications such as cosmetics tubes. Hiperprime is a new primer for durable label facestocks designed for technical applications in the automotive, aerospace and electronics industries as well as for use in laboratories.

Kurz unveiled the new KPW XU cold foil for narrow web printing. The new development aims to provide converters with a cold foil that combines good processing characteristics and overprintability as well as excellent finishing results. KPW XU is characterized as a versatile grade that offers a high covering power and edge definition, high-gloss finish, and good adhesion when applied.

Ritrama showed its new 'Wine, Spirits, Craft Beer' collection, a selection of fine papers, transparent or aesthetically exclusive materials that, combined with high-performance adhesives, meet labeling requirements for the wine, spirits and craft beer markets.

Univacco presented the UPR series of holographic narrow web cold foils, giving metal engraving, metal brush and optical lens effects to labels. The company claims superior foil adhesion and rub-resistance combined with over-printability, and it works well for shrink sleeve applications.

Zanders Paper showed its wide range of label papers as well as papers and boards for packaging applications. This included cast-coated premium brand Chromolux and the label paper Zanlabel, available in gloss, high gloss and touch (natural look and feel).

Security

Brands continue to invest in anti-counterfeiting features. Several suppliers showed new innovative substrates to further strengthen brand protection.

Avery Dennison created an interactive environment in which visitors experienced the speed and efficiency of inventory accuracy with RFID and felt the ease of autonomous checkout while getting a first-hand, interactive view into the shopping environment of the future. Featured products included RFID for metals and liquids, Wavesafe RFID tag, and ConnectIC FlexICs by PragmatIC.

Lintec showcased custom message tape and labels featuring tamper-indicating properties that instantly reveal a non-reversible



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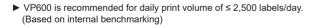
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Substrates and adhesives: news in brief

Ahlstrom-Munksjö showed its range of Acti-V super calandered papers, and Silco clay-coated

Aluminium Féron introduced a new laser printable polyester film, Montex.

Armor focused on AXRTX, a new grade of thermal transfer ribbon dedicated to the printing of textile labels.

Ashland's new Solverster portfolio of laminating adhesives features an improved bond performance, ingredient resistance, low migration performance and cure times of three days or less at ambient conditions.

Dow Corning introduced new Syl-Off silicone release coatings and Invisu acrylic adhesives designed for paper and film label applications.

Eukalin launched a UV-acrylic hotmelt adhesive, UV 1237, which offers excellent adhesion to filmic surfaces such as PP or HDPE. Eukalin UV 2212 is marketed for pharmaceutical or tamper-evident labels.

Globus International launched low-density polyethylene (LDPE) and high-density polyethylene (HDPE) films.

Gulf Pack showed metallized white voided film for in-mold labeling, and white voided OPP injection molding film with one side gloss and one side matt finish.

H.B. Fuller introduced Fulltak SE 8116 as its most recent water-based, acrylic adhesive for no-label look applications.

Henkel focused on Technomelt PS adhesives for cold and wet surface labeling, filmic labels for milk bottles, direct food contact, fatty food labels as well as wine and beverages.

Herma showed the InNo-Liner linerless labelling system and a new removable, UV acrylic-based adhesive called Herma 42X.

K Laser launched cold foil labels with stereo relief effect. The company had on display lamination films with various effects including Fresnel lens.

Koehler showed Blue4est thermal paper. The company is developing a full range of products for the thermal label market.

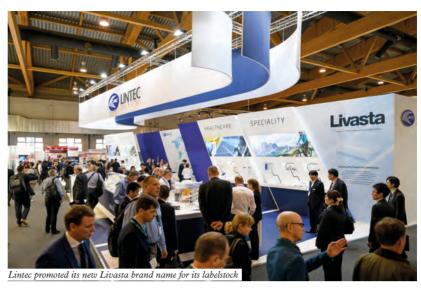
Max Speciality Films showed materials for printing wraparound labels, pressure-sensitive labels and in-mold film labels.

Mondi showed liner for thermal linerless pressure-sensitive labels.

Polyonics featured ESD Plus labels that are chemically engineered with a highly-durable top surface and the dual protection of a low-charging label peel and a static dissipative face.

SMI Coated Products focused on promoting its filmic label materials.

Todaytec showed TDR325 resin ribbon utilized for substrate multi-compatibility, superior stain, corrosion resistance and high temperature resistance.



customizable message if label is removed from the package. On display was Securafol, a non-PVC destructible labelstock designed to counter product tampering. Addressing security concerns by brands, the company presented tamper-evident non-transfer void security labelstock in blue, red and transparent. When removed, the labelstock's tamper-indicating properties instantly reveal a non-reversible message within the label substrate. Unlike conventional 'Void' materials, the film does not leave any residue on the application surface.

Nanobrick manufactures the MTX magnetically color-changeable photonic crystal materials for anti-counterfeiting applications. It presented M-Tag for hot foil stamping on labels and M-Pac for packages. The materials, when in contact with a magnet, change color indicating if a product is genuine or not. Nanobrick also provides a mobile service authentication system, M-Check, for online authentication by customers via QR code, barcode or NFC.

PPG showcased PPG Teslin synthetic material for adhesive coaters, label converters and packaging specialists. It is suited for applications that require printed data to remain on labels, such as brand protection, tamper-evident security, pharmaceutical and in-mold applications.

Yupo showed facestock for durable labels as well as for tamper-evident labels. The multi-layer structure of Yupo paper allows various possibilities for labels with security functions.

Digitization

With increasing number of inkjet and dry toner digital technologies being used by converters, materials suppliers have a plethora of options to choose from.

Avery Dennison demonstrated M use

online platform that offers label design inspiration, industry insights and future trends. On display was its digital inkjet portfolio to supply OEM-certified labeling material to support major technologies; and One-Roll Unique Service (ORUS) program for European customers enabling them to order a single, 1000m long, first roll of any 1m product combined with any Avery Dennison adhesive technology.

Dunmore unveiled its new line of Dun-Jet UV inkjet-compatible materials, providing enhanced adhesion and print quality on a range of materials including polyester and BOPP films.

Durico showed labelstock inkjet media for full color printing. The company focused on white matt film, DR-115, targeted for durable labels.

Dynic (UK) launched inkjet compatible textile care label material, IJC51, suitable for use with the latest pigmented color inkjet printer systems. The new range offers the ability to produce high resolution, full color textile care labels with wash test and dry-cleaning resistance. This product is being targeted for desktop printers to run short run jobs with variable data printing.

Emax Label Solutions presented a range of inkjet-compatible materials suitable for both dye and pigment inks. As well as paper and films, the range includes wash-resistant textile labels.

Folex launched PE face films that use inkjet nano glossy coating. Introducing a portfolio of synthetic films for the label industry, the company showcased range of glossy PP films with new thinner base options, as well as portfolio of inkjet films coated for HP Indigo.

Italstick showed a range of digital printable materials including PP and PE films, papers and boards. The company also showed wine label materials



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- Compatible with diverse print technologies
- Recent installation of a new highly automated 2.2 m coating line capable of coating both the sides in a single pass
- Proximity to European customers with an established warehouse in Germany

including felt-marked, embossed papers combined with adhesives for humid and cold surfaces with good ice bucket performance, and wash-off adhesives for reusable glass bottles.

MDV and Tech Folien demonstrated materials optimized for water-based inkjet and dry toner-based printing. XTP, a group development, is an example of a conformable durable polyolefin which is toner (Robuskin) and inkjet (Aquaskin) printable. Fluolux and Ultrasilver papers showcase beautiful images digitally printed with white toner using Color-Logic software. Synthetic materials for Indigo technologies were available. Fully recyclable film Satinex HLS2, claimed to have superior print registration, low stretch and high tear resistance, is ideal for wine labels for production on high-speed multi-color narrow web presses.

Megasource launched a PET-based material, with a proprietary coating on both sides, designed for laser printing machines from Konica Minolta, Fuji Xerox and Canon, among others. The company says the material has been tested and approved by Konica Minolta Thailand.

Michelman showcased its newest inkjet technology, including the new JetPrime WB100, a technology for pigmented water-based inkjet printing applications. It has been developed for coated offset substrates and is useful for high-speed printing applications such as folding cartons and corrugated.

Mitsubishi HiTec Paper launched jetscript Metal VPG 1018, a fiber-based metallic silver paper with glossy finish and a transparent, microporous inkjet coating for high printing performance.

Sihl presented Artysio for packaging using inkjet printing. The company also showed a new development in films for water-based inkjet printing as part of its facestock range. Some Sihl facestock contribute to a reduction in environmental impact with weight savings of 20 percent to 42 percent compared to equivalent inkjet films. These also include new white and transparent glossy films for dry toner printing.

S-One Labels & Packaging showcased its materials for digital label converters and introduced its sustainable packaging materials, including recyclable ReTreve and compostable ReEarth product lines. Other products on display included flexible packaging pre-laminate films, overlaminate films and overprint varnishes for digital printing. The company also announced new partnership with Cellcoat Systems to bring the T14 Thermal Laminator to digital label and flexible packaging printing and converting.

Soontomax offered clear-on-clear label products and a range of PP and PE digitally printable materials.

VPF introduced PE, PP and paper materials qualified for inkjet and laser printing, including newly qualified materials for water-based inkjet printing systems.

Diversification

As Labelexpo Europe diversifies, there are ever-more opportunities for label converters to move into new areas. Responding to converters' needs to print profitably on wide range of substrates, material suppliers presented several new products during the show.

Avery Dennison launched its new Surfas adhesive technology, designed to create a stronger hold on rough finishes such as corrugated boxes. It has its main applications in e-commerce and logistics labeling, reducing the risk of curled or failed logistics labels. The company also featured its automotive portfolio, cold chain adhesive, and luminescent topcoat. The cold chain adhesive can be applied at temperatures as low as -50 deg Celsius - an industry first - and holds fast down to -196 deg Celsius.

Pulse Roll Label Products launched its new PureFinish cold foil adhesive. Formulated for UV flexo printing, and tinted blue to make registration easier, the adhesive complies with the latest EuPIA guidelines and industry standards and is also available for non-direct food packaging applications.



Cosmo Films showcased tear-resistant synthetic paper, polypropylene films for repositionable and removable label applications, matte coated pressure-sensitive labelstock films, transparent in-mold label film, high-speed WAL film that can run at 55,000 bottles per hour, and pearlized metalized WAL film.

DNP showed its new V300 resin ribbon, which prints on substrates ranging from paper and polypropylene to PET. It images equally well on all types of laminates, varnishes and top-coats. This product, marketed for desktop printer models with smaller footprints, is capable of producing crisp, dark images at both low and high print speeds. Also on display was M255, DNP's new wax/resin ribbon to minimize print production change-overs, and M295HD, high speed printing wax/resin ribbon for flexible packaging.

Evonik showed its new Plexiglas films, based on polymethyl methacrylate (PMMA). PMMA is a transparent, colorless polymer with a high degree of weather resistance, and compatible with a wide variety of additives and pigments. Evonik's Nutrition & Care division showed new products in the Tego RC Silicones range. Tego RC 1904 is a single-component product designed for high-speed peel applications.

Jindal Films introduced two-side coated, super white opaque polypropylene label facestock Label-Lyte LH344 to produce durable labels for harsh environment and demanding applications. This film is suitable for rough surfaces, such as textile and tires, requiring hot melt adhesive performance.

Lintec displayed an extreme high temperature labelstock that can withstand temperatures of up to 1,250 deg Celsius, as well as harsh environment and chemical exposure. The company also demonstrated FX range of labelstock enabling 100 percent contact to textured, irregular and compound curved surfaces. Further, Lintec showed new multi-layered label material, designed for automotive and industrial applications. The company was promoting its new Livasta brand name for its materials.

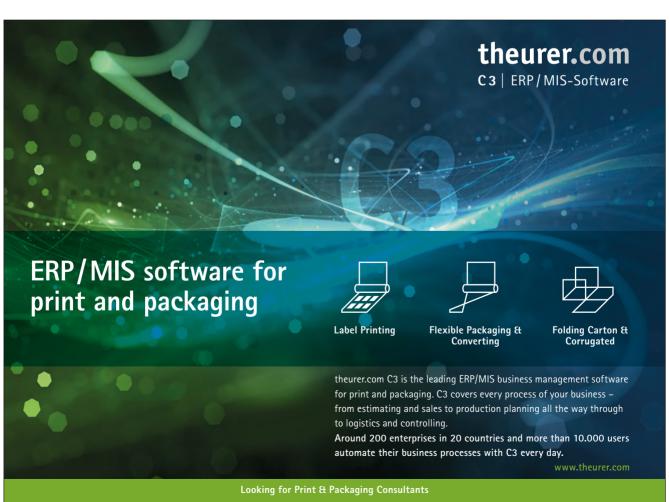
Lintec Europe partnered with Screen Europe to address the issue of ink and adhesive migration in food and pharmaceutical industry. Lintec showcased its ultra-low migration labelstock compatible with low migration inks used by Screen Truepress Jet 350UV+LM label press.

Taghleef Industries showcased its D590 in-mold label film, sensitive to UV light. It automatically detects common defects that impact the quality of injection molded containers with IML. The company also presented high PSA bonding film for repositionable labels and removable labels.

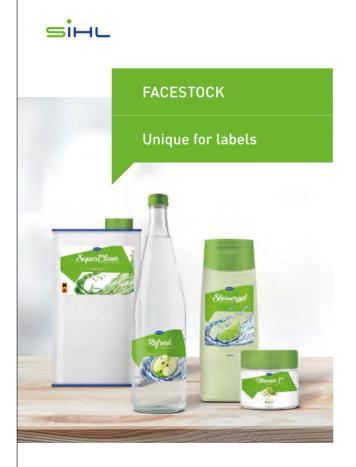


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Ink and curing innovations

Food packaging compliant inks, LED curable inks and innovations in curing technology were evident trends that emerged at Labelexpo Europe 2019, writes Chelsea McDougall

Domino launched UV95, its new 7-color food packaging compliant UV digital ink set available for use within its N610i digital label press. UV95 is for use within non-direct food contact applications and has been formulated for many non-direct food packaging applications and, under the right conditions, is migration compliant.

Flint Group introduced Dual-Cure capability to its UV LED ink and food packaging compliant portfolios. The Dual-Cure technology means that converters who have presses with both mercury and LED lamps need only one ink series for both kinds of cure.

GSB Wahl released a low migration UV series 172 MA waterless offset ink, which meets guidelines of Swiss Commodities Ordinance and the Nestlé list for waterless UV offset printing. A low-migration UV flexo white was also developed for the overall system.

INX offered INXhrc, a flexo ink formulated to increase ink mileage with less resources and waste. They contain fewer chemicals compared to traditional inks, thereby reducing regulatory risk. The company also offered a range of products for conventional and digital printing, including inks for UV LED curing, EB inks for the Fujifilm Dimatix Samba print head and Uteco's Gaia printer, as well as water-based inks.

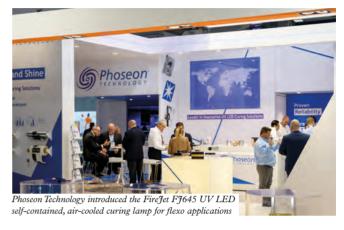
Pulse Roll Label Products offered a new version of its PureTone UV flexo printing inks that were reformulated to comply with the latest EuPIA guidelines. The reformulated PureTone process inks and mono-pigmented mixing bases enable cleaner, brighter colors. Pulse also featured new PureBright Silver and Gold UV flexo metallics inks, a revamped range of PureWhite opaque white inks and new PureFinish UV flexo cold foil adhesive and UV flexo primers.

Siegwerk exhibited the new Sicura LithoNutriEco and Sicura Low Nrgy. The company also showed water- and solvent-based inks that are compostable, and the Sicura Litho NutriEco ink series, claimed to be the first low migration UV ink range for cosmetics and food applications. These inks are safe for recycling processes.

Sun Chemical introduced new ink for food compliant UV flexo products within its SolarVerse system, called SolarFlex Zero. It achieves low odor and migration characteristics in food compliant label and packaging applications. It also showcased its latest range of UV LED curing SolarWave flexo and SunWave offset inks. The fully EuPIA compliant SunWave Lumina offset inks are suitable for use on all sheet-fed UV LED press types, including those equipped with low energy mercury lamps.

The company launched its SolarVerse range of highly pigmented,





low viscosity, multipurpose UV flexo base concentrates.

Zeller+Gmelin presented its new Uvaflex Y80 ink series for UV flexo printing. Due to optimized flow behavior the inks spread evenly in both chambered and open systems and show no ink spitting even at high speeds, including at above 100m/min.

Curing systems

GEW launched its next generation LED system. The new LeoLED cassette is fully compatible with GEW's ArcLED hybrid system. It delivers electrical power at 88W/cm and an intensity of 25W/ cm2, with minimal light loss due to the direct UV path. The new lamphead with water-cooling system allows the use of a conventional UV arc lamp or LED array on the same print unit. Both arc and LED cassettes are compatible with the same power supply and fit in the same housing.

Integration Technology offered its Pincure Z semiconductor technology, an air-cooled UV LED pinning system. This is designed for high-speed pinning between printheads. Additionally, the company showed the air-cooled UV LED Z Series, which offers 6W/sqm MZ and is designed for inter-color curing or high-speed pinning and the C Series water-cooled UV LEDs.

IST Metz unveiled its modular and compact LED system that can be adapted to offset and flexo printing and retrofitted to existing presses. The company supplies the LEDcure SCR as a package including cables, power supply, control and chiller, full light shielding, and interlocking installed by IST technicians.

Phoseon Technology introduced the FireJet FJ645 UV LED selfcontained, air-cooled curing lamp for flexo applications. The FJ645 provides longer UV exposure time and greater dose, improving through-cure and adhesion of difficult to cure materials, especially over-print varnishes and dense blacks.

ProPhotonix displayed its UV LED curing systems including the new Cobra Cure Mini. It is a compact UV LED curing lamp for high-speed single and multi-pass printers where installation space is restricted and weight is a concern.

Uver showed a cartridge-based UV LED module which can swap out lamps for different wavelength combinations without removing the cooling hose.



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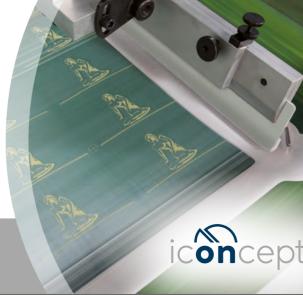
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Tooling advances improve press productivity

Die and tooling manufacturers showed technology to further improve press productivity. Aakriti Agarwal reports



pplied Laser Engraving introduced nano-second 500-watt harmony laser engraving machine. This technology allows the end user to laser engrave metals, ceramics and polymerics all on a single laser engraving machine. This gives access to a variety of applications including security, optical film, gravure, embossing, anilox, flexo, letterpress and applicator rolls, all engraved on a single

Indian manufacturer Diehard Dies showcased its print cylinders and sold

Harper Corporation of America showed numerous engravings available for anilox rolls alongside its QD Proofer, an ink proofing and flatbed ink proofing system which uses flexo and gravure processes. It can be configured at four different speed units. The maximum travel speed is 150ft/ min and the travel distance can be adjusted anywhere from 12 to 33 inches in one-inch increments. It is available in either a 2.75in or 5in proofer width.

Kocher + Beck showed its latest GapMaster design, which allows for both front and back cutting and is now available in a magnetic cylinder version for semi-rotary presses. Also shown at the show was the UR Precision non-stop winding technology, demonstrated in a fully equipped non-stop off-line cutting configuration. The company's TecScreen division showed its new screen printing mesh, as well as a compact cleaning unit. Also on show was the new generation of Kocher + Beck's Gluex Coating which gives an improved non-stick result with less adhesive residue on the cutting edges.

Rotometal showcased its portfolio of magnetic cylinders, printing cylinders,



sheeters and cutting units.

RotoMetrics showed EZ Clean idler roll and EZ Clean stripping roll at Labelexpo alongside the newly launched Versa-Cut adjustable anvil. On display was the company's RotoRepel technology, a non-stick coating available on its solid and flexible dies

Idler roll features a patent-pending design that improves web tracking, minimizes ink transfer and therefore reduces cleaning time. Lifted labels and adhesives do not stick to the roll. Another feature of idler roll, that enables presses to run longer and faster, is that breakdown of waste matrix does not stop the press: it continues to run as if nothing happened. A stripping roll minimizes label blocking and lifting, thus reducing the waste and minimizing damage

RotoMetrics's Keith Laakko said: 'Converters see significant improvement in productivity using our idler rolls. Using it in combination with stripping rolls and RotoRepel can make their presses run

RotoMetrics also showed a light-weight magnetic cylinder that Laakko easily lifted with one hand to demonstrate the claim. He says these cylinders reduce inertia by 30 percent on a press which results in less pressure on motors.

Also new, Versa-Cut adjustable anvil adheres to thickness inconsistencies in materials. It allows precise control of cutting depth for optimal liner strike and is stable enough to convert films. These are being manufactured and shipped worldwide from RotoMetrics' plant in Missouri, with manufacturing due to begin soon in Brazil, Europe and Australia.

Spilker presented S-Con Starline CLS

500 converting machine for production of core linerless labels. The capabilities of the machine were demonstrated with the support of Ritrama and Omet. It is designed for cutting and inspecting printed materials at high speed. Two vacuum pull stations ensure optimum web tension during the process and enable the cutting of open adhesive and the processing of CLS material. Also on display were the latest versions of the MicroGap adjustable anvil cylinder, allowing fine adjustment in steps of 0.5 micron. The automated version with electronic actuator offers maximum ease of use and minimizes the risk of damage to the cutting tool.

UEI Group demonstrated the NW SpeedChase NXT system that claims to change the way engraved hot stamping and embossing flat dies and counter forces are set-up on a flatbed narrow web press. According to the company, narrow web press operators now experience easier lock-up, quicker changeover, lower overall costs, increased speeds, and improved overall efficiency with the new system.

Wink highlighted the enhanced line of SmartGap adjustable anvils that allow cutting depth to be adapted to different liner thicknesses. The SmartGap Advance has been developed as the basic version of the system and can be upgraded to the digital SmartGap Touch. Also launched at this year's show was SmartGap AutoControl, where a sensor bar continuously monitors the die-cutting result and automatically adjusts the die-cutting depth, if necessary.



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Cutting-edge converting

Advances in digital converting, laser die-cutting and production efficiencies were in evidence among finishing systems launched at Labelexpo Europe 2019. Chelsea McDougall reports

inishing and converting equipment manufacturers at Labelexpo Europe 2019 were responding to industry trends, such as a growing need for converting digitally produced labels, a push for production efficiencies, the desire for premium value-added label effects, and new innovations in digital decoration.

Digital decoration

AB Graphic showed its Digicon Series 3 with the **Jetfx** digital embellishment module, an off-line, fully digital system that allows varnish and foil effects, variable spot tactile, mircotext and cast and cure capabilities. The Labelexpo module featured two Jetfx inkjet bars and an overlamination module. Two of the AB Graphic/JetFX digital embellishment models have been beta-tested in the US, and further models will be sent to Thailand and another in North America.

Kurz launched its DM-Jetliner unit that ran in-line with an HP Indigo 6900 digital press for what Kurz called 'digital metallization' of labels. With the DM-Jetliner, narrow web labels are produced with metallization applied before print and then overprinted by the press, achieving a colorful and high brilliance effect and enabling combinations of metallization.

Digital converting

Production efficiencies were largely driven by a growth in digitally produced labels. Often short runs, and multiple SKUs, converting these jobs often mean fast changeovers for shorter and faster

Bar Graphic Machinery launched its new digital converting line with the latest Digiflex model, a modular digital converting line equipped with re-register flexo print station, lamination, semi-rotary die-cutting and rapid slit module that automatically sets the blades. Also new, Rapidslit is a fully automatic digital knife box that automates the setting of the slitting blades through the HMI touch screen. BGM also showed several new models, including a semi-automatic turret die-cutting machine and 100 percent inspection slitter rewinder, and new systems from its Eco range.

Daco Solutions' new Daco DF250SRD is a compact, modular, semi-rotary die-cutter that allows finishing labels from smaller digital presses. Further, the Daco PLD350



AB Graphic showed its Digicon Series 3 with the Jetfx digital embellishment module

rotary die-cutter with a semi-automatic turret rewinder is said to offer all the benefits of turret rewinding but with rapid make-ready times.

Flexor presented its new xCut Pro II semi-rotary digital finisher. The machine comes with integrated flexo unit and cold foil with a short web path. Flexor also showed a new semi-automatic turret rewinder for faster and more economical role changes in short runs, and the new iSlit automatic knife setting system.

Grafotronic showed four new fully modular digital finishing machines including hot stamping, embossing and flatbed screen. Other new modules were the LasX laser die-cutting system, a multilayer label module and a high-speed non-stop line with 'Gigafast' semi-rotary die-cutting at 160m/min. Grafotronic introduced three new inspection slitter rewinders: the HI3 for 100 percent inspection and high speed slitting is the third generation of the HI; the SR3, a new vertical slitter rewinder for a lower budget but fully servo driven; and the Pharma2 200 percent re-inspection machine for pharma and security labels. The company also partnered with Pantec for hot stamping and embossing on the Grafotronic units.

Labeltech presented its latest generation of slitter rewinder Ortles in two versions: a standard rewinder with E+L Smartscan inspection system and an advanced version with automatic knife positioning Lavaredo and semi-automatic turret rewinder Vajolet. Its new Stelvio330 digital converting machine also was showcased for sleeve

flexo varnish, cold foil, full- and semi-rotary die-cutting and UV LED curing.

Lemorau displayed a total of eight machines, including its most recent developments: the MEBR+ modular digital finishing machine; the Digi LC entry-level digital printing, coating and finishing machine; the ICR3 inspection and finishing machine; the EBRM+ rotary and semi-rotary table-top finishing machine; a CRM table-top slitter rewinder; an automatic and manual core cutter CTA and CT, and two ER400 roll lifters in standard and 2000mm sizes. The MEBR+ modular digital finishing machine is fully modular and runs in full rotary and semi-rotary mode.

MGI and Konica Minolta exhibited five pieces of equipment, including MGI's Jetvarnish 3D Web Color+ in-line roll-to-roll digital printing and embellishing press for flat and raised UV varnish and hot foil. The company demonstrated its integration options and the flexibility for short and medium production runs, as well as long runs of labels and flexible packaging on a wide range of substrates.

Prati partnered with HP Indigo to build a machine dedicated to finishing mid-web digital label and packaging jobs. The company launched its Digifast20000 converting line designed to process jobs in semi-rotary mode off the HP Indigo 20000 digital press. Prati also launched the new Saturn Digi, designed to provide a flexible system for digitally printed labels and films.

Rhyguan offered its digital converting line, Top-330-Plus-2, which combines

semi-rotary flexo, semi-rotary die-cutting and inspection into one machine that is marketed for both short and medium run digital jobs. The machine is capable of cold foiling of lamination and can run up to 60m/min in semi-rotary mode or 90m/min in full-rotary mode.

Laser die-cutting

Laser die-cutting took center stage at many machine manufacturers' booths.

AB Graphic showed its latest Digilase laser die-cutter that has a reduced web path, and the decrease in necessary lead in/out material resulting in an 85 percent reduction in waste. The minimum job length is 50 percent shorter, and the software was updated so file downloading takes just milliseconds, allowing a number of jobs to be processed on the machine at the same time.

Anytron's new laser finisher, the any-Cut II, was on display for the first time. The system showed the integration of digital printing with Bitek's latest in-line technology, any-Link. The any-Link enables a benchtop label printer to be connected with the any-Cut II for in-line label production. Both any-Link and any-Cut II debuted at Labelexpo.

Cartes exhibited the GT360 Series and



Cartes exhibited the GT360 Series and Gemini in different versions, including its laser converting system

Gemini in different versions, including its laser converting system. The GT360 and Gemini series are capable of converting and finishing high-quality embellished labels. Cartes offers fully-modular production finishing and embellishment lines, designed for silkscreen flat and high raised printing, hot stamping and metallic doming, embossing and debossing outlining, semi-rotary flexo full and spot varnishing, flatbed and semi-rotary die-cutting as well as laser converting processes.

Grafotronic's new laser die-cutting system in partnership with LasX, had at least one sale from the floor to US label converter Alros Label. The LasX laser die-cutter integrates into Grafotronic's fully modular digital converting line.

SEI Laser exhibited its latest enhanced version of the Labelmaster. The third generation digital converting system was shown in two models with web widths of 350mm and 600mm. The Labelmaster is a modular system for roll-to-roll and roll-to-sheet digital die-cutting and finishing with four laser heads that reach a speed of up to 100m/min. The machine features a QR-code/barcode reading





system, which allows users to change work on the fly.

Faster speeds

One of the key talking points on the show floor was equipment designed to increase production speeds.

Grafisk Maskinfabrik (GM) showed finishing systems featuring advances in automation and high-value applications including multi-layer and hot foil/screen embellished labels.

The 2019 models feature quicker set-up time with plate loading for the die-cutting station, better ergonomic design for machine operation and online support.

GM's DC350 line includes a new series of smart modules: smart turret (auto slit), smart die loading and a new smart stripping module. Also on display was the DC330Mini compact finishing system, DC330Miniflex V4 with GM Automatic Slitting Station, DC330 Modular finishing line shown in-line with inkjet label press, GM Online Production Dashboard, with advanced IoT connectivity, ETV330 roll to sheet guillotine cutter, and PNT160 semi-automatic core cutter.

KTI offered the latest version of its MTR series turret rewinder with increased production speeds, print and apply

functionality along other new features. The new MTR series has been developed especially for running pressure-sensitive paper labelstock.

The machine showed the new automatic core loaders that eliminating the need for an operator, allowing cycle times and shorter rolls to be run at higher line speeds.

Lemu Group showcased its GTU Glueless turret rewind systems and inspection slitter rewind system that is complemented with its fully automated roll label packaging system designed for high-speed use. These systems allow converters to print, die-cut, turret rewind and immediate sleeve and package finished rolls of labels in one pass. Martin Automatic introduced Airnertia rollers to the narrow web market. Originally developed for transporting wide web, low basis weight materials, Airnertia rollers use an ultra-thin carbon fiber shell riding on a cushion of air. The low-inertia roller technology is marketed for low tension and high-speed processes and has found application in narrow web converting, specifically in intermittent motion processes that require the web to stop and start quickly.

Polar offered die-cutting products including its LabelSystem SC-25 for the industrial production of square-cut labels, and the LabelSystem DC-11 for inline production. Polar LabelSystems can process a broad variety of products, for instance, such as business cards, can labels and more.

Following its rebranding from Werosys to Refine, the manufacturer premiered its software-based converting technologies, including two converting machines from the Compact product line: Compact 1, for finishing digital and conventional printed labels, and Compact 2, with a fully automated flexo station, cold foil and lamination capabilities. Both feature high-speed converting with up to 80m/ min in semi-rotary mode, with low power consumption on the Compact 1.

Starfoil demonstrated its Value Line 1300SXL spooling/slitting machine with a higher speed of 250m/min and larger diameter rolls of up to 350mm. The machine can unwind from 1in, 3in and 6in to master rolls on 1in and 3in cores by means of shear slitting or razor slitting with a maximum unwind roll diameter of 700 mm. As agent for Newfoil Machines, Starfoil also demonstrated a high-speed hot foil stamping Newfoil 2500 Servo machine for labels.

Premium embellishments

The oft-discussed 'moment of truth' for



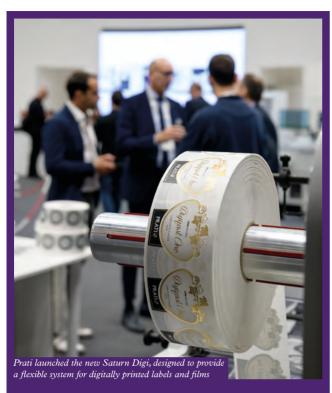
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Converting news in brief

Delta ModTech featured a Crusader Converter with Mod-Track Vision Inspection System at the show, allowing set-up and real-time results to be viewed and adjusted on the machine's touchscreen operator interface.

ETI demonstrated its Pellicut die-cutting module. Pellicut allows converters to die-cut on an 18 micron PET liner or 30gsm paper at speeds up to 225m/min without marking the liner. The module uses conventional magnetic cylinders, with fast die and anvil changes. The module can be integrated in-line with the Cohesio, retrofitted on an existing press or offered as stand-alone die-cutting equipment.

Kor Engineering unveiled its latest finishing machine developments with its six-axis servo driven L Series machine. This 660mm (26in) width inspection slitter rewinder was set up to run shrink films and flexible packaging at over 600m/min.

Prati launched its Saturn Bidi, which was developed for the pharmaceutical market and security industry, offering fail-safe camera checks, back numbering and a buffer for process acceleration. Also on show was a Jupiter 670, designed for the beverage market and featuring automatic rewinding for flexible packaging with capability of reaching speeds up to 400m/min.

Ravenwood Packaging showcased the Nobac Stacker, a label stacking machine cuts and stacks linerless labels at a rate of 100 per minute to a height of 140mm, dependent on label gsm, in one operation. Additionally, Ravenwood Packaging showed its flagship applicator, the Nobac 500, and Com500 coater for

RotoControl launched three new Ecoline finishing machines. The Ecoline brand features the RSI-340and RSH-340 (horizontal alignment) designed for inspection and slitting of printed labels; and the RDF-340, a digital label converting system that is customizable to meet design requirements.

Schobertechnologies showed a rotary die-cutting system, RSM550-Digi-Varicut, with vector technology to cut digitally printed materials for the manufacturing of in-mold labels and folding boxes. This system is equipped with a hybrid drive technology for format-independent processing of digitally printed films and packaging materials.

brands was evident at converting manufacturers' booths showing developments for added-value and high-end embellishment.

The Digicon Series 3 from AB Graphic was showcased a new fast flatbed screen printing module, Big Foot 50 ton flatbed hot foil unit, and the 25 ton flatbed hot foil unit with a new swivel head that allowed the foil to be fed both along and across the web.

Brotech exhibited its new SDF Plus Smart modular label converting system that can be used for labels as well as small folding cartons. The system also offers a 90-degree pivoting hot stamping unit for high-end embellishment. It can incorporate flatbed hot stamping, screen printing, flatbed die-cutting, semi- and full-rotary flexo and semi- and full-rotary die-cutting. It can also be outfitted for IML, ECL booklet and RFID converting. Brotech sold two DL330 machines to India-based Sonic Labels.

Pantec showed its decoration and hot foil embellishment machine. The rotary system, Swift, showed how body care products could be embellished with lenses, holograms and metallic hot foils. In addition, the production of high-quality spirits and wine labels was shown on its new flatbed system Rhino E, which is optimized for less complex labels and the refining of digitally printed labels.

Rhyguan debuted three new models including the Plus-330, a fully modular flexible digital finishing line including flatbed silkscreen printing, flatbed hot stamping and semi-rotary die-cutting module. The machine is configured specifically to meet the needs of wine label converters.

SPGPrints showed its new integrated RSI III rotary screen printing unit, a fast, cost-effective way of applying functional and tactile effects in one pass. The unit ran at speeds of up to 150m/min and offers several safety and ergonomic features for increased productivity and time saving. The unit also features a new long-life web-cleaning scraper that automatically removes ink splashes from the web after stoppages or operation in slow rotation mode. This enables drying of the substrate while minimizing contamination of the rollers.

RFID converting

GIC showed a new version of the Dyxee Cut 350 L finishing and embellishment system fitted with a flexo module, cold stamping and die-cutting. Also new was the Taginnov Speed Etiq module for integrating RFID inlays into pre-die-cut labels.

Melzer launched its latest high-speed and multiple track converting system. The SC-X converting machine features dual rotary and semi-rotary modes, a 330mm web width, easily upgradable multiple track (up to six), speed of up to 60m/min, and a transponder selection in semi-rotary mode. It is suitable for luggage tags, labels, tickets and garments tags.

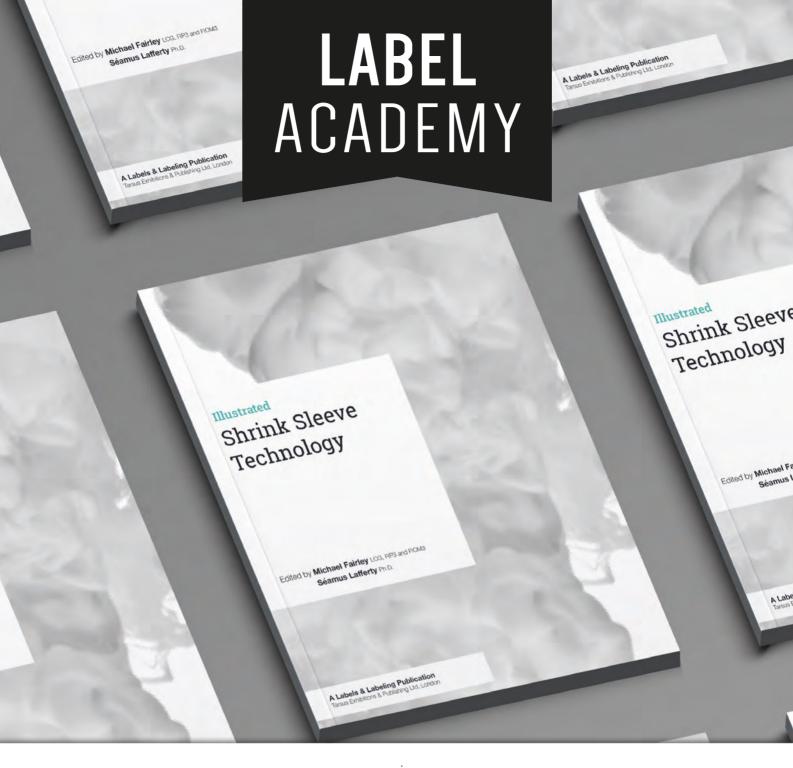
Mühlbauer exhibited equipment for low-, medium- and high-volume personalization and converting of RFID tags. Its new RFID converting line CL 30000 is marketed for the conversion of dry inlays. It includes reel-to-reel antenna web handling, label lamination, die-cutting, and output testing in a modular system.

Smag Graphique showcased offered new technology in four different configurations: IConcept, IConvert, IConvert Lite, and IControl featuring RFID and identification Label Technology with IConnect.C (inserting and converting) and IConnect.E (encoding and controlling).

Voyantic showed Reelsurance Pro, a multifunctional reel-to-reel machine that covers all RAIN RFID and NFC testing and encoding. Reelsurance Pro has a small footprint so the machine can easily fit into a warehouse environment. It also runs on regular power mains and is equipped with tension control and optional ionizers safeguard inlays and labels.



For news of show floor sales at Labelexpo Europe, see final pages of this review section



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Ancillary launches

Ancillary equipment suppliers at Labelexpo Europe showed that automation, productivity and sustainability were clear trends. Piotr Wnuk and Jordan Hart report on some of the technology launched

ce Electrostatic showcased the new AR750 Contact, DM1000 Contactless web cleaners, and 24V static relimination systems. The AR750 now features tool-less replacement of both pre-perforated adhesive and rubber rollers. The new version of 24V antistatic bars can now be mounted both on infeed and outfeed

Albertin launched a Smart Register Plate system. The new steel plate is fitted with all the necessary dies to compose a complex graphics on brass, magnesium or copper. The system has been designed specifically to be compatible with any flatbed or cylinder flatbed press. Positioned directly on the honeycomb through fixing systems, Albertin's new product doesn't require any adjustment to the printing machines, so it is compatible with any plant and it allows faster start-up times.

Alphasonics launched a new proofing roll cleaner, and showed upgraded cleaning systems for anilox rolls, plates and parts.

AMS Spectral UV announced the availability of IoT capability on its X Series and Blade series for narrow and digital web applications. It enables real-time system performance data to be sent continuously from a press's UV LED system to a secure cloud storage system, where imperative parameters can be trended, visualized and documented across the lifetime of the machine.

Böttcher unveiled a plate mounting sleeve for photopolymer and elastomer plates along with new chemical products developed for the cleaning of printing plates and anilox rollers.

Cheshire Anilox Technology demonstrated its ProFlo engraving which, by offering a more controlled ink transfer, eliminates many of the problems related to fixed palette, or ECG printing.

FAG unveiled a new pocket-sized measuring device, FAG Fluo DX, which checks non-visible colors in the UV spectrum. The device is available for different UV illuminations such as 365+280, 365 and 365+254nm. The company also showcased the FAG Flex³ Pro with new software showing more detail for 3D dot analysis.

Flexo Wash launched the FW 993 XL.NXT anilox cleaner, capable of handling up to nine rolls simultaneously. New developments include the FW Recirculation Unit, which re-uses the rinse water from the Flexo Wash anilox cleaners in a closed loop system.

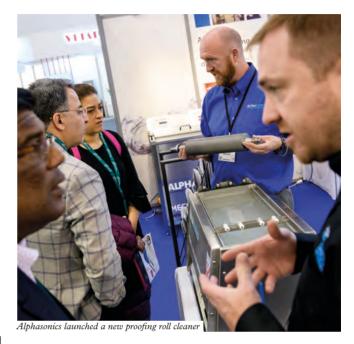
Graymills launched a compact PQT Peristaltic Pump, which can be mounted vertically or horizontally. It features a quick-disconnect removable head which allows head/tube changes to be accomplished in a few seconds without specific tools, a display indicating rotational speed, hose life and reverse timer, a predictive hose failure monitor, and remote control.

GSE introduced Windows 10-based controls for its dispensing systems, enabling machine designs with greater compactness and robustness, improved dispensing accuracy, long-term software upgradeability and machine connectivity.

Harper Corporation of America displayed its QD Proofer, an ink proofing and flatbed ink proofing system which uses flexo and gravure processes. It can be configured at four different speed units. The maximum travel speed is 150ft/min and the travel distance can be adjusted anywhere from 12 to 33 inches in one-inch increments.

IEEC, an Indian manufacturer of corona treaters, partnered with Lombardi, UV Graphic Technologies, Multitec and Monotech Systems at the show. The company was the first to introduce corona treater to the Indian market and is now CE-certified. It claims to have an 80 percent market share in India.

Impact Air Systems showed its new Matrix Master waste



extraction machine, a mobile unit contained in an acoustic enclosure. The company used the precision model 78 series trim cutter, waste fan, material separator and cartridge filter as the heart of the new system.

Laserclean exhibited two new versions from its ALCS laser cleaning machines. The Laserclean Narrow Web machine ALCS 1000 S(F) is a compact, easy-to-use system. Chain wheels and bearings do not need removal and after cleaning the roller can be used immediately. The cleaning cycle averages at five minutes and no consumables, such as granulates, chemicals or water, are needed.

Meech International displayed its new CyClean R web cleaning system, Hyperion IonCharge50-75w and IonCharge30-15w static generators, Hyperion 960IPS mid-range, and Pulsed DC Ionizing bar. An enhanced version of the CyClean, Meech's CyClean R is a new web cleaner designed for usage on low-tension wider webs. Upgrades of Meech's 992V3 30kV and 50kV generators, the Hyperion IonCharge30-15w and IonCharge50-75w are versatile and technologically advanced. IonCharge 30 is compact and simple to install, while IonCharge 50 is Meech's most powerful static generator. These new generators are suitable for use within a range of applications that require temporary bonding of materials.

Nanovis showcased its latest Bella cleaning system promoting sustainable and recyclable technology designed for HP Indigo printers. The new Bella DC-1300 combines handling simplicity with a generous working area. It enables the removal of ink residues using continuous brush and integrated recycling system with clean Imaging-Oil technology.

Paper Converting Machine Company (PCMC) demonstrated its new, fifth generation Meridian laser anilox cleaner, which uses laser-diode technology to deeply clean anilox rolls. It requires no liquids, chemicals or air supplies and an internal air extraction system eliminates messy waste. The Meridian removes most types of inks, adhesives, glazes, varnishes, stiffeners and coatings on aniloxes with or without journals. Additionally, it features an automatic cleaning cycle, flip-up cleaning area access door,

easy-to-use operator interface, large cleaning area opening and enhanced ergonomics. The new version is also fully compatible with and uses SmartLink technology with Industry 4.0 features.

Recyl brought products such as the Clean range, QuickWash range and accessories. It also showed a complete range of machines aiming to help printers to automate their maintenance workflow. Recyl's showed new equipment allowing for neutralizing cleaning residues, but also formulations using chemicals that can be defined as easily biodegradable, according to the OECD 301 criteria. The company was also promoting is Eco-refill concept, which allows shipping of smaller and lighter volumes to reduce carbon emissions.

Rea introduced the Titan Platform which now operates all Rea coding and marking technologies and allows easy integration into packaging lines and OEM machines, enabling fast data exchange with the production environment. Also new, Rea Verifier systems allow for the quality control of data matrix codes and barcodes.

RK PrintCoat Instruments showed a variety of flexo and gravure color communication systems, including the K Hand Coater to the VCML Pilot coater. The VCML Pilot coater is a reel-to-reel machine developed for printing, coating and laminating for product development and quality control QC. Also on display was the FlexiProof 100/UV machine. This unit incorporates the essential features required for quality control and research and development of flexo inks. Identical to a standard flexo press, the machine uses a doctored ceramic anilox and photopolymer plate. With a maximum speed of 100m/min, realistic printability testing can be undertaken on all types of flexo substrates.

Sensory Analytics showed its expanding line of SpecMetrix coating and layer thickness measurement systems. These absolute thickness measurement systems provide continuous coating process improvements, optimize coating utilization and decrease plant waste streams. SpecMetrix systems are available as off-line lab tools or in fixed probe, traversing and OEM configurations for ease of integration onto new or existing plant coating lines.

Tresu and Flexo Concepts collaborated to introduce a program of plastic doctor blades with specially designed clamping systems that enable fast, safe exchange and easy integration with chamber doctor blades. Tresu's XL Blade Holder Series is a range of clamping systems that are specially modified for securing Flexo Concepts' TruPoint plastic doctor blades. These include 'E-Line' eccentric clamping systems, available in thicknesses of up to 1.0mm, and 'P-Line' pneumatic clamps, in thicknesses up to 1.25mm. They facilitate blade changes in as little as one minute. Plastic blades

Finat's flash-talks at Lablexpo Europe

Finat hosted a series of 'flash talks' in collaboration with the Young Professionals Network (YPN), writes Jordan Hart. Presentations focused on sustainable practice, knowledge leadership, women in the industry, regulatory updates, workforce development and retaining young talent.

Mark Macaré of Finat presented on sustainability. Climate change, according to Macaré, is pushing the industry toward fully recyclable packaging, using more sustainable materials and producing more biodegradable or compostable products.

Mikaela Harding, product manager at Pulse Roll Label Products and board member of YPN, hosted a panel on women in the industry. 'We all know this is a problem,' Harding said. 'Hopefully we get to the point where we don't need to talk about this anymore.' Also on the panel were Jo Stephenson from PHD Marketing, Will Parker from Telrol, and Josh Yerecic from Yerecic Label. Topics discussed included why it is important to have gender balance, how to encourage more women to join the industry, and the challenges women in the industry face.

Matthias Vollherbst, CEO of Vollherbst Labels, presented on hiring and retaining young employees. 'Young people aren't thinking of labels,' he said. Companies need to address why their young workers are leaving, said Vollherbst, emphasizing the importance of improving work culture for younger employees.

offer safe handling and long life, and eliminate the risk of anilox scoring. As a result, they are an alternative to conventional steel blades for applications such as applying coatings to digitally and offset printed labels and packaging, as well as situations where safety is paramount, say the companies.

Vetaphone displayed two corona stations for narrow web surface treatment. The VE1A-A (C4) features four ceramic electrodes and is designed for single-sided treatment, while the newly launched VE1A-M (C8) is designed for applications where high corona power is required from a single unit. Fitted with eight ceramic electrodes, the C8 operates at running speeds of 300m/min. Both models are CE and UL approved.



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Show floor sales

Labelexpo shows are well-known for equipment orders being signed on the show floor, and Labelexpo Europe 2019 was no exception. Piotr Wnuk reports

omino sold a 7-color N610i inkjet label press to Label-Pack. The press will be delivered directly to the Belgian-based label converter after the show. The deal represents Label-Pak's first step into inkjet printing.

Erhardt+Leimer sold 15 of its new Elscan OMS3 entry-level inspection system, 25 Smartscan '200 percent' inspection systems, and 10 OMS4 video systems.

Watershed Group signed a license for Flint Group's Vivo Colour Solutions, a web-based system that can feed ink formulations directly to ink dispensing equipment. The system is a database of colors and mixing recipes for any combination of ink type, and is designed to increase the converter's color accuracy and reduce press downtime and substrate waste. Vivo Colour Solutions includes 180,000 ink formulations and pantone references.

Gallus sold four presses into India. Huhtamaki PPL ordered a 10-color Labelmaster 440 at the show, which will be installed at its Parwanoo plant in north India. Designed to run both supported as well as non-supported films, the press runs at 200m/min. Huhtamaki PPL already houses a dozen presses from the press manufacturer.

Manish Desai, director of Mudrika Labels, ordered the company's eighth Gallus press, and a second ECS 340 at Labelexpo. His plant in Mumbai houses five Gallus 280 presses and one Labelmaster.

Delhi-based Kwality Offset, a Heidelberg sheet-fed offset press user, ordered its first Gallus ECS 340. The company houses two 8-color flexo presses, one 6-color offset press, two 5-color offset machines and one 4-color offset unit alongside two digital label printing presses. Delhi-NCR based Nutech Labels also booked a Gallus press.

Grafisk Maskinfabrik (GM) sold a DC350 digital converting line and a SR350 inspection slitter rewinder to UK converter CS Labels. The digital-only converter, which operates five Xeikon presses, is GM's biggest client globally with 13 existing machines before the ones bought at Labelexpo. CS Labels will use the DC350 to laminate and coat flexible packaging produced on its Xeikon presses. GM's DC350 line includes a new series of smart modules: Smart Turret (auto slit), Smart Die loading and a new Smart Stripping module.

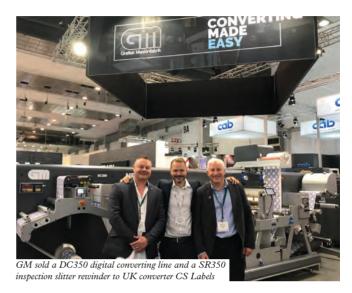
Indian converter Xpress Labels bought a DC330Miniflex finishing system, which features a semi-automatic turret and high production automation.

Grafotronic sold a laser die-cutting system to US converter Alros Label Company after launching the machine at Labelexpo. The converting equipment supplier collaborated with Lasx on the unit. California-based Alros Label specializes in paper, film, foil and vinyl products for the cosmetics, food and beverage and CPG industries.

GSE sold four of its Colorsat Switch ink dispensers, to label converters in Belarus, India and the Netherlands, as well as to a major European ink distributor.

HP Indigo sold 6900 digital press to Spanish converter Aro. The installation will be completed in October and will help the printer to support its growth and identify new business opportunities for its customers – particularly in security applications. The new HP Indigo 6900 will replace a 6600 Aro acquired a few years ago.

Another 6900 digital press including HP's silver ElectroInk was ordered by Dokument-Tarra Oy, a Finland-based label converter. It will be the first in Finland, running with an AB Graphic finishing line. LabelProfi, a Slovenian converter, ordered an HP Indigo 20000















Lundberg Tech sold a central waste management system to Dutch converter Geostick

digital press to develop its new flexible packaging business. This will be the 200th HP Indigo 20000 press installed since its launch.

Indian digital label converter Janus International booked an HP Indigo 6900 to upgrade its existing HP Indigo 4500 press.

Hybrid Software reported 27 sales of its VPD (variable data printing) software systems, which is available as an option for the company's native PDF editors Packz and Stepz.

Star Labels, a subsidiary of Hotpack Packaging Industries, booked an Iwasaki TR2 UV offset semi-rotary, intermittent printing press. Naoki Iwasaki from Iwasaki said: 'We are delighted to have our second press at Star Labels and believe this machine will be a profitable investment for the company.'

JD Press launched its JDF 420/330 flexo press and sold it during the show to Sezam, a Russian label converter. The JDF 420/330 series shaftless flexo press is capable of printing on a wide range of paper and film-based materials.

JM Heaford sold an EES mounter to Bona Labels of Slovakia. The EES is a table-top manual plate mounter, which can perfect register through its digital inspection cameras. Bona Labels is a family run company based in Nové Zámky which has been operating in the printing market since 2005 and specializes in printing self-adhesive labels in rolls.

Konica Minolta announced 11 sales. Among them, Graphic Druck, based near Koblenz, Germany, signed for an AccurioLabel 230, as did MultiPrint. Rotocel, based in Bologna, Italy, invested in an MGI JETvarnish 3D Web. Commercial offset printer Imprimerie Coste & Fils, based in Aubenas in the south of France, invested in an AccurioLabel 230 and a GM DC330Mini finishing system. Setag ordered an MGI Digital Technology JETvarnish 3D Web, the first company in Turkey to invest in the digital roll-to-roll embellishment system. Best Box in Armenia also signed for an MGI JETvarnish 3D Web. There were also two AccurioLabel 230 sales into the UK, one each for Cotswold Labels and Label Tec, and one AccurioLabel 230 for Etiquettes Pierre Foucher in France. An AccurioLabel 230 was also ordered by Maschinenbau Sobkowiak in Germany.

Lombardi sold five Synchroline 430 presses during the first two days of the show. Eric Press from Brescia, Italy, ordered one press; the other four sales were handled by Lombardi's Indian, Middle East and African representative, Vinsak.

The press in Africa was booked by Manipal International Printing Press. This will be the company's fourth Lombardi Synchroline and will be installed at its new plant in Nigeria.

Prakash Printers from Ahmedabad, India, ordered its fourth Lombardi press. The company ordered a machine at Labelexpo India last year.

Dubai-based Aquarius Printing Press ordered an 8-color machine with cold foil and two die-cutting stations. The company will diversify into printing mono cartons from packaging with this investment. Aquarius also opted for a USAR slitter rewinder, flatbed die-cutting machine, roll lifter, core cutter, anilox cleaner and plate mounter from Vinsak.

Al Hadiqa Adhesive, a label converter based in Sharjah, UAE, ordered a Lombardi Synchroline 430 press alongside a plate mounter from Vinsak. The company is looking to diversify into printing in-mold labels and shrink sleeves using the new press.

Lundberg Tech sold a central waste management system to Geostick. The Dutch label converter ordered a comprehensive extraction system to convert waste by capturing trim and self-adhesive matrix, cut waste with special granulators, convey waste by air, collect and compact waste in a press container and



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MacDermid Graphics Solutions sold a Lava NW-M thermal plate processing system to Dutch label converter Telrol. The thermal processor was on display in Brussels. Will Parker, CEO of Telrol, said: 'This allows us to further our ambition and deliver our promise to our customers to have a solvent-free, sustainable environment for the production of rotary, self-adhesive labels.'

Mark Andy reported 20 press sales – 10 each of flexo and digital. Martin Automatic also demonstrating the MBSF ('F' for film) automatic unwind butt splicer and LRD nonstop automatic transfer rewinder. The splicer on display was specially designed for a limitedheadroom production environment. Capable of handling a variety of materials, including labelstock and unsupported lightweight films, both units will be installed on a Gallus Labelmaster LM440 press at All4Labels Group after the show.

Miraclon sold a second Kodak Flexcel NX System to Belgium-based Athena Graphics. Group COO Stefaan Deblauwe, said: 'Flexcel NX plates completely align with our values and deliver consistency and quality time and again.'

Monotech Systems sold three Colornovo presses, one each to China, Europe and Asia. Although the company is a regular participant, it is the first time that it demonstrated the press at the show. The Monotech machine is a full-color UV inkjet press based on Kyocera inkjet printhead technology. Colornovo offers resolution of 600 x 600 DPI with a speed of up to 70m/min along with CMYK +W in various print width configurations. It utilizes a web control system from Grafisk Maskinfabrik.

MPS reported that it sold a record 12 presses during the show. Multitec sold a full-servo S1 press to Russian converter Label Group. The printer bought its first 8-color Multitec press in 2015. The company opted for a 10-color full-servo S1 press two years ago and has now booked a second 450mm wide, 8-color S1 press.

Recyl signed multiple deals for its cleaning machines to printers including Tomex & Wito Labels through its distribution partner Graw in Poland, Esti Lita in Lithuania, and Wilkri in Germany.

Rhyguan sold three finishing systems on the first day of Labelexpo, one to an Italian converter and two to companies in Germany. The company debuted at the show its latest servo technology with fast makeready and changeover times. Plus-330 is a fully modular flexible digital finishing line including flatbed silkscreen printing, flatbed hot stamping and semi-rotary

Screen, among five press sales, sold a Truepress Jet L350UV+ to Etiquetas Adhesivas Rever (Rever), a member of the Docuworld Group and a leading Spanish producer of self-adhesive labels. It is the fourth Screen press to be purchased by Docuworld Group and the first to include Screen's 'Blue Inks'. Screen also sold its first Truepress into Germany during the show, to Papier Schäfer. The installation, which will take place at the end of this year, will help the converter expand its offering in the food label sector.

SPGPrints sold two variLex 8130M CtP imagers with in-line UV to Manipal International Printing Press in Kenya and Dubai-based Reprotronics. The imaging system with in-line UV exposure and comes integrated with software and features a resolution of 5,080 DPI.

UV Graphic Technologies sold seven Ultraflex UFO presses and nine plate mounters. The presses sales include one 370mm, 8-color machine which was displayed at the show and will be shipped to South African converter Spec Systems. The company also sold 11 Ultraflex Universal video plate mounters and two UV LED systems to be retrofitted on flexo presses.

Wanjie confirmed the sale of a second printing press to Coreti, a self-adhesive converter in Spain. Wanjie WJPS-350D/450 is a semi-rotary offset press that features multiple color units followed by flexo varnish and die-cutting units.

Weldon Celloplast, a distributor in India for many label industry







technology suppliers, closed a number of sales to Indian converters, including Luster inspection systems, Lundberg waste management equipment and Brotech label converting lines. Ahmedabad-based Prakash Printers opted for two Luster inspection systems to ensure delivery of defect-free labels, part of a program of recent investment as it looks to increase production capacity at its plant. Sonepat-based Wonderpac has invested in its first **Lundberg** waste management system. The company believes in clean room practices and has been investing to further improve production efficiency. Mumbai-based Sonic Labels ordered two Brotech DL-330 label finishing machines at the show.



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Labelexpo Asia 2019 preview

The biennial Labelexpo Asia 2019, taking place in Shanghai on December 3-6, is set to be bigger than ever. Yolanda Wang previews the event

abelexpo Asia 2019 - the region's largest label and package printing technology event – takes place at the Shanghai New International Expo Centre (SNIEC) on December 3-6. The 9th edition of the biennial show will be bigger than ever before, featuring for the first time a Flexpack area, dedicated to flexible packaging.

The show will cover three halls this year, up from two in 2017, with 13,000sqm (14,000sqft) of exhibitor space.

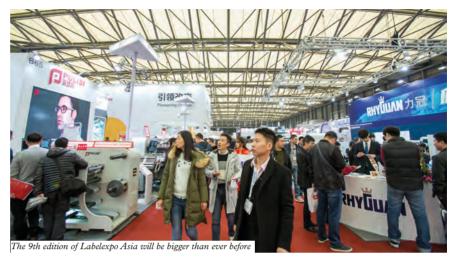
Attracting some of the region's most exciting brands and many of the industry's most prominent international players, there are already 300 exhibitors on board. Chinese exhibitors include Brotech, HanGlobal, Jinda, KingLabel, Rhyguan, SilkStar, Spande, Taiyo, Wanjie, Weigang, Winbosc, Zhongshan Fuzhou, and Zhongte. Overseas exhibitors include Armor, Avery Dennison, Dilli, Domino, Flint Group, Lintec, Konica Minolta, Omet, Ritrama, and UPM Raflatac. First-time exhibitors include Winbosc, Olger, Dongguan Hele, Shenzhen Haozhun, 3G, Shenzhen Tujiate, Xinjinglu, Dongguan Manluolan, Guangzhou J-Sail, Shenzhen UV Leder, and Deguan Machinery.

Together, they will be covering all aspects of label production, displaying the latest presses, materials, finishing equipment and automation technology. The show is again supported by industry partner the Printing and Printing Equipment Industries Association of China (PEIAC).

The new dedicated Flexpack area will showcase the latest technology in flexible packaging. Visitors will get to see in-line presses in action, as well as learn about the latest innovations in inks, coatings and surface treatments such as corona for flexible packaging and laminating films.

The show's Smart Zone, meanwhile, will feature a host of RFID, intelligent and interactive label technology.

Lisa Milburn, managing director of Labelexpo Global Series, said: 'China is the second largest producer of packaging in the world, with flexible packaging one of its biggest growth areas. This is due to changing consumer lifestyles and choices driving a continued industry trend towards shorter runs. It therefore felt right to expand the show by introducing a dedicated Flexpack area at Labelexpo Asia 2019, where Chinese printers and brand owners who may be moving into this area can source the solutions they need.



"China is the world's second largest packaging producer, with flexible packaging its biggest growth area"

'Labelexpo Asia continues to play a vital role in moving the label and package printing industry forward in the region, and we look forward to meeting with visitors and exhibitors at this year's show."

Chinese printers are facing challenges. The country's economic growth has slowed compared to the bullish rates of recent years. Trade disputes with the US are having an impact. Environmental policies are becoming ever stricter. Meanwhile, industry 4.0 trends are emerging, such as the Internet of Things and artificial intelligence. Labelexpo Asia 2019 will provide converters with the opportunity to see demonstrations of technology which will allow them to face these challenges head-on.

Digital and hybrid technology

The penetration of digital technology in the Chinese market is increasing, with some 40 new presses installed annually. At Labelexpo Asia, visitors will see a host of options on display in hall 3 – which houses all the digital presses at the show as well as special Flexpack and Smart Zone feature areas.

Dilli, Domino, Konica Minolta, Winbosc, HanGlobal, Haotian, Runtianzhi, Shanghai Dragon, Terminator Image, Hefei Saga, Amica, Mark Andy, Epson, Liaoning Basch, Shanghai Guanzhong, Lida Inkjet, Zhejiang Leipeng, GCC, Trojanjet, Vorey and Printop are among the companies demonstrating digital technology at the show.

Dilli demonstrates its Neo Picasso UV

inkjet press. It has a printing width of up to 13in, can print CMYK + W, and features web guiding and corona systems. It runs at 50m/min and prints at 1,200 DPI.

Domino will showcase its N610i UV inkjet press. Konica Minolta exhibits its new AccurioLabel 230 digital press. The company is collaborating in the Chinese market with finishing equipment manufacturer Brotech for in-line and off-line converting options.

First-time exhibitor HanGlobal will show its new LabStar 330 UV inkjet press. Haotian's HTS series digital inkjet printer can achieve at a running speed up to 50m/ min with resolution of 600x600 DPI.

Trojanjet will show the T2 digital press, with printing speed of 18.3m/min and web width of 50-250mm. Vorey Color's DLP VP320C label digital press features leading S-LED and DELCIS (Digitally-Enhanced Lighting Control Imaging System) technology and offers images with the resolution up to 1200×2400 DPI.

Meteor Inkjet will make its Labelexpo debut, while Brotech shows digital finishing equipment. Shenzhen Reborn will show a digital die-cutting system with integrated Rexroth servo motors.

Rhyguan will exhibit Plus-330, a modular digital finishing line including flatbed silkscreen printing, flatbed hot stamping and semi-rotary die-cutting. Another digital converting line, Top-330-Plus-2, combines flexo, semi-rotary die-cutting and inspection.

Taiwan GCC, jointly with Legend, will

exhibit the AFJ-24S automatic feeding system, LabelExpress laser die-cutter, and DFS laser cutting and finishing system.

Hybrid technology on display includes Domino's 7-color N610IM hybrid press, jointly developed with Chinese flexo press manufacturer Spande. The N610IM combines Domino's N610i UV inkjet press with Spande's new fast and intelligent S7 flexo press.

First-time exhibitor Winbosc will unveil its new CloudHybrid RG press, which combines inkjet and flexo and a variety of in-line finishing options.

Conventional printing

Flexo printing in China has been boosted by the government's increasingly strict environmental policies, and increasing numbers of local converters are investing in the technology. Among the flexo press manufacturers at the show are Omet, Weigang, Hongsheng, Label Source, 3G, Guangdong Olger, and AKO Machinery.

Omet shows its iFlex press for the first time in Asia. The machine has a 370mm print width and is equipped with UV curing, i-Light pre-register and i-Vison registration systems, and ECDC easy change die-cutting unit.

Weigang shows its flagship flexo press, with eight colors and three die-cutting units, all servo-controlled. Taiyo-Kikai shows the STF-340 flexo press. Hongsheng demonstrates the HSR series narrow web flexo press. Label Source shows its YTP-F5-370-12C flexo press. AKO Machinery shows a Delta 420 flexo press.

Among the offset presses on display, Wanjie shows the WJPS350 shaftless PS intermittent rotary press. Weigang's intermittent PS label press will also be on show.

Meanwhile, for inspection, Luster will launch the Label Roll-Web series system which features a high-speed image processing system



Omet shows its iFlex flexo press for the first time in Asia

and high-stability motion platform. AVT, Pulisi, Daheng Image, Sino-MV and Isra Vision, among others, will also show inspection systems at the event.

Flexible packaging

China is the second largest packaging manufacturer in the world, and flexible packaging is its fastest-growing segment. Chinese label converters, similar to their counterparts elsewhere in the world, are increasingly moving into flexible packaging production, aided by a new generation of presses with wider web widths.

The country's dedicated packaging converters often use gravure printing technology, and as such are being negatively affected by the Chinese government's strict environmental controls. Some have gone out of business. The shortfall is being picked up by local label converters. Beijing Deji and Chengdu All Printing are two examples, having begun shrink sleeve and flexible packaging production on Omet flexo presses.

At Labelexpo Asia 2019, Guangdong Olger will launch its



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Avery Dennison opens I.Lab in China

Avery Dennison has opened its first I.Lab in China at its plant in Kunshan, Jiangsu Province. It will provide live demonstrations to help converters explore the opportunities surrounding smart labels.

OG330-CL8+1A flexo press which has been designed specifically for flexible packaging production. Controlled by 72 servo motors, it runs at up to 200m/min (656ft/min) with web widths of 13in, 15in or 18in.

Label press manufacturers such as Weigang and Wanjie have launched presses which can cater to short and medium runs of flexible packaging. Meanwhile, other suppliers have recently unveiled flexible packaging-dedicated products, including ink manufacturers Super Color, Shenzhen Hiway and Toka; coating equipment manufacturers Zhongshan Sotech, NDC and Sanrenxing: and finishing system suppliers Weifang Hengchengxiang, Deguan Machinery and Makwell Mec.

Smart Zone

According to market data from IDTechEx, the value of the Chinese RFID market is around \$4.3 billion USD. At present, there are more than 150 RFID label suppliers in the country, producing 85 percent of RFID labels used worldwide. Mobile phone payment methods such as Alipay and WeChat are also accelerating the trend towards self-checkout and unmanned retail stores.

As these technologies develop, labels in China are moving increasingly towards functionality rather than just product

decoration. These trends will be on display at Labelexpo Asia's Smart Zone, a 500sam area of the show which will feature suppliers such as Avery Dennison, UPM Raflatac, King Label, Voyantic, Mühlbauer, ADA, Xinjinglu, Jion Point and Guangzhou J-Sail.

Voyantic will show its RFID tags and Tagsurance UHF and HF integration systems. Wing Singa will demonstrate systems for RFID label lamination, encoding and detection.

On the materials side, Arjobex, manufacturer of Polyart synthetic paper, will showcase its new range of tamper evident security products. This range includes security features such as UV fibers, taggants and UV watermarks. These features are embedded in the film, thereby preventing the possibility of tampering with them, or forging by printing technologies.

Armor shows the upgraded version of its AXR TX ribbon dedicated to textile label applications. It also brings its inkanto range of thermal transfer ribbons to the event. Durico shows a range of direct thermal films and inkjet-compatible label facestocks. New products include translucent direct thermal films, providing a frosted look to a see-through label, and durable GHS Inkjet label film facestock. Kurz shows its new KSO cold foil. Elsewhere at the show, Kroenert will introduce the first coating unit for simultaneously siliconizing both sides of a web with solvent-free silicones. This is especially suitable for paper webs used as release liners for adhesive tapes as well as graphic products. Meech displays its new non-contact web cleaner, static generators and mid-range ionizing bar.



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Pharma label converters must not only follow the evolving regulatory environment, but also prepare for technological developments emerging in the fight against piracy. Piotr Wnuk reports

he pharmaceutical market is one of the most challenging environments for label converters. It is affected by factors such as localized and frequent regulatory changes, pharma companies' attempts to improve communication with consumers, and counterfeiting. Converters producing for the pharmaceutical market must not only follow the evolving regulatory environment, but also prepare their production lines for technological developments emerging in the fight against piracy.

Regulatory pressure placed on the pharmaceutical companies is passed down the supply chain to label converters. At this point, it is then magnified with additional product-specific requirements alongside marketing and communication needs.

According to Agata Kowalska, pharma division product manager at Avery Dennison, medical products are also often exposed to challenging environmental conditions including sterilization via autoclave, radiation, or chemical exposure. 'In addition, we see growth of drug products that must be stored within a cold chain environment which presents a challenge for labeling. These environmental conditions can be an issue when continuing to drive innovation in the pharma label portfolio,' comments Kowalska.

The element of regulatory compliance is impossible to omit and will most certainly never reach a global harmonization. The same applies to the specific product requirements or unexpected plant down-times. Nevertheless, other factors affecting pharma such as costs associated with counterfeiting and non-adherence could potentially be solved by label converters. Moreover, these issues align with governments around the world, which are advised to fight piracy and improve costly non-adherence.

'We carry out analysis and our wider body of research to support policy makers in devising solutions to this problem and help make EU consumers aware of economic consequences of counterfeiting and piracy at a wider level,' says Christian Archambeau, executive director of the European Union Intellectual Property Office (EUIPO), which recently published a status report on IPR infringement.

Cost of counterfeiting

According to this report, the pharma industry in Europe suffered the second biggest total loss of sales at 16.5 billion EUR (18.2 billion USD) due to counterfeit products on the market. The only industry hit harder was the clothing, footwear and accessories market.

"The label will be part of the ecosystem, part of the connected home, integrated with Alexa and will provide life-changing data to the consumer, care giver and their physician"

Precise calculations of lost sales and revenue are difficult to gauge, but the World Health Organization estimates counterfeiting costs the global pharma industry 75 billion USD a year. According to a report by PricewaterhouseCoopers published in 2017, the counterfeit drug market earns between 163 to 217 billion USD per year, making it one of the most lucrative forms of illegally copied goods.

The second serious cost is patient non-adherence which is estimated between 100 billion to 290 billion USD in the USA, 1.25 billion EUR in Europe and approximately 7 billion AUD in Australia. Additionally, 10 percent of hospitalizations in older adults are attributed to medication non-adherence with the typical patient requiring three extra medical visits per year, leading to 2,000 USD increased treatment costs per annum.

Pharmaceutical companies have manufactured drugs for global distribution for decades. Despite bearing substantial costs, the market is growing nearly 6 percent a year with a forecast to reach 1.17 trillion USD by the end of 2021.

Naturally, pharmaceutical companies are looking for solutions which could reverse the costly issues of counterfeiting and non-adherence. Future-proofing label technologies could be the answer for redirecting losses into investments in packaging, and potentially into profits.

Pharma IQ, the organizer of the Pharmaceutical and Labels Summit in Zurich in July this year, has highlighted the top new technologies which could bring much needed change to the pharma market. The list mentions temperature indication technology, NFC technology, text to voice feature, counting and light up packaging, unit dosing and fingerprint authentication.



CCL Industries is rolling out smart technologies across its healthcare lines

"Precise calculations of lost sales and revenue are difficult to gauge, but the WHO estimates counterfeiting costs the global pharma industry \$75 billion a year"

Technology rises to the challenge

Global converting group CCL industries is already rolling out these technologies across its healthcare and specialty division

Avery Dennison also has products for NFC and supply chain tracking (UHF RFID). 'We are the world's largest supplier of UHF RFID solutions and we continue to evaluate emerging technologies as evidence of our recent investments. With over 20 percent growth expected in the next few years, we are focused on continuing to expand our portfolio to meet the needs of the emerging segments,' comments Jay Wittmann, product manager of intelligent labels at Avery Dennison.

According to Kowalska, integrating RFID into pharmaceutical labels is currently the biggest opportunity. 'Some brands have begun using RFID technology for the authentication of prefilled syringes and tracking time and temperature during shipping,' she says.

RFID is a technology that NiceLabel has been involved in for decades. Its Label Management System has been tested to support this functionality. 'NFC, a specific type of RFID, has become more common in the recent decade or so with label printers also offering this option. Our software supports NFC, too. RFID offers a robust solution for authenticating goods and preventing counterfeiting,' says Ken Moir, VP of marketing at NiceLabel.

NiceLabel has recently added a cloud and SaaS capability to its label management system. Centralizing this technology, according to Moir, is the best way for companies of all sizes to manage labeling operations across multiple sites and countries.

'I would say to the technology companies that want to add their product to packaging: they should first partner with a converter to ensure their product or technology can be applied to the packaging at scale,' warns Karl Hoepper, marketing manager at CCL Industries.

According to Hoepper, technology companies often fail to understand the converting process and design their product without first consulting a printer. 'If we cannot successfully convert the technology at scale, the product is not viable and will need to go back to development or the converter will have to spend a significant amount of capital to customize their machinery,' he says.

Future of pharmaceutical labels

'The largest untapped opportunity that bridges across all types of labels and packaging is smart packaging. Increasing numbers of companies are developing smart features,' says Hoepper.

'RFID is a great solution in the pharmaceutical space because of its unique identification and tracking capability. Manufacturers are able to verify that authentic products leave their facility and reach the consumer safely. Additionally, in the future, we see it opening up new possibilities for drug manufacturers to interact with consumers, adds Kowalska.

'Smart technologies will integrate into to the label market and RFID and NFC have already been integrated in many smart label technologies. Also, cloud-based solutions and virtual reality are already an integral part of the label market and growing,' says Paavo Sillanpaa, business segments manager, specials for UPM Raflatac Americas.

Sensing labels are the next big thing, according to Hoepper: 'We are already converting several products to sense environmental factors. Smart technologies are being integrated and are enhancing the value of the label every day. The label is the only consistent point of contact a consumers or brands have with their customer. Right now, the bigger brands are waiting for the first large scale product to go into full production.

'The value of smart packaging in terms of consumer safety, authenticity, medicine adherence, instructional videos, consumer engagement, market intelligence, health gamification, behavioral education and improved health outcomes is significant. The label will be part of the ecosystem, part of the connected home, integrated with Alexa and will provide life-changing data to the consumer, care giver and their physician.'

NiceLabel sees the new smart technologies integrating into the label market as offering users faster, more efficient ways to manage their labeling operations. 'Our cloud offering will also make label management systems available to companies who currently would not have the IT budgets or staff to digitally transform their labeling. We don't anticipate disruption, but lots of process, quality and cost optimizations. At first, digital transformation sounds scary to some people, but once they realize it offers multiple benefits and reduces risks rather than increasing them, they quickly embrace the concept,' comments Moir.

Avery Dennison believes smart labeling is a complementary technology and is best when paired with other solutions such as pressure-sensitive labels. 'Consumer engagement is an important trend where our combined solution can help our customers grow. We are excited to be part of this change,' said Jay Wittmann, intelligent label division product manager.



For more information counterfeit protection in Label Academy Book 'Brand Protection, Security Labeling and Packaging: Technologies and strategies for optimum product protection'





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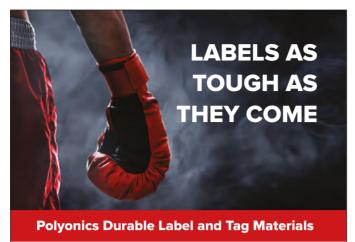
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Right prescription for Erdt Group

Erdt Group, a contract packer for medical devices and pharmaceuticals, has revamped its validation process and improved productivity thanks to Printronix Auto ID T8000 series printers. James Quirk reports

harmaceuticals and medical devices are rightfully subject to stringent quality assurance and regulation. To ensure that products are traceable throughout the entire supply chain, manufacturers and their logistics partners use techniques such as barcode labeling and RFID for automatic identification and data capture (AIDC).

Guaranteeing that labels are legible and compliant can prove labor-intensive, as German logistics and fulfilment specialist Erdt Group found. However, a device from Printronix Auto ID has revamped its validation process and ultimately improved its productivity.

Erdt Group specializes in assembly and contract packaging, particularly of medical devices and pharmaceuticals. It processes more than 60 million items a year from its 14,000sqm logistics space.

Given how highly regulated this industry is, Erdt's customers expect their logistics and fulfilment partner to be fully compliant. In order to meet directives, statutory requirements, and assembly and packaging stipulations, Erdt uses a combination of semi-automated work processes, stateof-the-art IT systems, and precise manual assembly to achieve compliance.

Robert Beier, director of IT, explains: 'As service providers we see it as a top priority to fulfil exacting standards, particularly with packaging and labeling of medical products like dressings, syringes, cannulas, infusion equipment or surgical supplies.'

German manufacturers who market their products worldwide need to consider directives not just from the EU but also from securPharm (German initiative to ensure the authenticity of its pharmaceuticals) and the US Food and Drug Administration (FDA). There are also EU regulations for medical devices and in vitro diagnostic, which require products to bear a unique identification number.

The Falsified Medicine Directive EU (FMD), which came into force in February, provides measures to prevent counterfeit medicines entering the supply chain. It requires all packaging to be tamper-proof and to feature a unique identifier in the form of a 2D data matrix barcode.

Legibility, traceability and serialization

Erdt serializes, documents and packages its customers' medical devices and pharmaceuticals for distribution to



Erdt Group processes more than 60 million items a year from its 14,000sqm logistics space

pharmacies, clinics and medical practices. During this logistics process, Erdt assemblers and its warehouse and dispatch department print 6-7 million labels a year. 'We must ensure the printed barcode complies at all times with the requirements and standards,' says Beier.

Each product label includes a one-dimensional barcode of the unique Global Trade Item Number (GTIN), and a 2D data matrix code bearing information such as batch number, ingredients and expiry dates. Such detailed labeling ensures each item is traceable and verifiable throughout the entire supply chain. Barcodes must also comply with ISO standards IEC 15415 and IEC 15416 (ISO quality level 1.5) for print quality. Only when labels are 100 percent legible, verifiable and documented do they fulfil statutory requirements.

Analysis by the FDA into the labeling and packaging of medical devices revealed that labeling errors accounted for 15 percent of product recalls. Erdt had found that guaranteeing print quality was a labor-intensive verification process that could not be carried out during the print run process itself. Samples had to be taken before, during and after printing to check compliance with ISO standards. The labels had to be physically taken from the production chain, manually measured, checked with an external barcode verifier, and then integrated back into the print job. Separate equipment for printing and verification was necessary to complete the checks, which all required extra manpower and time.

Erdt found that with the online data validation (ODV)-2D thermal printer validator from Printronix Auto ID, it could print and verify labels simultaneously, ensuring that only ISO conforming labels

entered the supply chain. Its Viernheim operation switched to twelve Printronix Auto ID T8000 series printers with ODV-2D for its product labeling and packaging area.

Printing is by thermal transfer onto paper labels. Each label is inspected by the ODV function in accordance with the ISO standards IEC 15415 and IEC 15416, and the result of the validation is stored for continuous documentation. If the ODV-2D validation function detects a faulty label, the offending label is drawn back into the printer, overwritten and replaced automatically. This process is documented enabling Erdt to achieve legal security and transparency for its customers, since all relevant information is stored in the database. The ODV Auto ID Data Manager (a module of the PrintNet Enterprise Auto ID software) enables customized, detailed reports to be stored for each print run, right down to the individual label of a batch.

All twelve of the printers were installed and commissioned by AIDC-Box within a short time. As Printronix Auto ID offers all commonly used printer drivers, no changes had to be made to Erdt's existing IT infrastructure or hardware. The existing Access database controls the printers directly. No additional software is required for the layout and creation of labels.

'ODV-2D is a unique barcode printer which enables us to not only guarantee a high quality of label printing but also fulfil the strict requirements of our customers,' explains Beier. 'By validating and documenting the label printing all at once we have been able to rationalize our processes and increase our productivity.'



Read more about pharmaceutical labeling on page 135

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Web inspection, cleaning and control

Web inspection, cleaning and control are crucial factors in ensuring the quality and consistency of printed labels. Tony White reports

n the process of producing labels by any printing process, it is important to know that the quality being produced is first of all consistent and second does not develop any printing faults during the press run. This is particularly vital in applications where 100 percent inspection is necessary such as pharmaceutical or security segments. Brand owners of high value, prestigious products are understandably concerned that every label or package with their name on is perfect. From the printer's point of view, it will need to know that the quality of the printed result throughout the print run does not vary and meets agreed standards.

To ensure that the print quality is not compromised by dust and dirt emanating from the reel of paper or film, it is important that the substrate is kept clean as it enters the press. Equally, the print quality must controlled throughout the press run and factors such as tension and web guidance are monitored and kept within acceptable production limits.

"To deliver improved economics, converters need to reduce waste and pollution and optimize their label production processes, shifting the market from the overall practice of web viewing inspection towards 100 percent inspection technologies"

Web inspection

Monitoring print quality these days is normally carried out in-line on the press, although systems are available to inspect print output off-line. In these modern times we take color printing for granted, but back in the mid 1980s in-line color inspection was in its infancy, as was the wider use of color.

However, one company took the brave step to research and manufacture the first color inspection system manufactured in the UK and Europe: Tecscan, based in Wales. It was first shown at the drupa show in 1982. The company still exists more than 35 years later and tends to major on bespoke systems for special

Label converters are today being squeezed between two seemingly opposing forces: increasing pressure from brand owners regarding value chain optimization and sustainability on the one hand; and increasing competition, high production overheads, and high employee turnover on the other.

To deliver improved economics, converters need to reduce waste and pollution and optimize their label production processes, shifting the market from the overall practice of web viewing inspection towards 100 percent inspection technologies. At the same time, they need to implement quality standardization



methods on print jobs and applications in order to meet the brand owners' expectations for quality and repetitiveness across their SKU portfolio – a challenge that requires a more comprehensive approach to their quality assurance practices.

The first consideration when choosing an inspection system must be: what are the inspection goals?

· Option 1 – Basic inspection for quality assurance

Some converters need only very basic inspection – the ability to detect large and obvious defects (typically between 0.3 sq mm and 1 sq mm defect size), to prevent customer rejections. This can be handled well enough by a relatively low-cost system, typically a 100 percent inspection system installed on a rewinder or similar finishing equipment. But this kind of low-cost product does come with a disadvantage that can have a hefty price tag: problems can only be detected after the job is printed, often requiring large amounts of printed material being thrown away. In extreme cases the entire job has to be discarded and completely reprinted.

· Option 2 – Upstream inspection for process control

A more advanced system provides upstream quality control to reduce waste. These automatic 100 percent inspection systems are typically installed directly on the press and can vary in price according to their overall quality, robustness and the number of options and features.

With an on-press inspection system, converters are able to detect print defects in real time, which means that they can apply corrective actions immediately – allowing them to save printed waste that would be rejected when the job is complete. Typical defects include equipment malfunctions such as inconsistent pressure, a broken doctor blade, worn-out plates or even the use of the wrong plates.

Having a system installed solely on the press may not be enough. Converters still need the ability to replace specific defective labels on the roll or to remove certain portions in specific lanes - an operation that in most cases can only be done on finishing equipment.

This can potentially be solved by placing a second inspection system downstream on the rewinder, an arrangement that can save waste and allow the roll to be properly prepared for the customer. But this approach could double the capital equipment cost, without really optimizing the inspection workflow stages. In this scenario, the rewinder may stop at every single defect identified by the inspection system, even if many of these defects have already been reviewed on the press and dismissed by the operator.

• Option 3 - Smart factory inspection for accelerated business growth

A more comprehensive solution is to implement an end-to-end automated inspection workflow, also known as smart factory inspection. This has been adopted by many leading converters, especially those serving tier-one brands, and are now starting to gain more traction among smaller companies who are looking to strengthen their competitive edge and win larger accounts.

One element of smart factory inspection relates to automating the inspection process between the press and the finishing equipment. These are typically more high-end 100 percent inspection systems that are positioned on the press, offering greater speed and resolution. They automatically link to the entire downstream workflow in a way that allows the operator to print the roll under real-time inspection, edit the roll based on a pre-defined quality threshold, and only then run it through the rewinder to remove irrelevant defects from the job. Beyond reducing waste and assuring quality products, saving time is the main advantage of this automated workflow. This is because the rewinder will not stop at every single defect, but only at the relevant defects defined by the operator during the editing stage.

Currently, only a few vendors, among them AVT, offer this automated configuration. System stability varies greatly, based on the vendor's R&D capabilities, the length of time the system has been on the market, and the vendor's ability to successfully service and support advanced workflow configurations. This ability depends primarily on the vendor's overall market experience in advanced inspection systems and workflows for the high-end label market.

Automating inspection between the press and finishing equipment is only part of the story. When looking into nextgeneration developments for smart factory inspection, market-leading converters are constantly seeking to expand their automation capabilities to other workflow stages. The goal is to fully automate the



"Automating inspection between the press and finishing equipment is only part of the story. The goal is to fully automate the entire production process from pre-press to finishing"

entire production process from pre-press to finishing. Which brings us to the second element.

This kind of end-to-end automation is uniquely available with AVT automatic 100 percent inspection systems, thanks to the company's co-development synergies with Esko and X-Rite as a part of the Danaher Product Identification Group.

For example, AutoSet is an automated job set-up module that allows each job to be quickly uploaded from pre-press directly to the press - essentially a 'plug and inspect' process. This unique feature reduces dependency on the operator's skills, eliminates human error and saves valuable job set-up times.

Another example is the ability to create a digital link between X-Rite's ColorCert color quality control system and AVT's Spectralab in-line color measurement device. This automated process automatically sets up a job for in-line color measurement and generates a color scorecard reporting on color quality performance after printing.

The main advantage of automationdriven systems of this type is the ability of converters to set cross-plant quality standards and ensure that, regardless of the print equipment, the operator's skills, or the complexity of the print application, brand owners' quality demands are met 100 percent of the time for all jobs, without exception.

Converters are continuously challenged with increasing competition, high production overheads, manpower turnover and brand owners' ever-tougher quality requirements. The need to reduce material

waste, optimize production efficiencies and reduce overall printing costs are driving label and narrow web converters to embrace new and advanced methods for automating their production workflow and quality control processes across their manufacturing lines.

Web guiding, cleaning and static control

With the demand for a high-quality finish in labeling applications ever increasing, converters are under pressure to deliver materials of an exceptionally high standard to give brands an edge in a hugely competitive marketplace. Quality control is essential to achieving this, through pairing robust web inspection systems with reliable web cleaning and static control technology.

With speed of delivery also in high demand and converters working to increasingly tight deadlines, the generation of static is an ever greater risk, and the attraction of dust, dirt and other assorted particles being drawn to a fast-moving web is all the greater.

· Static control

One of the most well-established methods for eliminating static charges is the use of ionization technology, which employs high voltage AC or 'pulsed' DC to produce ionized air to create a high-energy 'cloud' of positive and negative ions to neutralize surface charges.

Static control bars, such as those found in Meech's Hyperion range, have marked a transition from AC systems to 24v integrated power supplies, providing more efficient ionization. More resilient to

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contamination build-up than previous systems and easier to clean, they also have an improved shockless design which makes them safer for operators to handle.

Because no two converting lines are quite the same, finding the right static control products, and the optimum position in which to install them, can be a challenge – especially when space is limited. Here the range of options in Meech's Hyperion range means there is something for everyone, and in situations where static control solutions need to be installed in particularly tight spaces, Meech manufactures the most compact pulsed DC bar available on the market, the Hyperion 924IPS Short-Range Pulsed DC Ionizing Bar. At just 22mm wide and 32mm high, this bar is ideally suited for installation on converting lines where space is at a premium and where a static control system needs to be fitted into a very small area without any compromise to production flows.

Beyond the Hyperion 924IPS, Meech also offers a range of mid and long range ionizing systems. Long range ionizing systems achieve highly efficient static control in general applications, whereas for short range applications, plug and play bars are better suited. Recently developed mid-range systems incorporate powerful ionization and up to 50 percent greater maximum working distance than traditional mid-range bars.

Web cleaning

For the best results, web inspection and static control systems should also be used in tandem with a suitable web cleaning system. Web cleaning technologies can be divided into two broad categories - contact and non-contact. Deciding on the most practical system depends on the web materials being processed, the application, the flexibility required by the converting line and the speed of the web.

Contact cleaners, as the name suggests, make contact with the web and break the boundary layer. Some such systems incorporate twin elastomer rollers, which are in full contact with the entire width of the web and physically lift debris from the web's surface. They are generally better suited to slower moving webs and more robust materials. Non-contact systems, such as Meech's CyClean, use blow-and-vacuum technology either side of the web, stripping the boundary layer of contaminants which are captured and subsequently removed.

Backing up a comprehensive web inspection system with appropriate static control and a web cleaning system can ensure consistent quality, reducing the need for maintenance and ensuring high levels of health and safety are observed.

· Web guidance

BST eltromat has developed new options for automatically positioning its CLS Pro 600 digital sensor with an FVG POS 100 sensor positioning device, making it even easier to set up web guiding systems. Machine operators have a number of options. They can either manually enter the position data for the digital line and



contrast sensor via the ekr 500 digital Unit Touch controller, or take over the position data via bus protocol directly from a higher-level PLC, in which this data is stored in recipes, for example.

'All of the options streamline the process of setting up the web guiding system even more. This further increases the availability of production machines. If the position data of the lines or contrasts to be scanned are automatically transmitted from other systems or stored orders, the set-up times in the web guiding system can be reduced by up to 40 percent. At the same time, this eliminates input errors. The result is higher operational reliability, which yields less waste,' says Ingo Ellerbrock, head of product management at BST eltromat, stating the main benefits for integrating the three key components of the web guiding system. The term Industry 4.0 stands for digitalization and networking production processes with the goal of significantly increasing efficiency. 'The automatic setup of the web guiding system via our linked components is the basis of effective production process improvement.'

The FVG POS 100 was developed by BST eltromat to control the edges and centers on wide web materials. The sensor positioning device is mainly used where web widths are changed frequently, web guiding controllers are installed in locations that are hard to access within machines, or where a high degree of automation is

At Labelexpo Europe 2019, BST eltromat demonstrated the convenience of automatically setting up a web guiding system with an exhibit where example job data was scanned via QR codes. They contained both position data for the sensor and recipe data. After scanning, the CLS Pro 600 digital line and contrast sensor automatically moved to the specified positions thanks to the sensor positioning device and set itself up automatically. Visitors were able to see the efficiency and safety of the web guiding system set-up process. The ekr 500 digital Unit Touch controller with the Commander is operated intuitively via a touch screen. Using it, operators can easily switch between different views such as web width status messages, and the web position offset setting in a new way. The self-explanatory representations on the display always offer only those options that make sense in the individual situations.

In this article we have examined some of the techniques that can be used to ensure that the quality output from a label converter meets the expectations of the quality assessment department of the brand owner. The converter benefits by reducing the amount of waste created by defects arising during the press run and even more important eliminates the necessity to reprint jobs which unavoidably would reduce or eliminate the profit margin. Investment in any or all of these technologies would give peace of mind to the converter by ensuring output is of the highest quality.



For more from L&L technical editor Tony White, go to www.labels and labeling. com/contributors/tony-white

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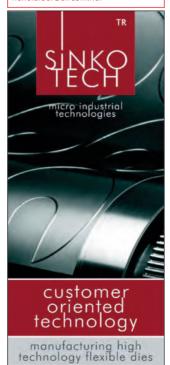
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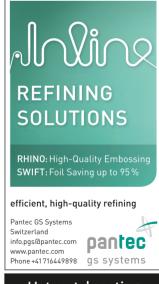
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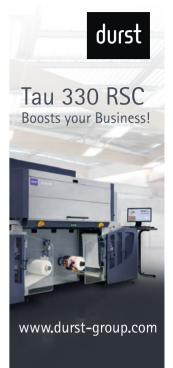
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Advertisers index

AB Graphic International	114	Herma	28	Polar-Mohr	123
Acpo	19	Holfeld Tool & Die	150	Polyonics	138
Ahlstrom-Munksjo	IFC	HP Indigo	80	Ragraf	92
Anderson & Vreeland	37	Hueck Folien	30	Re	137
Anderson Europe	63	Icap-Sira	98	RK PrintCoat Instruments	150
Arconvert	26	IGT Testing Systems	120	Rotocontrol	145
Armor	50	Jiangsu Goodled Precision Optoelectronics	130	Sandon Global	101
AstroNova	137	Kao Collins	117	SEI Spa	
Avery Dennison	8	Kocher + Beck	85	Seiko Instruments	112
Bar Graphic Machinery	89	Konica Minolta	1	Shanghai Jinda	134
Berhalter	140	Label Academy	90, 119	Shenzhen HanGlobal	133
Bitek Technology	138	Labelexpo Asia	129	Sihl	110
Bobst	44	Labelexpo Global Series	143	SMAG Graphique	112
Buskro	116	Labelmen Machinery	IBC	SMI	71
Cartes	77, 78	Labeltech	124	Sohn Manufacturing	70
Cerm	35	Lemorau	57	SPGPrints	13
Codimag	48	Lintec	65	Tamperguard	86
Cosmo Films	107	Lombardi	38	Tangshan Wanjie Europe	61
Dantex	43	Mark Andy	109	Theurer.com	109
Dienes	105	Martin Automatic	132	Toyobo	97
DNP	24	Meech	49	Uninet Imaging	97
Domino	52, 53	Memjet	16	Univacco	54
Durico	34	MGI	127	UPM Raflatac	BC
Durst	102	MoistTech	138	Valloy	116
Edale	40	Monotech	73	Venture Electronics	105
Focus Label Machinery	87	MPS	3	Vetaphone	58
Gallus	4	ND Paper	92	Vianord Engineering	123
Garware	67	Nilpeter	83	Wacker	15
GEW	99	OCE	23	Wausau	122
Grafisk Maskinfabrik	5	OMET	47	Xeikon	94
Grafotronic	120	Orthotec	68	Xeikon Prepress	124
GSE	138	Pantec	140		
Harper	137	Phoseon Technology	20		

Label trends

In a brand owner packaging study, LEK Consulting surveyed 250 brands across the CPG spectrum, including food, beverage, pet products, health care and personal care





Respondents rated packaging at a 5.7 out of 7 with 7 being 'very important'



32% plan to increase their packaging spend by more than 10 percent

Brand owners' top growth drivers

22%

Consumer preference for more convenient options

Brands owners in pet and household categories were more likely than beauty and personal care to cite convenience as a growth driver

20%

Consumer preference for increased customization

As consumers' fondness grows for specialized products that cater to their particular tastes, brand owners said they planned to launch an average of 91 new products in the next two years

18%

Consumer demand for environmentally friendly products / services

Respondents said the use of sustainable packaging material has grown in the past two years – 85% made at least one significant change to packaging substrate material

21%

Shift toward premium products

42% of brand owners said they planned to expand their premium offerings

18%

Consumer demand for healthier / natural alternatives

This is more apparent in the beauty and personal care industries than in food and beverage - 23% of local or niche brands consider it to be a growth driver, compared with 5 percent of global brands

Shift towards e-commerce

This varied by industry, with 25% in beauty and personal care saying it is a source of growth; only 12% in food and beverage said the same

Label **SOCIETY**















Label Industry Global Awards Brussels

1 Steve Schulte, Mark Andy; Lisa Milburn, Labelexpo @ L-R: Sue Ellison and Chris Ellison, OPM (Labels & Packaging) and Finat; Karin Rüesch, Gallus; Silvia Spatt, Heidelberg; Thomas Hagmaier, Hagmaier Etiketten 🔞 Labelexpo and Labels & Labeling China team 🐠 L-R: Niklas Olsson, Flint Group; Alexa Rode-Hilbert, Labelexpo; Uwe Börner, Flint Group 15 L-R: Andrea Calcagni, Omet; Chris Spooner, Label Traxx; Mark Macaré, Finat; Thomas Hagmaier, Hagmaier Etiketten; Mikaela Harding, Pulse 0 Uffe Nielsen; GM





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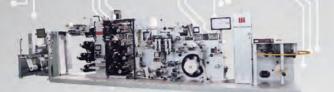
Jyoti Madan, Max Speciality Films (L); Deepanshu Goel, Creative Graphics; and colleagues 1 LMAI delegates enjoy a night out after the conference 1 Ajay Mehta, SMI Coated Products (L); Priyata Raghavan of Sai Packaging (center) 1 Andrea Calcagni, Omet; Pawandeep Sahni; Omet India; Hemanth Paruchuri, Pragati Pack





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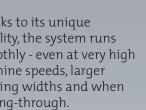


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Automation







The SmartGap® prevents excessive heating of the system components, eliminating the need for time-consuming and costly additional lubrication.



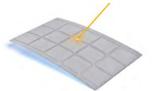
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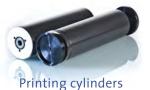
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