ISSUE 2
2012

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See pages 58-61 for ESMA Driving Print Excellence interview

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MESSAGE FROM BRYAN COLLINGS

Summer is already approaching for those of us in the Northern Hemisphere, bringing warmer weather, longer days and, most importantly, the early signs of the markets gaining momentum both in Europe and in North America. We see a rise in ad spend and printers are reporting rising volumes in the graphic sector - always a good early predictor of economic growth. At what cost in inflationary terms, who can say but history will reveal all in the fullness of time. Governments actually like a bit of inflation despite what they may say publically because it reduces the real value of their very considerable debts.

Following the recent successful FESPA Digital and CSPIA events, we look forward to seeing our many business contacts at drupa. With FESPA, Labelexpo and SGIA events to follow in North America in the autumn as well as Screen Print India, EcoPrint, glasstec and CGSIA 2012, there's high hopes this year of fertile environments for new and expanded business opportunities.

Coupled with the educational know-how available at these events, you can keep completely up-to-date with the latest technical information by subscribing to this magazine for the next year for a total of only €55 / $80 / £45 at www.specialistprinting.com Don't forget, it's the ***ONLY*** way to receive all copies!

In this issue, users of screen and wide format digital printing systems will find the usual broad technical coverage. A highlight is our regular section 'Sophie Says', which has been well received by readers and this issue offers useful information on inks.

On the technical front, we are pleased to announce a new content agreement with Output Magazine (outputmagazine.com). We will share technical information for publication to the benefit of the readers of both magazines.

Bryan Collings, Publishing Director, *Specialist Printing Worldwide*

PUTTING THE EMPHASIS ON INK

Without ink, there wouldn't be much in the way of print, whether it's analogue or digital; perhaps it has just always served as a necessary consumable we all take for granted. But, now that ink-jet production has diversified to mean different things to different people, there seem to be growing depths of confusion being generated about what the various formulations really mean.

In the world of digital print, ink has become a contentious issue in many areas. Many machine manufacturers produce their printers expecting relatively low margins when it comes to sales. Instead, they bolster their income by selling two core elements. The first of these are service contracts and extended warranties but the second, and more topical, comes from ink revenues. In a sense this is a perfectly fair business practice and understandable. In the early days of ink-jet technology, formulations were relatively complicated and more challenging to replicate in after-market alternatives. As such, most users tended not to wander from their original supplier. Now, all this has changed with a wide choice of third-party options.

Today the whole issue of ink has become even more confusing as new chemistries make their way to market. What are their true benefits and running costs? How good is their adhesion and accurate their colours? In the ink-jet domain we are no longer able simply to categorise formulations and their performance into what we can expect from aqueous-based, solvent-based and UV-curable inks. Now we have to add to the list latex as an option and, although for the past four years we have been able to associate this directly with HP, this is no longer the case now that Mimaki has entered the market with its own version.

No doubt before long we'll see independent companies with their own versions of latex following the route we have seen with other, more established chemistries and, as the years have passed, the alternatives have improved no end. But ink production isn't straightforward, and the situation is confused further by the fact that not every printer manufacturer uses its own product. It is common knowledge, after all, that companies such as Sun Chemical and Sericol have inks which are used in well-established printing machines. Happy marriages have been the result.

Nor is ink merely a solution that's stirred up and delivered in convenient cans or cartridges to end users. The combination which goes into every formulation can comprise elements that originate from different sources, so it cannot be assumed that all the constituent parts have come from the same manufacturer. There is also the consideration that even the biggest names in the ink world have entered the after-market sector with independently named products.

No matter the source, today's ink technologies are challenging one another more strongly than ever before. Not surprisingly, this is a competitive market and one made more difficult for third-party manufacturers by the threats of invalidated warranties if their customers change suppliers.

This means that canny printer manufacturers need to come up with new ideas to keep their ink sales on side. New additions to existing chemistries arriving on the ink-jet market are now tweaked formulations to improve gamut, durability and adhesion. Ink isn't static; its development in-line with printer expectations is key to the success of engines across all sectors and its consistency in behaviour and output is vital.

During the past few years we've seen inks come and go, with promises of greener formulations and more practical drying and curing options. Some of these haven't passed the starting post; others, like the original eco-solvent options, have evolved from a shaky start into reliable chemistries. And UV-curable inks in the wide-format sector have also improved almost beyond recognition.

Add to those formulations familiar to display printers the textile options that are available today, and it is easy to see how the waters can become muddied in terms of who should use which ink and on what material. At the end of the day, the right ink is the one which works flawlessly in the chosen printing machine, no matter which chemistry is being considered, then behaves itself on the substrate and doesn't react adversely to being dried and finished. If it does what it says on the tin, PSPs should never underestimate the amount of development and work that's gone in to provide them with this essential ingredient.

Mimaki's SUV formulation is another new arrival into the ink-jet ink stable

Sophie Matthews-Paul
Editorial Consultant to *Specialist Printing Worldwide* and independent analyst

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Specialist Printing Worldwide (ISSN 2044-2319) is published by:

Chameleon Business Media Ltd
Changing to meet your industry's needs

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The only way to receive the next 4 issues (covering 12 months) is to have an annual subscription for €55, $80 or £45. Please contact subs@specialistprinting.com or subscribe online at www.specialistprinting.com

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CONTENT PARTNERSHIP:
OUTPUT
www.outputmagazine.com

Printed by Gemini Press, UK (www.gemini-group.co.uk)
Royal Mail Periodicals Code for Presstream Y4778

Second SGIA sustainability award for ASTG

Aurora Specialty Textiles Group, Inc (ASTG) has received the prestigious 2012 SGIA Sustainability Recognition Award for the second consecutive year.

Specialty Graphics Imaging Association, or SGIA, created these awards to recognise member companies that develop a sustainable business ethic, requiring a strong commitment from not only company management, but also its workforce. They are presented annually to facilities that qualify based upon submission of required programme information and the facility's sustainability policy.

Aurora Specialty Textiles Group's long-term sustainability vision includes investments in capital projects that will allow the company to modernise its 100-year old building in order to make operations more efficient. The company plans to reduce gas and electrical consumption in boilers and ranges, while also reducing steam trap and air line leaks. The end result will result in less required energy and lower emissions.

Mike Richardson, Director of Sales/Marketing-Print Media at ASTG, comments: "We have not only recognised higher than expected operational savings by updating assets, but also improved our operational working conditions, such as air quality. It is a win, not only for Aurora, but also for our surrounding environment."

In addition to these measures, ASTG's environmental policy and its ISO 14001 environmental certificate have been added to the company website. Internally, ASTG has posted environmental banners throughout its facilities and conducted employee communication meetings for project updates.

Headquartered in Aurora, Illinois, Aurora Specialty Textiles Group is a full-service textile finisher specialising in fabric sourcing, preparation, dyeing, coating and technical finishing for the woven and non-woven fabrics industries. With its second manufacturing facility located in Travelers Rest, SC, the company has the capacity, processing capabilities and finishing technologies to produce wider-width textile products. ■

FESPA's Hall of Fame winners are announced

The FESPA Hall of Fame is the international award which recognises the leading lights of the wide format print community. After an immensely successful campaign prior to and during FESPA Digital 2012 in Barcelona, the votes have now been counted and verified. The Hall of Fame received 6,000 votes for more than 400 printers in 40 countries and the winner and top five for the FESPA Hall of Fame 2012 has now been confirmed.

Rich Thompson of AdGraphics, World Print Champion in FESPA's Hall of Fame 2012

The winner who becomes the World Print Champion for the FESPA Hall of Fame 2012 is Rich Thompson of AdGraphics, (USA). Second place went to Kishore Musale from Classic Stripes, (India), and third was Birol Fedai, Sistem Printing, (Turkey). Cactus Imaging's Keith Ferrel (Australia) took fourth place, while in fifth was Simon Pless, Erler & Pless, (Germany).

Duncan MacOwan, Head of Events and New Media for FESPA, comments: "The FESPA Hall of Fame can be hailed as an unbelievable success. The number of nominations and votes far exceeded our expectations as printers voted in their droves from countries all over the world. It goes to prove once again the international audience that FESPA commands, and how valued these excellent printers are to our industry. The winner of this award must be very proud as this is an amazing accolade voted for by their peers." ■

Marabu takes a high profile at drupa

Showcasing its latest innovations, Marabu is exhibiting on three high-profile stands in Hall 3 at drupa. Stand A92 will focus on digital printing and liquid coatings, with the spotlight on UltraJet DUV-F, Marabu's brand new UV-curable inkjet ink for flexible substrates. This product is part of a comprehensive portfolio that includes the UV-curable Ultrajet range, TexaJet water-based sublimation inks, and the mild solvent-based Marajet series

Marabu is also appearing in the ESMA Screencity pavilion. As a founding member of ESMA, the company will showcase its screen-printing inks in a dedicated presentation area, along with a new low-migration ink which will make its international debut. The UV-curable Ultrapack UVFP range is ideal for printing on the exterior of food packaging. Further highlights will include graphic screen-printing inks and UV-LED-curable inks for container and label printing.

Finally, Marabu will be appearing in conjunction with Japanese printing press manufacturer Sakurai. Visitors will have the chance to watch a live demonstration of Marabu's UV-curable special effect inks, applied using the next-generation Sakurai Maestro cylinder screen press. ■

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Kammann Shanghai opens for business

Matthias Graf and Dr Christian Maas, joint Managing Directors of Kammann Maschinenbau.

In time for the Chinese Lunar New Year, renowned specialist maker of screen-printing machines Kammann has established a new branch office in China. "From Shanghai, we will provide sales and after-sales services to our customers in China and the Region," explains Nils Steinau, Kammann's newly appointed Sales Director for Asia Pacific.

Kammann has always been deeply rooted in the region as many of the German engineering firm's largest customers maintain production facilities in Asia. "As our products become technically more advanced and Asian producers become rightfully more demanding, in terms of training and service capabilities provided by suppliers, we felt it was the right time to take on new ways and support the region from within the region," adds Steinau. "We currently operate from an office in Shanghai's Jinqiao Industrial Park, but are already looking for larger premises to house a showroom, service department, training facilities, administration and spare-part stock."

Kammann Shanghai is to become a Regional Competence Centre from where customers and partners alike can draw support and inspiration. The plan is to bring in the winning concept to another location in Southeast Asia in 2013. Kammann's approach to technology also is highlighted in the phonetic transcription of its company name into Chinese: 科门 literally means "Gate to Science". ■

ESC targets offset printing segment at drupa

At this year's drupa, ESC is aiming to capture the offset printing segment with a comprehensive product range including digital, screen- and pad printing machinery. Included is the launch of a new stop-cylinder screen-printing machine.

The aim is increasingly to integrate the screen-printing process into offset print shops with ESC's optimised range of machinery for UV varnishing of printed products. UV curing is deemed to be friendly both to the material and the environment via a fully automatic line consisting of sheet feeder, stop-cylinder screen-printing machine, UV dryer and automatic stacker. Where needed, ESC is prepared to provide complete pre-press equipment including the ESC-Perfecta IC ECOline continuous-flow system for automatic washing and reclaiming of stencils. All machines can be modified to customer's special requirements.

Further details about the new stop-cylinder unit will not be made public until drupa. ESC parallels it with its High Press Plus E3 which was able to gain a large market share at national and international level as result of excellent technical equipment as well as high reliability and performance. Particular emphasis was placed on improvement of technical design, print quality and ease of handling and ESC believes that this innovation will attract wide interest, especially among print-finishing companies.

Even in the digital printing sector, graphic and industrial factories are looking for combined solutions which are aimed at cost optimisation. One example is printing a white under-layer prior to a digital CMYK print. For this task ESC provides not just one but several large and medium size digital printing solutions such as the Mimaki JFXplus, ESC-Jetrix and ESC-Daytona. These units can be combined with screen-printing systems like ESC-Atmax or ESC-Atmace. No matter whether the task is to print on glass, paper or plastic, all systems are capable of printing on a wide range of substrates of different heights without any difficulty. Even fully automatic solutions can be developed in close co-operation with the customer.

Powerful small-size UV-digital printers as well as direct-to-garment printers, such as the new ESC-DTG M2 for industrial textile printing, rounds off ESC's wide portfolio at DRUPA-booth. ■

ESC's Perfecta ECOline continuous-flow system

New film positive system

Pad Print Machinery of Vermont has a new film positive system available for pad or screen-printing operations that wish to bring all of their plate/screen pre-prep in-house. This all inclusive package includes an Epson printer, high-density ink, 432mm (17 inch film) cassette, special RIP software, plus training and technical support.

The user-friendly RIP software allows customers to lay out their files for the most efficient media use. The print resolution is 2880 x 2880dpi for achieving dense rich blacks and smooth gradients. The roll has 30.5m (100 feet) of film and has manual or automatic cutting capabilities.

This software package can work on any platform through most graphic applications. There is a web browsing capability to check status, manage queues and perform automatic file prep functions such as scaling, mirroring and rotating.

PPMOV sell two portable direct-to-plate exposure units suitable for both large and small volume production, plus several types of alcohol and washer wash polymer plates with discounted prices available for volume orders. ■

An Epson printer is part of PPMOV's new film positive system

KBA integrates Atlantic Zeiser's Delta 105i into new Rapida 105

The KBA Rapida 105 integrates Atlantic Zeiser's digital technology

The new Rapida 105 from KBA provides an example of how hybrid solutions combining offset and digital printing on one line ensure maximum versatility with variable print jobs for sheet, label and packaging printing. For coding sheets and flat packaging, the Delta 105i digital printer and the Vericam verification system from Atlantic Zeiser can be optionally integrated, with the combination ensuring maximum print quality and speeds of between 7,500 and 14,000 sheets/hour.

The Atlantic Zeiser Group is to deliver the DELTA 105i high-speed digital printer to Koenig & Bauer AG (KBA) for inline integration into the new generation sheetfed offset Rapida 105 press. The agreement enables printers to realise a wider range of specialist applications and open up new business sectors with cost-efficient printing. The Rapida 105 with the integrated Delta printers will be on show at drupa at the KBA stand in Hall 16, Stand C47

Ideal for coding and serialising, this technology is designed for high offset speeds of up to 240 m/min at up to 600 dpi. These systems are developed in-house by Atlantic Zeiser for inline integration and high-performance additions to modern offset systems, such as the KBA Rapida 105. Added to this is the need for versatility in printing variable data onto different materials without extended set-up times making industrial digital printing systems, such as the Delta, a highly effective cost-efficient solution.

Legal requirements and the rapidly growing number of product forgeries make high quality, individual coding and serialising a necessity for product tracking and protection on individual packs. Two-dimensional Datamatrix barcodes required to do this can be printed optimally by digital printing systems from Atlantic Zeiser and checked directly and inline via integrated verification solutions such as Vericam. This also facilitates transparent quality management and sustainable quality assurance.

Carl-Michael Heüveldop, Head of Business Development, Atlantic Zeiser, comments: "We anticipated the market's need for individual coding and serialising of products with variable data early on. Developments within the EU to implement binding national regulations for standardised product and coding and serialising for product traceability of pharmaceutical goods by 2013 underline the market opportunities; and this is just one defined market sector."

"We have designed the latest Rapida medium format generation to offer our customers the maximum range of applications increasingly being demanded by the sheet offset printer market in recent years," states Jürgen Veil, Head of Marketing Sheetfed Offset, Koenig & Bauer AG. "A key point here is the integrated option to code and serialise sheet, label and packaging printing variably inline. This concept has already found considerable success in Asia and we have seen 20 orders for the new Rapida 105." ■

Merger leads to name change

Tripette & Renaud Image is changing its commercial name to VFP Ink Technologies, following the merger of the two companies in January 2009 which brings togethers a full range of ink technologies and consumable products. The decision was made to reinforce these products on the international market, with a unique brand that is recognisable, universally pronounceable and easy to memorise. Innovation will continue to be the goal and strategy of the Tripette & Renaud group while VFP Ink Technologies will continue to use its expertise to make products which will answer ever-changing market needs. ■

Ultraflex welcomes Joe Leddy to its sales force

Ultraflex Systems, supplier of print media for UV-curable, solvent, latex, screen and dye-sublimation inks, has appointed Joe Leddy as new Territory Sales Manager. His central USA regional territory includes Colorado, Iowa, Illinois, Minnesota, Montana, North Dakota, Nebraska, Oklahoma, South Dakota, Texas and Wyoming.

Joe Leddy has joined Ultraflex

Leddy brings with him twelve years of business-to-business sales experience, the last five of which were spent in the grand-format digital printing industry. His prior experience selling digitally printable textiles, wall coverings, and PVC products as well as laminates, mounting adhesives, lamination equipment, inks, magnetic media and welding solutions will allow him to apply a consultative selling approach to their customer base.

Leedy holds an MBA from Loyola University in Chicago and has previously managed all sales activities across an eleven state territory for multiple manufacturers in the wide-format printing industry. ■

New printer family on show from Mutoh

In close co-operation with its key UK distributor Colourgen, Mutoh Belgium used this year's Sign & Digital UK to showcase the latest print engines of its popular ValueJet lineup. Products on display included the ValueJet 1324/1624 eco printers featuring new print-head technology, as well as the new ValueJet TD series direct-to-fabric printers, available in 1.65m and 2.60m widths.

The recently launched ValueJet 1324 and ValueJet 1624 printers are targeted at the sign and display market and are suited for the production of long-term outdoor posters, signs and banners, backlit signage, point-of-sale displays, vehicle graphics and high quality durable prints for indoor use.

Incorporating new print-head technology and Mutoh's award-winning Intelligent Interweaving print technology, the printers deliver typical production speeds up to 14.5 square m/hour and top speeds up to 29 square m/h.

Targeted at the sublimation transfer market, the ValueJet 1604W four-colour dye sublimation printer delivers high quality graphics for businesses focusing on the production of banners, flags, soft signage, interior decoration, curtains, bed linen and sportswear. Utilising Mutoh's high speed dye sublimation inks, the printer offers speeds up to 17.4 square m/hour at 720 x 720dpi.

For printing on both open and closed structure fabric, Mutoh has introduced its ValueJet TD series printers. The new eight-channel ValueJet TD printers incor-porate two new 1440 nozzle piezo drop-on-demand print heads. Typical production speeds are up to 24 square m/hour and top speeds up to 41 square m/hour. This makes the machines suited for volume printing as well as for customised one-off projects. They utilise Mutoh's worry-free aqueous-based direct disperse inks for direct-to-fabric printing and can also be used with Mutoh's high-speed dye sublimation inks for transfer paper printing. ■

Mutoh's ValueJet 1324 features new print-head technology

Polytype's Virtu Quantum launches at drupa

Visitors to drupa will witness the official world-wide release of Polytype's ground-breaking new wide-format digital ink-jet printing platform, the Virtu Quantum, which promises a blend of quality and speed hitherto unavailable in the marketplace. Now available in widths of 2.5m and 3.5m, the UV-curable machine incorporates high-definition 10pl print-heads, specially integrated by Polytype to produce 1,400dpi resolution for lush, rich images suited to a range of industrial and display applications.

In a move characteristic of the Swiss manufacturer, the Virtu Quantum was vigorously tested over a period of months in a fully operational production environment after proof of concept was first demonstrated in 2011. As a result, the engine's speeds reach an impressive 300 square m/hour in production mode and a sporty 150 to 180 square m/hour in photographic mode, meaning that business owners no longer have to compromise between image quality and turn-round time when making large capital investments in their wide-format machinery. Applicable to both roll-to-roll and flat-bed modes and across a range of both popular and unusual media, the versatility afforded owners is a distinct advantage in the current, extremely competitive climate.

Polytype's dedication to accuracy means that customers ordering at the show can have total confidence in the feasibility of the system, and be able to integrate it effortlessly to upgrade their current production processes. The new Quantum series will allow even more depth and colour gamut for the accurate reproduction of typically difficult images, such as skin tones and sought-after brand shades – but at productivity speeds that will challenge even billboard quality modes from rival manufacturers.

"Polytype does what other manufacturers dare not do: we will drive a new machine hard in an actual working situation to make sure that we are aware of all of its capabilities," explains Sylvia Muhr, sales and marketing director for Polytype's Virtu Business Unit. "In doing so, we have fine-tuned the Virtu Quantum to deliver an unparalleled combination of speed and quality in its machine category, and visitors to our stand at drupa 2012 will be amongst the first to witness it match its full potential." ■

The Virtu Quantum has been developed with typical Swiss precision

Eco–sustainable printing technology is key for Azonprinter

Azonprinter specialises in inks without solvent chemicals, plus machines with less energy consumption and no environmental pollution that print on all kind of materials, from rigid surfaces to all kind of fabrics. The company's intention has always been to develop sustainable design of its products and try to eliminate the negative environmental impact completely. Main focus of its sustainable design has been not to use non-renewable resources, to impact the environment minimally, and promote the eco-friendly use of materials to distributers and partners through to end users of Azonprinter's direct-to-garment and direct-to-substrate flat-bed printers. All printers are designed and assembled in Croatia, as are Azon inks.

Azonprinter aims to develop strategic business opportunities and competitive advantage with its product strategy, meeting the markets and customers environmental expectations. This is achieved with development of new technology, new platforms for all machines and new print-heads.

Using new eco-based colours, Azonprinter has improved the quality of the print, the product and by increasing eco standards in the printing industry. All inks used are low viscosity gel chemistries, and are water-ammonia based with no hazardous solvents. Azon uses inks with extremely strong UV and abrasion resistance, thanks to the newest nano-chemical developments. Users can print directly onto rigid materials without any primers as Azon uses surface destabilisation technology which enables opening pores on the surface of any material, without using any pre-treatments such as plasma or corona.

Azon DTS has developed the technology to use high quality inks without solvent chemicals that don't damage the head of the printer, removing maintenance and cleaner requirements to keep the printing process simple. Producing non-solvent printers which use colours that are not harmful for people, the company has ended the earlier need for ventilation. The company's textile printers can be used to print on baby clothes with aqueous-based ink, with five easily exchangeable magnetic tables enabling users to print on different sizes of material.

Azon states it is the only OEM piezo ink-jet flat-bed printer in the world that uses the same platform for different printing applications and inks, able to adjust the printer's ink according to end user needs. Production based on one platform-control new ink delivers significant advantages, requiring no pre- or post-treatment, consuming substantially less energy and therefore minimising running costs.

Current products include the Azon DTS and Azon DTS White, with the latter proving to be eco-friendly, making the machines suitable for installation in shops, educational establishments and office areas as well as traditional print companies. The printers come in A2+, A1 and B0 formats and print directly on glass, metal, stone, wood, and plastics. For textile production there are the Azon TexPro and the Azon TwinTex, a dual-platen platform technology printer designed for industrial production and large quantities.

New markets for Azonprinter include China, Taiwan, Thailand, Philippines, Romania, India, Colombia, Qatar and UAE which the company says are great indicators that the importance of environmentally-sustainable digital technologies is being recognised all around the world.

For the past 15 years Azonprinter has been producing equipment for the sign and printing industries. The company is head-quartered in Croatia and has more than 30 distributors world-wide that cover a variety of markets such as graphic and sign, textile and embroidery, laser users, and the plastic, glass and aluminium industries. ■

The Azon TwinTex dual-platen platform technology textile printer

Kammann K15 CNC technology expands into tube market

The Kammann K15 CNC machine family has recently been complemented with new and innovative tube printing capabilities which allow users to leverage fully the benefits of the container printer for their specific market. The centre and pivotal point of the concept is a 100/minute indexing table transport system, which is available in different sizes and numbers of mandrels/ stations. Six to 20 stations allow for almost every decoration process to be matched at a minimum cost.

Because screen-printing is still the technology of choice when it comes to creating outstanding product appearance, the K15 CNC family opens the door to combine the process flexibly with other decoration technologies, such as in-line hot-foil and pad printing. High ink deposit, a wide range of printable substances and excellent line-work capabilities allow for products unsurpassed by offset or flexo.

The tube market is highly competitive and forces everybody in the industry to meticulously plan his cost-of-ownership model in order to secure sufficient margins. Kammann contributes to this by offering a modular platform design, incorporating cost efficiency into custom-made solutions.

The bandwidth of configurations ranges from one-colour-UV with manual in-feed to eight-colours-UV fully integrated into a production line with hot-foil, lacquer and visual print inspection. Via Kammann's App Store, basic designs can be further refined by adding more 'active ingredients' such as pre-treatment devices (flame, anti-static, corona), positioning gear (mechanical, optical) to re-register or align with closures, special functions to operate the screen heads fully automatically (such as ink-refill, closed-loop colour register), LED-UV, additional drives for output boost, and additional features to make the system more productive and the operator happy. Fast change-over capabilities are built in and come with every machine.

Nowadays printing machines are unthinkable without utilising independent servo drives synchronised by virtual shafts. Consequently, operating becomes increasingly computerised, a challenge for machine makers. Kammann has striven with software ergonomics and training facilities, resulting in positive feedback from the growing K15 CNC community world-wide. ■

Eurolaser opens its doors with live demonstrations

German laser system manufacturer Eurolaser will be welcoming visitors to its Laser-Fair and opening its doors to international customers and other guests. The date, 4 May, will be devoted to presenting all aspects of laser technology, with the focus of the live demonstrations on the latest line of laser systems from the company which has only been on the market since the beginning of this year.

The company's spacious Application Center will be the venue for live demonstrations of cutting, engraving and marking of different materials. Visitors can look forward to guided tours through the whole building complex, whilst various specialist talks will be given by a number of speakers from well-known companies such as Evonik Industries AG and Eurosystems Soft- and Hardware Sárl. Partner companies Synrad Inc and Océ Germany will also be present at the open house exhibition. ■

Eurolaser is opening its doors for its Laser-Fair in May

Esko strengthens digital finishing leadership with Kongsberg XN

Esko is expanding its product range with the launch of the Kongsberg XN finishing table and with an upgrade of *i*-cut Suite including the *i*-cut Automate. Esko's digital finishing solutions will be demonstrated at drupa on stand A23 in hall 8B.

The Kongsberg XN is stated by Esko to be the most versatile, highest performing finishing table available in the mid-range market. Capable of handling the broadest variety of materials, the new table serves all markets from packaging to sign-making and displays. In addition, the Kongsberg XN can be used for cutting plates as part of the Esko Digital Flexo Suite and can handle the heavy materials used for protective packaging.

A choice of four tool heads and a full assortment of insert tools guarantee unmatched versatility. Newly developed tools include a solid board v-notching insert, a corrugated paper-core board v-notching insert and a Braille tool insert. The new Kongsberg XN can be equipped with a more powerful milling spindle, called the MultiCUT- HP. With this new high-powered MultiCUT-HP tool head, the Kongsberg XN offers up to three times more milling productivity. Even when processing the most challenging materials, it keeps a productive, consistent speed, and its power-saving variable vacuum hold-down technology consumes less energy.

The contemporary-looking Kongsberg XN has a modular table-top industrial design and is available in different sizes from the smallest 1680 x 1270mm Kongsberg XN20 up to the largest 2210 x 6550mm Kongsberg XN48. The enlarged work area allows full Y-axis reach of all tools and the length of the XN24 and XN44 models has been extended to 3200mm for larger digital print materials.

"Our Kongsberg finishing tables have always offered cost-effective digital finishing without the expense of conventional die-cutting tools and equipment," explains Steve Bennett, Esko Vice President, Digital Finishing Business. "And, as people will see at drupa, Esko continues to define the 'cutting edge' standards in short run productivity and versatility. Combined with our integrated *i*-cut Suite software, we offer digital finishing solutions for every process, material and application." ■

Esko's new Kongsberg XN cutting table targets the mid-range market

Ethel Grasso is Ulano's new general manager

Grasso appointed Ulano general manager

Ethel Grasso has been named general manager of Ulano Corporation, Brooklyn, New York. Her duties include overall responsibility for managing revenue and costs, as well as the day-to-day operations. She supervises purchases of raw materials, and co-ordinates staffing, manufacturing, shipments, and accounts receivable.

Founded in 1930, Ulano is a manufacturer of screen process stencil films and emulsions, masking and pigment ink-jet films, screen chemicals, coating machines, and screen measuring tools and ancillary products. The company's products are sold through its worldwide distributor network in more than 90 countries.

In announcing Grasso's appointment, Ulano President Alfred L Guercio notes: "Ethel Grasso has provided invaluable assistance to me since my appointment as President in 2003. Her new title is an appropriate reflection of the many responsibilities she has carried forward faithfully at Ulano for years."

Grasso joined Ulano in 1995 following 20 years in graphic arts production and management. ■

Pankarte opts for Inca Onset S40 to improve quality and productivity

Pankarte PLV has added an Inca Onset S40 printer to extend its digital printing capabilities. Based in a 4000 square m building in Nordhouse near Strasbourg and close to the German border, the company was founded twenty years ago and has become a specialist in the design and manufacture of point-of-sale products. Its expertise is recognised by customers across the board in many household names from within the food, beauty and healthcare industries.

Already an Inca Onset user since 2010, the FSC-certified company has recently installed an Inca Onset S40 flatbed digital printer from Fujifilm to enable it to provide customers with top quality marketing collateral in the shortest turn-round times.

"We chose the Onset S40 printer because it is, quite simply, the best machine in the world," says Michael Hartmann, managing director of Pankarte. "It is fast and produces great quality graphics, and the additional handling system has really sped up our production time. Our customers, many of whom are pioneers in their field, require suppliers such as us to push them to the limits. The Onset S40 allows us to do just this."

The Inca Onset S40 prints at up to 470 square m/hour and offers 'best-in-class' quality and flexibility at a low cost/print. Providing outstanding levels of performance, it meets the high-volume, fast turn-round production needs of specialist display print companies such as Pankarte.

"We are very, very happy with both the performance of the Onset S40 and the technical and sales support we received from Fujifilm – it has exceeded our expectations," continues Hartmann.

"Pankarte is a key player in the French point-of-sale print market and has some important customers in Germany. We are delighted that the company has chosen to work with Fujifilm and install an Inca Onset S40," adds Philippe Vautier, Wide Format Inkjet Sales Manager at Fujifilm Graphic Systems France. ■

Mimaki extends opportunities with its desktop flat-bed printer

Mimaki's UJF-3042HG desktop flat-bed printer is designed to bring greater capabilities to LED UV-curable output. This compact machine is able to print on substrates that are impossible to use in a conventional model, claims Mimaki. The range of printable substrates, including plastic, metals and wood, continues to grow and to boost business opportunities.

Its small environmental footprint is another differentiating factor for this printer, with long-life, low power consumption LED curing. With the introduction of the UJF-3042HG, not only are thicker substrates up to 150mm supported; two print channels have been added to support six-colour printing plus white and clear inks. This produces higher definition output with good gradations. In addition, white and clear inks add value to printed products by providing under/over-coating on transparent or coloured materials, as well as providing a gloss or matte finish.

The UJF-3042HG also features a newly developed white ink circulation system that prevents pigment sedimentation. This not only improves the yield of white ink for more efficient consumption and reduced waste, but it also improves production throughput with less risk of wastage of expensive substrates. In addition, the machine uses a nozzle recovery function that temporarily restores print quality, reducing potential downtime if maintenance issues should arise.

Mimaki's PR-100 inkjet primer can be automatically applied through the ink-jet system, as opposed to the previous manual application method. This primer improves adhesion and allows the use of materials that are not necessarily optimised for ink-jet production, without affecting the look and feel of the substrates. Inline application allows for improved registration and faster production times. Spot priming only the areas of the substrate that will be accepting ink means less primer ink must be utilized, keeping costs in line while ensuring the utmost in quality.

The UJF-3042HG supports three different ink types in addition to the primer. LH-100 hard UV ink excels in scratch and chemical resistance as well as colour reproduction, while LF-200 flexible UV ink enables stretching of ink up to 200%, new to the UJF 3042 family. Finally, LF-140 offers strong gradation in six-colour printing (CMYK + LcLm) and is more flexible than LH-100 hard ink.

"Gloss and matte inks add significant value to the printed product," says Mike Horsten, Marketing Manager of Mimaki Europe. "These inks enable the designer to highlight specific areas of the piece, making images literally pop off the page and adding other special effects to increase both quality and production value. White ink, of course, is a critical component of printing in the sign and display industry, especially when using transparent or dark substrates. Our opaque white ink meets both requirements—blocking the transmission of light through transparent materials so that the overprinted colour stands out resulting in a broader colour gamut, as well as providing full coverage over darker materials, delivering a crisp image without any muddiness. We believe the ability to print using both white and clear inks on a desktop device is a first in the industry and we are proud to bring this capability to market." ■

Greater capabilities are now possible with the Mimaki UJF-3042

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EMULSION CAPILLARY FILM PRECISION STENCILS SCREEN MESH EQUIPMENT

WHAT TO DO WHEN SCREEN-PRINTING STENCIL PRODUCTION GOES WRONG

Part two of a four-part summary of the most common errors, their causes and prevention/elimination

5 PINHOLES IN THE COATED SCREEN

a) Poorly degreased mesh
Degrease carefully with Pregan A 9 Extra, NT-9 or Pregan NT Paste and then rinse thoroughly with water.

b) Dust in the work area
Keep the work area as clean as possible.

c) Coating application too fast
Slow and uniform coating prevents the formation of air bubbles. The best results are achieved with coating machines.

d) Dirty glass or film positive
The glass of the exposure system should be free of dust, smudges or scratches. Check film for clarity and dirt.

e) Too much air stirred in during sensitising. Impurities mixed in (eg through dirty stirring tools).
After sensitising, all emulsions should be allowed to stand for at least two hours, preferably overnight to allow air bubbles to escape. If filtering is possible, this will speed up the process and also remove any possible contaminants.

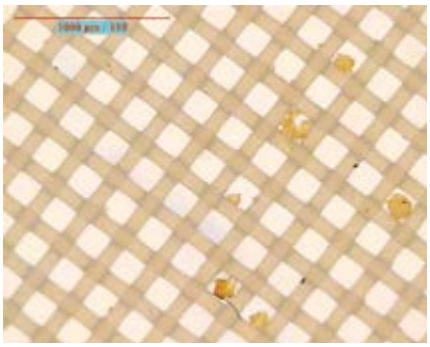
f) Insufficient coating
In order to avoid air bubbles, first coat the printing side of the screen several times, then increase stencil build-up thickness with a single or multiple coats on the squeegee side.

g) Age of sensitised emulsion
Pay attention to the details in the technical information leaflet of the emulsion storage time and temperature.

h) Inadequate hardening of the emulsion
Pay attention to the details in the technical information leaflet about the hardening conditions (applying to both sides, reaction time, hardening time and temperature).

6 EXPOSED EMULSION DROPS OUT OF THE MESH DURING DEVELOPMENT

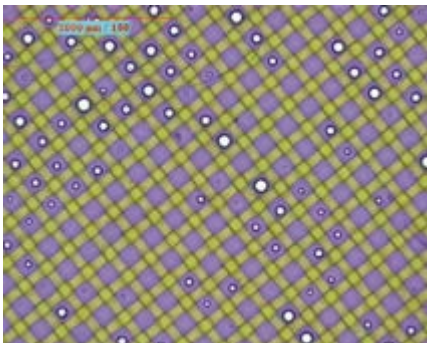
a) Poorly degreased mesh
Degrease carefully with Pregan A 9 Extra, NT-9 or Pregan NT Paste, then rinse thoroughly with water.



The effect of hardener residue in the mesh

b) New or poor mesh quality
Mesh contains some stubborn residue from the manufacturing process, leading to a significant deterioration in emulsion adhesion. Mesh should be treated with Pregan NT Paste. If necessary, increase exposure time.

c) Insufficient drying time or humidity too high
The coated screen-printing stencil should be sufficiently dried at temperatures of 30 to 40 degrees C. Dual-cure diazo and SBQ photopolymer emulsions can be briefly heated to 50 degrees C. Ensure an adequate fresh air supply and good air circulation in the drying cabinet.



Air bubbles in the mesh

d) Underexposure
Check the exposure time with the Kiwo UV-Meter Pro or perform step or test exposure with Kiwo Expocheck. Check lamp distance, setting and age of the lamp.
e) Uneven coating
Improve coating technology; ensure correct mesh tension. Select a coating width about 10cm smaller than the frame inner dimensions.
f) Poor film positive
Ensure good transparency of the non-blackened parts.
g) Emulsion and sensitiser were poorly mixed
Verify that the sensitiser was thoroughly dissolved and then mixed well with the emulsion.
h) Foreign substances in the emulsion
Some metal compounds or solvents may attack the sensitizer or degrade the emulsion. Ensure clean working conditions and only use coating troughs, stirrers etc made of stainless steel or aluminium
i) Time-expired emulsion
Pay attention to the storage times and temperatures specified in the technical information. Cool storage extends the shelf life.

7 THE STENCIL DOES NOT DEVELOP PROPERLY

a) Overexposure
Check the exposure time with the KIWO UV-METER PRO or perform step or test exposure with Kiwo Expocheck. Check lamp distance, setting and age of the lamp.
b) The coated printing screen has been stored too long
Pay attention to the storage times and temperatures specified in the technical information. Cool storage extends the shelf life.
c) The drying temperature is too high
The drying temperature must not exceed 40 degrees C for diazo and dual-cure diazo or 50 degrees C for SBQ photopolymer emulsions. Coated screens should not be stored in a drying cabinet.
d) Effect of exposure to UV or daylight
In order to avoid premature exposure, windows should have UV protection and the rooms fitted with yellow light.
e) Poor film positive
Ensure print motif of the film has sufficient density. The optical density must be at least 3.
f) Poor contact of the film positive to the emulsion
The black areas of the film positive must have good contact to the emulsion. Use a vacuum exposure unit. Do not use offset films.
g) Light reflection from the mesh filaments
Use coloured (yellow) screen mesh.
h) Time-expired emulsion
Pay attention to the storage times and temperatures specified in the technical information. Cool storage extends the shelf life.

8 RESIDUE IN THE OPEN AREAS OF THE STENCIL AFTER DEVELOPING

a) Inadequate washout
Use a washout unit with an illuminated back wall. Use Kiwo Profiwash to wash out unexposed emulsion.
b) Rinsing water with dissolved emulsion constituents dries in the open areas ('drip down haze').
Develop stencil thoroughly, rinse with cold water; then remove excess water by suction, blowing out with compressed air or by dabbing. Dry in a horizontal position.
c) Exposure too short (emulsion remains soft)
Check exposure time and light source (Kiwo Expo Check, Kiwo UV-Meter Pro or step exposure).
d) Exposure too long (fine details were subject to light scatter)
Check exposure time and light source (Kiwo Expo Check, Kiwo UV-Meter Pro or step exposure). If necessary, switch to coloured mesh.
e) Residue on the mesh
After decoating, treat mesh with Pregan post-cleaning products (e.g. Pregan Antighost, Pregan Megaclean X-Tra, etc.)
f) Decoating media on the mesh
If the decoating media gets onto the mesh, the emulsion hardens in these areas. Decoat the stencil, clean thoroughly and repeat imaging.
g) Foreign particles in the emulsion
Ensure tools are clean; if necessary, filter the emulsion.
h) During the hardener application, bits of emulsion settle in the open mesh areas Apply the hardener (eg from the Kiwoset product line) gently with a soft brush or sponge. Ensure good emulsion exposure. Harden the stencil horizontally. ■

Part one of this series appears in Specialist Printing Worldwide, Issue 1, 2012

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WHY PRINT A GOOD DOT?

Mike Ruff explains how great dot structure improves the results in graphic screen-making

In this article I will address why a graphics four-colour process printer should print good dots. What I have seen in most print facilities is that most printers focus too far up the food chain of the print process to optimise accuracy and repeatability. They focus on printing a good image. But in four-colour process screen-printing or even printing a single colour half-tone, the most important attribute of the print production is excellent dot quality.

Now carefully pay attention here to the first sentence. I did not say that a high quality image could not be created with poor quality dots. I have seen beautiful prints with horrible dots. After all, a process image is just an illusion of an image created as CMYK dots that blend at the correct viewing distance. In reality, a printer printing horrible dots can produce a good looking print on occasion by painful manipulation of the file, changing densities and spending countless unpaid hours on press.

As we say in South Missouri: "Every blind hog will find an acorn once in a while." But the point is that the most important attribute of "profitable production" is excellent dot quality. A bad quality dot is not repeatable or an accurate tonal value. If you are attempting to match an accurate proof you cannot hope to match it. Good quality dots allow accuracy and repeatability.

HOW GOOD DOTS AFFECT SCREEN-PRINT RESULTS

Productivity is about predictability. A great dot produces a predictable sized deposit of ink. The deposit of ink then produces the correct, targeted tonal percent. If the dot is predictable, the printer has a very high likelihood of printing the right colour the first time with only minimal press adjustment. The print company will then benefit by printing more jobs each day rather than attempting to correct colour issues caused by unpredictable dots. If you do not have high quality repeatable dots, you will never be able to set curves properly for accurate printing. Before our consultants begin doing any press fingerprinting or colour management, they make sure the dot quality is the best it can be.

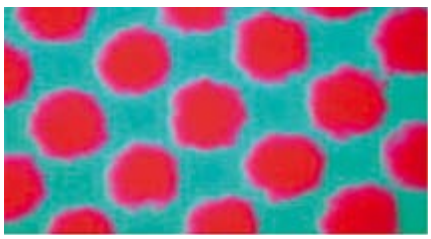

Figure 1: An example of a good dot, with no leaks, bleeding or thread interference

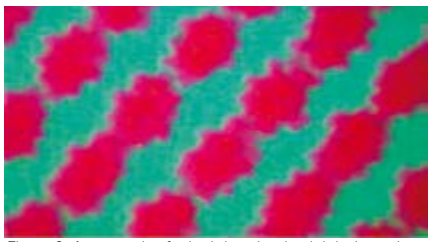

Figure 2: An example of a bad dot, showing ink leaks and how the dots touch and don't touch in the same areas

WHAT DO GOOD DOTS LOOK LIKE?

To judge dots, you must have a visual comparative of what is good and what is not. When I taught the pre-press four-color process class in Fairfax, Virginia I would hand out photographs of good dots, bad dots and common problem dots. (Figure 1 shows an example of a good dot.) The photograph of the good dot is an actual 65lpi screen-printed dot on a live production job. Beautiful, right? This is not capillary film. This is direct emulsion. With good quality screen-making techniques and procedures you can produce excellent dots.

The photo of the bad dot (Figure 2) has some major problems. The edges indicate it is not looking like the film or direct to screen imaged dot. The dot shape doesn't really matter that much as long as it is repeatable. A ragged ink-jet film dot is okay if the screen and print represent the film and can repeat the tonal percentage consistently. A sharp dot from laser film will always make a sharper cleaner image but, for most point-of-purchase work, a "repeatable" dot that has an ugly shape due to the way the film was produced will still create accurate colour. The key is to have a sharp edge on whatever the shape of the dot on the film or DTS stencil, and to print the dot with a sharp edge. If the ink is leaking or bleeding around where the dot is supposed to stop, then you have a problem.

Figure 3: This digital microscope will produce images from 7x to 108x, although quality is not good over 27x

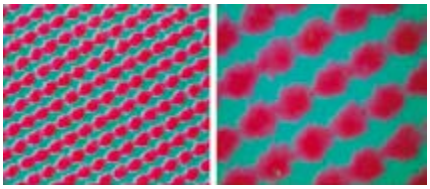

Figure 4: 10x enlargement versus 27x enlargement

Figure 5: Examples of dot bleeding compared with a pattern caused by static

HOW TO EVALUATE DOTS?

1 THE FIRST PRINCIPLE ON EVALUATING DOTS IS TO USE A LIGHTED MICROSCOPE.
One with a digital camera is even better. (Figure 3). A pocket loupe that is only 10x or 12x is not strong enough. (Figure 4). Figure 4 shows a 10x enlargement of a dot compared to a 27x enlargement. You can see the dot looks just fine with the 10x enlargement but, when you enlarge it, you can see that the dot has problem.

2 IDENTIFYING THE CHARACTERISTICS OF DOT PROBLEMS.
There are four primary visual problems of dot shape and construction. Dot bleeding, dot leaking, dot starvation and dot skipping.

a Dot bleeding. (Figure 5)
The characteristics of this dot problem are that the ink is bleeding from the dot cylinder in the direction of the squeegee. When you see this it is normally a press problem, not a screen-making issue. If it were a screen-making problem the ink would be coming out all around the dot. It's not. It's just moving out of the area it is supposed to stop in the direction of the squeegee. Don't confuse this with static. I place a picture of static next to the bleeding photo. Static is caused by static electricity and made worse with an ink that is not flowing for some reason. It could be a high tack ink or a cold temperature in the press room.

b Dot Leaking. (Figure 6)
You can easily identify dot leaking because it is spreading from all sides of the dot. The

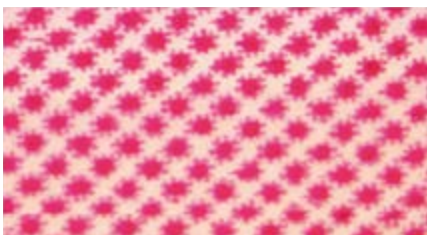

Figure 6: An example of ink leaking all the way around the dot

squeegee direction might be worse but the dot is growing all the way around.

This is a screen-making problem. The screen probably has a very high Rz. This is allowing the ink to leak out from the dot cylinder. The cure is to lower the Rz. This will require face coating after the screen is dry. If you attempt to fix this by increasing EOM (emulsion over mesh) thickness you will have trouble with getting the third colour to print.

c Dot starvation. (Figure 7)

This is often mistaken for dot leaking because the edges are uneven. But you can see that the tips of the leaks are square.

The ink is not smart enough to make a square leak. The problem with this dot is that the ink is not flowing around the threads and filling the dot cylinder. The result will always be a false low dot gain and a weak image. The cause is normally the ink rheology. When you see this, you can fix it with an ink with low tack and better flow characteristics.

d Dot skipping. (Figure 8)

Dot skipping can occur on just one colour on a clean sheet but mostly we see it on the third or fourth colour down in a four-color process. You can see that the ink is being held off the print surface by the previously printed dots. Ink building up to a point where the third of forth colour won't print is called "Dot Stacking".

The dot stacking is not the problem in its self. But it causes skipping. The dot skipping shape will normally be little spots that are just the hole opening around the threads. There wasn't enough ink between the threads to get to the surface. You will see little spots where the dots should be.

Laura Maybaum, Academy of Screen Print Technology member, gave this the technical name of 'puppy paws'. The cause is normally the pile height of the previously printed dots. The most common cure is to reduce the EOM and face coat the screen. If that doesn't work, just use an ink that has a lower profile. Skipping can also be caused by surface tension problems of the substrate. Do not fix it with excessive pressure! The dot gain increase will be global. The places on the print that were not skipping will now probably show dot leaking. Fix the problem… not the symptom.

CONCLUSION

You can see from the cause and effects that I have documented here the importance of good screen-making in producing a good dot. Poor screen-making is the cause of almost all the dot problems. The number one thing in screen-making that causes bad dots is under-exposure. The number two thing in screen-making I see that causes bad dots is not paying attention to the EOM and Rz. If you get the EOM low, and the Rz low and fully expose the screen, it makes printing a lot easier as it widens the margins for error in press set up. ■

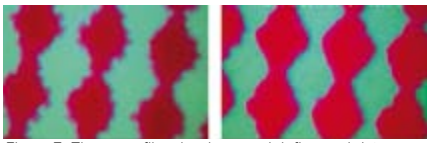

Figure 7: The same film showing poor ink flow and dot starvation and dots fully printing

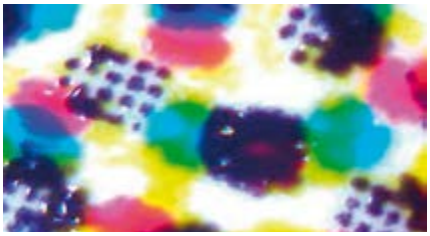

Figure 8: Skipping's distinct pattern shows ink only slightly making it through the mesh opening but not filling the dot cylinder

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PUTTING THE 'ACCENT' ON PRINTED PRODUCTS

Dr Gérard Rich discusses the benefits of a new UV imaged coating plate for packaging and commercial offset applications

For coating applications, the well-known adage "cheap is expensive" applies as well. Printers tend to use specialised coating blankets for very simple varnishing jobs but this method is limited, requires manpower to cut out and remove knock-out zones and, in most cases, machine down time with difficulties to get on press registration. It is therefore becoming costly as an overall process.

Coating plates prepared with a plotter are more expensive as a consumable and require specialised cutting equipment, dedicated driving software and are also consuming costly internal resources to prepare the plate for production by removing manually the cut out zones. As a result, there is a need to come up with a high quality coating plate produced internally in the pre-press room at an affordable overall manufacturing cost, with similar speed of imaging as for offset plates, and with no significant additional investment in equipment.

Before presenting the new plate, we need first to discuss CTP (computer-to-plate) technology and its evolution with a broad picture view.

THE DEVELOPMENT OF CTP FOR OFFSET APPLICATIONS

By the time CTP for offset was born in the early nineties of the last century, the only industrial lasers available were operating in the infrared domain (830nm and above). At these wavelengths, it is impossible to trigger chemical reactions that are needed for cross-linking polymers by radiation and make them suitable for printing applications. Offset CTP, in the early days, was therefore relying on complex thermal phase change processes in polymers triggered by hefty temperature increases during imaging. In the last five years, however, UV lasers have developed exponentially to serve large volume, emerging needs in the industry, offering new means to cross-link polymers very efficiently with CTP devices without calling on thermal or ablation mechanisms. The trend in laser technology towards UV is sustained by increasing market demand and on-going R&D investments, whereas the IR laser field is becoming mature with no further breakthroughs to be expected.

INTRODUCTION

The whole area of print enhancement, and coating in particular, is of ever increasing relevance to packaging and commercial offset printers. As standard four-colour printing is getting more and more competitive, printers differentiate themselves with the increased value offered by spot, knock-out varnishing and special lacquers applied with varnishing/coating towers, preferably inline on their presses. We use the term 'coating' throughout the text. However, some readers may be used to 'varnishing' and this covers one single set of applications.

Coating requires a flexo plate that is an 'alien' object to offset printers. Conversely, coating plates are a relatively small remote segment of flexography with little attention given by the flexo plate suppliers. As a consequence, there is a gap between printers' expectations and the coating plate offered in the market.

THE CURRENT GAP AND THE PERCEIVED NEED

Offset printers produce offset plates on site internally with short lead times before planned production. This is providing the needed flexibility in operation to compete with today's mandatory high level of service and responsiveness. The same level of responsiveness is obviously desired for the coating plate supply. UV laser sources are changing the offset CTP market with new applications made possible beyond so-called thermal or ablative plates. Robust UV sensitive offset plates are more widely accepted as the most recent avenue of digital imaging. The development of the coating plate presented here also benefits from this wave of innovation in laser technology.

Lüscher's XPose! UV CTP system

COATING PLATE TECHNOLOGY

The only, state of art, truly industrial process to prepare a coating form today is by imaging an elastomeric plate via mask ablation on a CTP device. This requires a flexo CTP and the associated workflow for the current state-of-the-art plate technology.

The level of investment and the related infrastructure in flexography is, however, out of reach for most printers as their coating needs cannot justify and bear the costs associated. Flexo plates may also require solvents and solvent recycling facilities that are excluded up front in terms of investment by printers.

The coating plate developed by Lüscher & MacDermid is overcoming these current inherent difficulties and is, therefore, enabling the integration of coating plate manufacturing by offset printers.

The printer is using its existing UV offset CTP to image the coating plate as a simple new application in addition to its current offset plates. The coating plate is registered during imaging with the same means and accuracy as for the offset plates and is washed out with industrial water with simple-to-operate dedicated equipment.

Continued over

The new Accent plate from MacDermid

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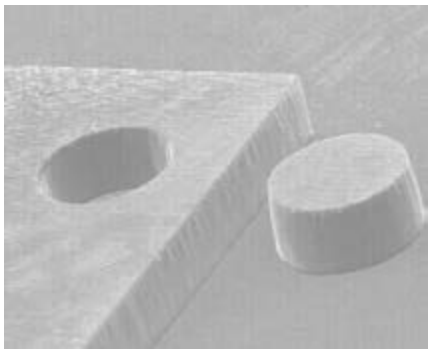

The product detail showing the positive and negative elements

The Accent plate after UV imaging

PREPARATION OF THE COATING PLATE

The coating plate is supplied by MacDermid as an uncured calibrated elastomeric layer on an aluminium based carrier layer. The plate is punched if needed and registered as an offset plate for the imaging step. The UV laser light of the CTP device is modulated by digital data and is scanning the plate surface to selectively cure and cross link the polymer layer. The areas where UV laser light is penetrating the polymer layer become insoluble in water, whereas the areas where the lasers are off during imaging will be washed away during development. After plate development, the areas imaged by UV light become the relief parts of the plate that will be transferring the varnish in the coating towers.

As a relief coating plate is intrinsically more difficult to image than an offset plate having a very thin layer of polymer (2D imaging in essence), Lüscher has developed additional proprietary software to enhance imaging capabilities of fine 3D details with adequate shoulders and reverses. This software is a new module in the current CTP driving package. The benefits for printers, that can be derived from the above explanations, are what is most important to highlight. The new plate increases the flexibility in production and reduces overall costs of ownership for coating plates, enabling printers to compete more effectively. There is no doubt that the new possibilities offered by in-house production of coating plates will unleash the creativity of printers.

Varnish coatings will 'accent' portions of the printed product with appealing visual effects.

PRODUCT APPLICATION DETAILS AND PRACTICAL EXAMPLES

The coating plate is offered preferably in a thickness of 0.76mm as this minimises costs and product wastage. The relief height of the plate is large enough to avoid problems and the edges of the printing area can be imaged with steep shoulders. The coating plate is systematically packed on the printing cylinder with an under blanket, cushions and/or alternative packing materials. This is very similar to what customers are using currently.

As coating/varnishing is a relief printing application, image distortion on press in relation to the offset part of the printing job will have to be dealt with. A piece of software will help the pre-press department to make easily the adjustment in the RIP parameters.

A strip of polymer can be imaged on the leading and trailing edges of the plate to help with clamping the plate in the lock-up system on press.

The coating plate is imaged in perfect register on the XPose! UV with, typically, a pre-punched plate associated with an embedded Bacher system. This is possible due to the unique architecture of the Lüscher CTP with plates being easy to mount and static during the imaging step. The polymer is acting negatively; only the zones where coating is required will be scanned by the lasers. The CTP will skip, at high speed, non-printing areas to optimise imaging time.

The plate is designed to be used with aqueous and UV varnish/coatings with extended life in both packaging and commercial printing applications. It must be noted that some customers use the plate to coat digitally printed goods off-line.

EXECUTIVE SUMMARY

The coating plate has been developed as a collaboration between MacDermid, the plate manufacturer and Lüscher, the CTP manufacturer. The whole area of print enhancement, and coating in particular, is of ever increasing relevance to packaging and commercial offset printers. It is a key driver of their differentiation. There is a gap between printers' expectations and the coating plate offer in the market. This gap is due to the distance in technology between the offset and flexo worlds. There is, therefore, a need to come up with a high quality coating plate produced in the prepress department of offset printing plants at an affordable overall manufacturing cost with speed similar to offset plates imaging and with no bigger an additional investment.

With the recent availability of high power industrial UV lasers operating typically at 405nm, the CTP world has changed and these lasers enable the imaging of the robust UV conventional offset plates as well as the new coating plate. With a relatively modest additional investment in processing equipment, the coating plate can be imaged in-house on the offset CTP as it is known to the industry and will be developed, after imaging, with industrial water into a relief plate.

This is providing for coating plates the same flexibility as for offset plates in operation. It will become possible to compete with the mandatory high level of service and responsiveness. Benefits for printers are, on top of increased flexibility in production, reduced overall costs of ownership of coating plates. Coating will 'accent' portions of the printed product. There is no doubt that the new possibilities offered by in-house production of coating plates will unleash the creativity of printers with even more emphasis on print enhancement. ■

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THE IMPORTANCE OF SCREEN ROOM DESIGN

Alan Buffington outlines how a good layout can drive shop productivity

In most shops the screen room is a neglected area. Much more thought is given to the layout of the automatic presses, ovens, and offices than the tiny screen room tucked away in a dark corner of the shop. Screens lay stacked against the wall and tape and ink seem to get everywhere. The exposure blanket is full of holes patched with shipping tape causing poor contact between the film and screen resulting in the fine half-tones and details to be undercut by the exposure light and not develop.

The washout sink is covered in old emulsion and inks and is often the only sink in the small screen production area. Bad habits can develop in an attempt to rush the process. Floor fans are brought in to accelerate drying the emulsion. Exposure times are often ignored to lessen make ready time. Often screens are reclaimed and degreased in a rush then forced dried, coated and exposed too soon and rushed to press. This is about the time I get a technical call about how the emulsion is breaking down.

It's important to avoid resting frame corners against the mesh

Frame corners can damage fine meshes

Screen room personnel are often recently hired employees. In my shop, if you could endure cleaning plastisol for 30 days, you got to move up to reclaiming, degreasing, or another job in the shop. Most training was passed on from worker to worker and it amazes me how large well known companies struggle with a screen room that they never expanded or improved as the company grew. The workers learn to short-cut the system to keep presses running while the personnel on the production floor struggles to meet deadlines as the presses are stopped to fix breakdowns or pinholes. Add discharge and water base inks to the print recipe and production really begins to suffer.

Production is what grows a company. It fulfils sales goals, creates the value added service that the company relies on for income and determines profits or loss. Low production yields, or inferior prints, can spell disaster financially. One solution is to re-evaluate the screen room, the screen-making methods, and especially the products used to create screens. Screens are like a fine artist's brush. His painting's artistic quality is often due to his selection of brushes and how he uses them.

For a screen-printer it is the quality of his emulsion and mesh that determines his print quality and his productivity. I have seen shops capable of incredible sample prints yet have difficulty repeating the process in high speed production due to underexposed screens that captured all the details in the art but were not strong enough to withstand long runs. I've also seen the opposite where a set of screens can be exposed dried and running non-stop production in under an hour with the right equipment and training. Lets see how to achieve the best screens possible.

Dip tanks for reclaiming screens

LABOUR STEPS TO MAKE A SCREEN

1 Screen cleaning

This job should be done outside the screen coating and storage area. Plastisol inks contaminate everything they touch and never dry. Allow enough space near the screen room for incoming screens from presses to be cleaned and all tape and ink removed before the emulsion reclaiming process. If you use a two-part ink degrader and emulsion remover in a dip tank or liquid spray form, you should also use a dedicated sink just for this purpose. Degreasing in a sink that has bits of plastisol and old emulsion will cause pinholes and fish-eyes down line from the contaminants bouncing back onto a clean screen during the reclaiming and degreasing processes.

2 Screen reclaiming

Dip tanks save labour and chemistry. By rotating screens through a dip tank the worker

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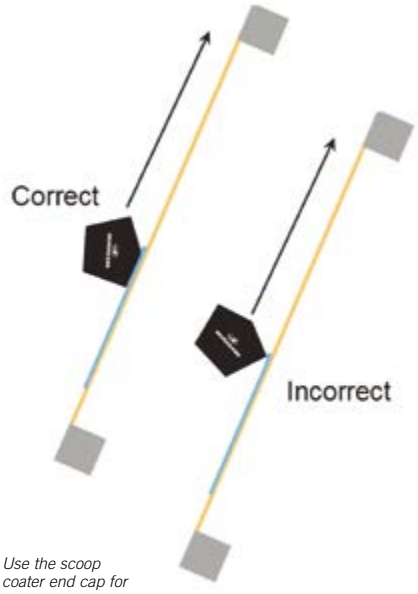

Use the scoop coater end cap for consistent EOM

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Dehumidifiers help control humidity levels in the screen room

A typical commercial drying cabinet

A reclaiming sink

can focus on emulsion removal while the dip tank softens the emulsion. There are new chemistries available that allow thin layers of plastisol to be broken down as well as reclaiming the emulsion in one step. Always check with local water authorities before putting chemistry down the drain to make sure you are in compliance.

3 Degreasing

Degreasing and development should be done in a dedicated sink. Commercially available screen degreasers prepare the mesh so the emulsion coats evenly with few pinholes or fisheyes. When rinsing the screen it is important to direct a stream of water where the mesh meets the frame on the squeegee side of the screen. Degreasing chemistry left in this crease can cause fish eyes and pinholes to form when it runs back onto the mesh and dries prior to emulsion coating.

4 Coating screens

Once the screen is degreased it must be dried completely before coating with emulsion. Coating an incompletely dried screen is a short-cut area that results in fish eyes and weak spots in the screen. The other short cut issue is how fast the worker coats the screens. Coating too fast will form bubbles behind the mesh knuckles that will lead to pinholes. Placing the end caps of the scoop coater flat on the screen will help create consistent EOM (percentage of emulsion over mesh).

Consistent EOM creates consistent exposure times which results in the ability to completely expose the emulsion stencil. Emulsion is only as strong as the amount of light it receives. Too little light and the screen will be underexposed and breakdown on press. This is a common mistake in the screen room. A poor performing emulsion may need underexposure to get the details to wash out which leads to lower production yields as the press stops and starts to fix the screen. A quality emulsion can be exposed completely and still develop fine details well. This results in a completely exposed screen that can perform on press with little breakdown issue and improves productivity through near non-stop production.

The difference in cost between a low performing emulsion and a top performing emulsions is minor when compared to improved productivity and print quality. Quite often the better performing emulsion will make you more money than a low cost, poorly performing emulsion regardless of cost.

5 Drying coated screens

The ambient conditions of the screen room determine the time needed to dry the screen. The smaller the drying area the more humidity there is and the longer it will take to completely dry the screen. Too often, as soon as a screen feels dry to the touch it is rushed to the exposure table. Unfortunately the inside of the emulsion film may still be like jello and contain a lot of moisture. This moisture inhibits screen exposure and results in a weak screen that will break down on press.

The screen room needs to have dry air. In the Southwest US this is not a problem as the humidity can be as low as 8%; but in rainy, foggy, coastal areas, cold climates, or in the wet season in the tropics, the humidity in the air must be removed with a dehumidifier. You can build hot boxes/closets heated to 26 degrees C (80 degrees F) with a dehumidifier set to 35% that will accelerate drying and allow faster screen production. Avoid drying screens with a floor fan as they stir up dust and deposit it on freshly coated screens. Raise fans off the floor to get good air movement to accelerate screen drying. This link to *http://www.youtube.com/watch?v=Cc1iomEqhOY* shows a video that goes into more detail on screen-making.

Continued over

Screen racks serve an important function by preserving mesh

A dedicated degreasing and development sink reduces screen contamination

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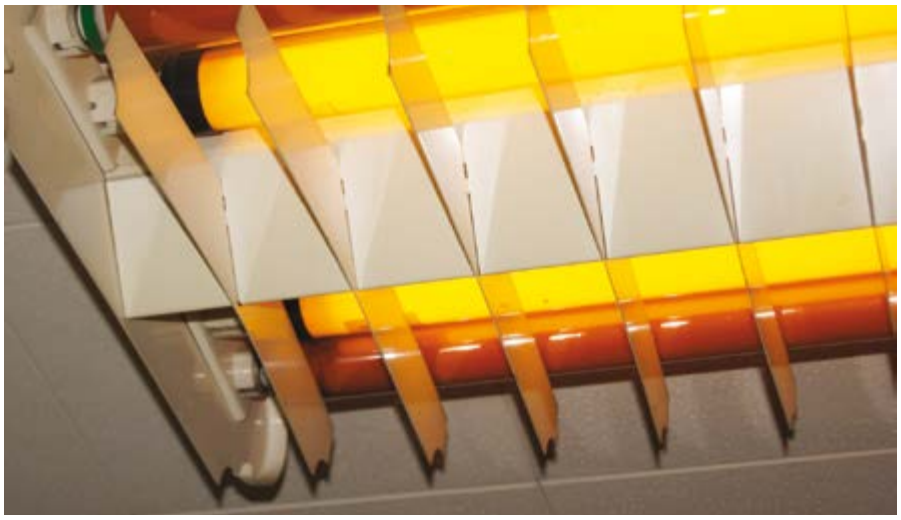


Yellow fluorescent safety lamps are needed in screen coating and storage areas

SCREEN ROOM EQUIPMENT LIST

1 Exposure unit

Strength matters when it comes to exposure lamps. 5kw lamps with a fresh multi-spectral bulb simply create stronger screens than weak fluorescent bulb systems or low wattage systems. The emulsion strength achieved with any exposure system is evident when printing discharge, which can break down poorly exposed emulsions quickly. If you have ever tried printing an eight-colour or more all-discharge print with an underexposed set of screens you know the headaches that can develop as one screen fails; wash the whole set up and wait for a replacement screen only to have another fail, then another and so on.

Your emulsion selection also plays an important role here. As mentioned, it needs to hold details when fully exposed to achieve strong screens capable of non-stop production and have water and abrasion resistance to withstand aggressive inks. Even if you have a strong 5kw or higher system, it is important to have a fresh bulb that is still emitting multi-spectral wavelengths of light that spike at 380 and 420 nanometers.

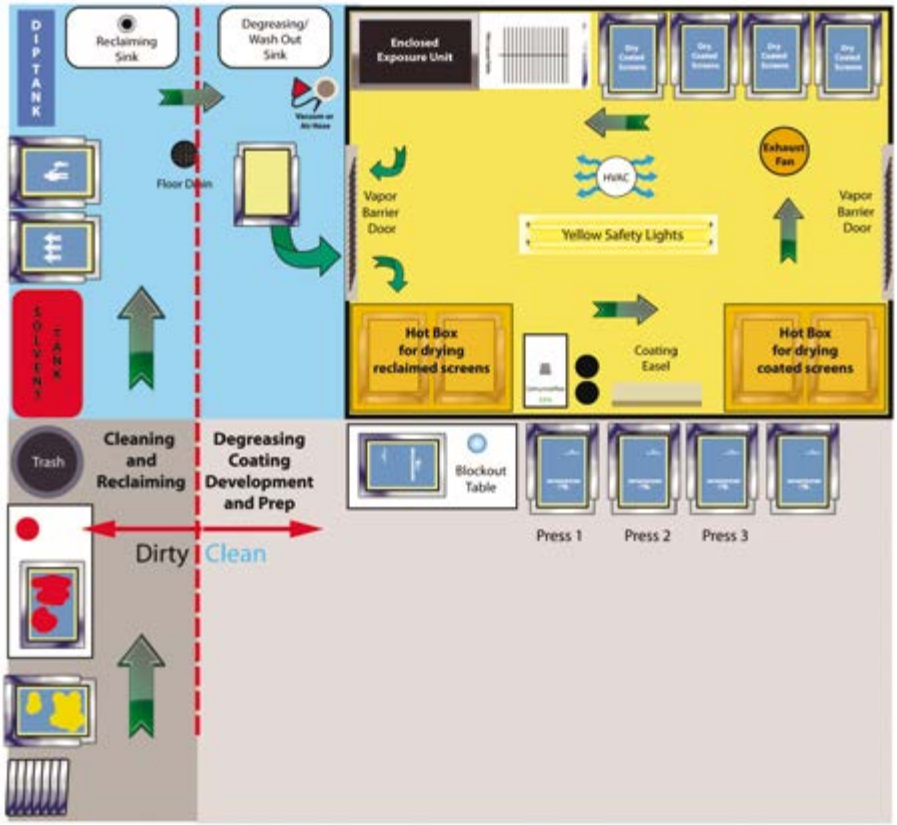
As a bulb ages it loses its ability to produce strong UV as the precious metals are burned up. Occasionally we find exposure units where the worker claims the integrator is broken. After a few questions about the age of the bulb it is concluded that the bulb is no longer producing strong UV light that the integrator reads to measure in lumens before turning off automatically. Using an integrator with a strong, fresh exposure lamp assures that the screen achieved the right quantity of lumens. Lamps start exposing with longer exposure times using an integrator as the lamps age since an integrator measures the quantity of light, not the quantity of time. If you are using seconds to measure exposure eventually you will be underexposing the emulsion as the bulb ages. If exposing by time is unavoidable then run a step test every two to three months or use a hardness scale on your screens to make sure they are getting enough UV light. Instructions on performing a step test can be found at http://www.murakamiscreen.com/documents/StepTestInstructions.pdf

2 Dehumidifier

This is an essential piece of equipment to remove moisture from the air. One is adequate but two may be needed in larger screen rooms. Typically reclaiming is done right outside the screen room, or worse it's done in the screen room. This process puts a lot of moisture in the air. Add to this 20 to 50 coated screens that are also adding humidity to the screen room air. Then, if it is foggy, rainy or cold, more ambient moisture can prevent the screen room air from being dry. The screen needs to be completely dry. Think of dried emulsion like beef jerky or any desiccated product. Emulsion needs to have absolutely no moisture trapped inside for proper exposure. The longer it takes to dry screens, the slower the screen room output. This pressure to get screen sets ready for press will force workers to accept 'dry to the touch' as acceptable when, in fact, partially dried screens will adversely affect shop productivity every day until the screen room produces high quality screens.

Continued over

A vapour barrier doorway blocks mist or moisture from nearby sinks



A typical screen room layout for a mid-sized automatic press shop

A degreasing sponge for fine S mesh or higher mesh counts

This type of degreasing brush should only be used on coarse mesh

3 Screen racks

While not essential, they serve an important function in preserving mesh. Today's screen-printers are finding that S mesh can have significant print qualities unobtainable with standard T and HD mesh – brighter base plates, softer hand, and more saturated colour and detail using discharge inks. Screen racks minimise poor screen handling procedures.

Stacking valuable screens against the wall and allowing frame corners to graze across fine meshes assures their breaking at some point in the future. Moving screens in racks is more labour efficient as well and can allow screen room personnel the ability to move the racks and mop the floor daily to control dust that will wind up as pinholes eventually.

4 Safety lights

Yellow fluorescent safety lamps as well as UV sleeves for white fluorescent shop lamps are needed in screen coating and storage areas. An easy check to see if your safety lamps are mildly exposing your coated screens is to place a coated screen print side up with a few coins scattered over the dry emulsion with the lamps left on overnight. In the morning wash out the screen. If the coin circles develop and fall out before the rest of the emulsion there is a light contamination issue. It may be as simple as just shielding the rack on the top with plywood or cardboard, or changing to a better UV sleeve or safety light.

5 Hot boxes

There are commercially made dedicated screen drying cabinets that can accelerate the dry time for a coated screen. You can also make your own closets/rooms that are environmentally controlled; just make sure any air escaping a hot box is vented outside of the screen room area. Dehumidifiers are essential if you make your own drying area. A heater may be needed in wet, cold climates as well.

Set the room temperature to 26 degrees Celsius or 80 degrees F to avoid dark hardening of diazo sensitisers that cannot withstand temperatures any higher. Exposure above 26 degrees C will make the image very difficult to wash out if your emulsion uses a diazo sensitizer. SBQ sensitised emulsions are unaffected by higher temperatures as long as diazo has not been added. SBQ emulsions can withstand hotter temperatures of desert climates much better than diazo emulsions and also have a longer shelf life of one year or more.

6 Washout sinks

Where possible, separate screen reclaiming from degreasing and development to avoid contaminating freshly degreased screens. Two sinks help screen room personnel maintain adequate throughput volume to support multiple automatic shops. The degreaser/screen development sink with a yellow backlight helps to check the image to see if all elements wash out.

7 Vapour barrier doorway

The entry to the screen coating and drying area needs to block any mist or moisture from the nearby reclaiming and development sinks. A vapour barrier door allows worker entry to be visible to other workers and provides quick access to a much used entry area while blocking humid air from entering the screen room.

8 Pressure washers
Screen development is much better with a pressure washer set to fan spray. This set-up will develop the screen faster and allow completely exposed screens to develop fine details easily. For reclaiming screens, however, a 600 psi may not do the job. 1500 to 3000 psi pressure washers have the strength to remove emulsion much more quickly. The stronger pressure washer can be used for developing the screen if the spray is set to 'fan' spray and a distance of 12 to 18 inches is maintained from the screen.

9 Brushes or sponges: which to use?
Coarse mesh can be degreased with a dedicated brush. It helps to change brushes regularly. The new one becomes the degreasing brush as the older ones become a reclaiming brush or an ink cleaning brush. However, brushes and abrasive scrub pads should never be used on fine S-mesh. Degreasing with a clean, high quality natural sponge preserves fine threads better. Brushes and aggressive scrubbing can weaken thin threads causing the screen to pop for no apparent reason while drying.

10 Screen/art line-up board
Accurate line-up boards, with many of the most common print positions marked, helps align the screens and can avoid having to move pallets on the press during set up. Incorporating pin register systems with a well marked line-up board can help screen room and art room personnel place art in pin registration and make set-up on press very fast.

Typically a header strip with registration holes is attached to the films that gets positioned on permanent pins. These line-up pins can be on the exposure table glass, or on a line-up board. Computer-to-screen systems eliminate all of this by capturing the screen precisely and imaging the different screens in register to each other. While some of my workers could set up a job as fast as a pin register job, not all employees have this skill. Pin registration allows less skilled workers to get screens in very close register while a lead man or press set-up worker can micro-register the print.

11 Screen room layout
The main thing to note in the diagram of the suggested screen room design is that the screen room dimensions re equal to the screen cleaning/reclaiming area. Larger rooms dry screens faster since there is more air to absorb moisture. Typically this room has a ceiling while screen reclaiming and cleaning should be left open so that moisture is dissipated into the warehouse. It also helps to have positive air flow in the screen room. Air Conditioning or heating is an excellent way to keep the air dry and the temperature of the room maintained. Air conditioned air is low in humidity and can promote drying. If HVAC is unavailable, then consider installing a fan to pull air from the warehouse into the room through a typical furnace filter so that dust is captured. This will cause air to be forced out of the screen room entry ways and keep unwanted dust and moisture out.

Screen rooms create the most important tool in the shop, the one that produces the product you sell. The emulsions and mesh you choose can only perform as well as the screen room conditions allow. Drying a quality, top performing emulsion well, then exposing it completely with strong UV light and drying it well before press set up, will increase production yields and improve print quality. ■

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THE ART OF KEEPING COOL

Sophie Matthews-Paul assesses the value of LED curing in today's wide-format platforms

There are lengthy discussions these days about the efficacy of integrating LED curing technology into wide-format platforms but many believe that the technology isn't ready yet and that the benefits are outweighed by disadvantages in practical terms.

However, EFI is no stranger to LED curing and its capabilities, having integrated this technology into its Jetrion label presses with success. Indicative of the type of stocks these machines need to work with, it is clear that the use of a cooler and less critical drying system is beneficial when working with sensitive materials typical in the narrow web sector. These principles are also beneficial in the wide-format UV-curable arena where the demand for more forgiving lamp behaviour meets the growth of applications onto tricky substrates.

With such a strong pedigree in this technology, it was no real surprise when EFI announced the VUTEk GS3250LX, a 3.2m flat-bed and roll-fed platform that offers industrial-strength performance with the benefits of curing not found with mercury arc lamps. These conventional options have made the transition from the screen-printing and flexo sectors, and have played a significant role in bringing UV-curable ink technology to the digital arena. But their downside is that the lamps generate high heat during the curing process. Contained within the printing machine, this also affects the material being used.

Although traditional curing methods have held their own with typical sign and display substrates, there is increased demand for users to work with tricky and delicate materials. This is certainly true when printing thin media which reacts badly to heat and, when using conventional lamp technologies, can lead to head crashes and unusable results.

So, because of the intensity generated by broad spectrum UV lamps, there has been justifiable criticism regarding the output of some print jobs, particularly onto fine and sensitive substrates. Combined with tricky adhesion and the possibility of the ink crazing, cracking or flaking off, mercury arc lamps haven't been a universal cure-all.

Thus, the advantages perceived in using LEDs are now becoming reality with engines coming to market that incorporate this technology. EFI has fulfilled the demand within the wide-format sector with the ability to print direct to a wider range of substrates. It's achieved this by integrating its 'cool cure' technology into the VUTEk GS3250LX.

This machine takes on board further considerations, too, when working with this curing technology. Unlike broad spectrum mercury arc lamps that have a finite working cycle of around 1,000 hours, LED equivalents have an extremely long life. Another benefit is that, because the light intensity doesn't diminish with use, the output consistency from LED curing lamps remains constant with no degeneration. Additionally, their shutterless functionality means that they can be turned on and off without needing a warm-up time.

As a result, EFI's 'cool cure' technology has been incorporated into the VUTEk GS3250LX without there being any compromise on throughput or quality. This innovation has been realised because of the development of the right kind of ink for this technology to enable LED curing to be effective. The machine has a maximum print speed of 223 square m/hour and can handle thin and thick flexible substrates, as well as rigid sheets. As well as wide-format applications, output can be finished on a cutting table, simplifying the production of smaller, nested jobs such as labels, decals and stickers.

EFI has incorporated its eight-colour plus white ink-set into the VUTEk GS3250LX which, with a choice of resolutions, enables users to select between a true 600 dpi, with a 24 picolitre droplet size, or 1000 dpi, with a 12 picolitre droplet size. It is also easy to switch between finest quality output to EFI's Fast-5 mode which enables very high productivity. In common with all of the GS printers, this device benefits from the company's HDP (High Definition Print) technology to deliver accurate and strong colours with crisp, clear details and text.

The maximum roll or sheet width is complemented by the ability for the machine to print two reels of material simultaneously so that productivity can be increased. For users working with large rolls there is an optional heavy-duty unwinder.

The white ink capability incorporated into VUTEk's GS3250LX enables printing in six variations of overprint, underprint, spot, underspot, fill and overspot. This capability is ideal for enhancing and providing a base opacity for other colours to promote maximum visibility of the final print in varying light conditions.

To ensure that the printer's features are fully optimised, the VUTEk GS3250LX can be supplied with the latest EFI Fiery XF proServer RIP. This has been developed to accommodate the growing demand for processing speed, increasing production rates by up to five times. This performance differential is noticeably faster because multiple jobs are processed simultaneously rather than sequentially, and this reduces the printer's idle time considerably.

EFI's Fiery XF proServer incorporates a second driver option so that jobs can be proofed on a smaller device without disrupting printer workflow, particularly valuable when working with premium end substrates such as label stocks. Easy to use, this production solution includes advanced colour management, and its vast range of options including nesting and tiling, both essential features when working with variable sheet sizes.

EFI states that, with the VUTEk GS3250LX, users can work more efficiently with less waste and lower operating costs. From an environmental perspective, LED curing produces no VOCs (volatile organic compounds) and the 'cool curing' technology means that even recycled materials can be printed without surface damage or warping. For label producers wanting to take advantage of a wide-format device but needing stability across all media, LED curing brings overall benefits by being able to handle sensitive materials, with reduced power consumption. ■

EFI's VUTEk GS3250LX incorporates LED curing with the company's 'cool cure' technology

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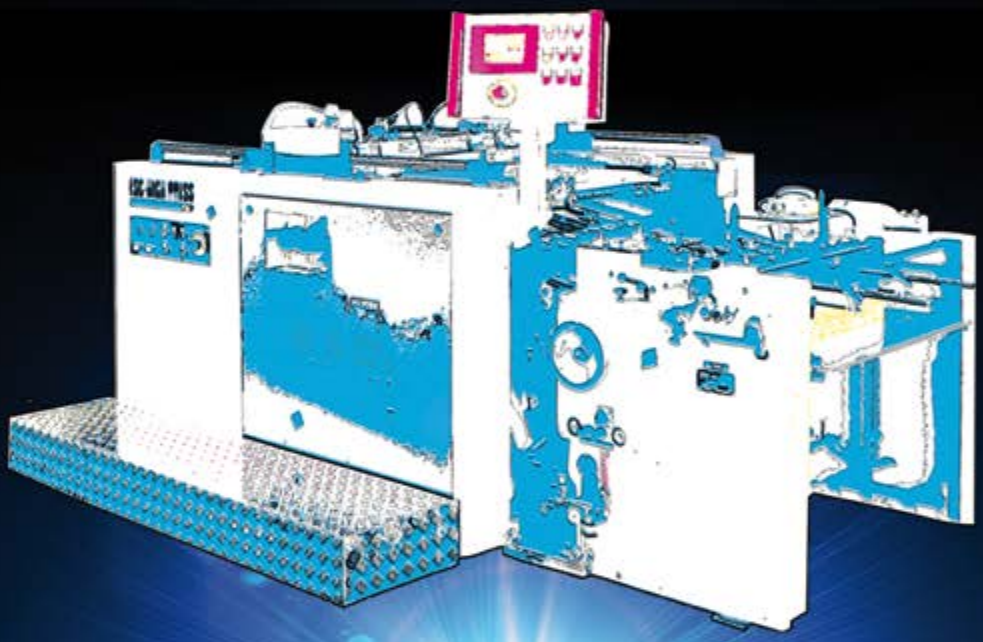

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SHORTER RUNS AND SHORTER TIMES

Mike Bacon observes the trend toward narrow web digital printing and digital finishing

Have you recently been put in a position where your customers continue to request shorter runs for jobs that need to be shipped within a short period of time? Have you been asked to jump through hoops for a good customer that requires immediate action? Shorter runs and shorter lead times continue to make their way into the label market as private labelling and the desire for smaller inventories shorten the life span of a given labelled product.

An initiative in the digital printing market began to take place a few years ago when customers were beginning to question how their digital print cells could be more efficient. How could digital printers provide more lean production practices? Equipment manufacturers responded with digital printing machines that also included finishing lines. Xeikon, Durst and HP provided their print engines with rotary die cutting solutions inline. While these system integrations remain reliable, a new initiative has begun whereby digital printing and laser finishing are integrated to provide a true plate-less printing and converting option.

LEAN PRODUCTION PRACTICES

Several years ago suppliers in the label market began to adopt lean production practices to clean up waste and attempt to compete in the ever shrinking profit margin world. Wikipedia defines lean manufacturing as: "a variation on the theme of efficiency based on optimising flow; it is a present-day instance of the recurring theme in human history toward increasing efficiency, decreasing waste, and using empirical methods to decide what matters, rather than uncritically accepting pre-existing ideas".

So what does this mean for your printing and converting departments? It can be as empirically simple as measuring and reducing waste of materials, time setting up jobs, time and expense allocated to designing and producing new printing and cutting plates. It can be measured logically by reducing and minimising movement of operators and materials in and around your production equipment. Efficiency is measured by performance of the whole not by the parts. The more parts the less efficient. If you have ever tried to adopt lean practices internally you know that it is difficult to execute. Equipment manufacturers know this and have made strides in providing digitally efficient equipment that eliminate time, waste and money.

In the world of shorter runs and longer lead times digital printing can be a viable solution. In the world of converting, laser finishing can further assist with shorter runs and shorter lead times. Putting these technologies together to provide a 'single button' approach to labels is where equipment manufacturers are headed. Can you imagine being able to set up both your printing and cutting units in the pre-press area and send multiple jobs to a single piece of equipment without ever having to change printing or die cutting plates?

WORKING ON A SOLUTION

Well, manufacturers imagined this in 2010 and began working on a solution. Integration of software was the major hurdle as manufacturers attempted to take a single print file, including vector files for laser cutting, and produce a print/cut file that could be sent directly to a machine that would print and then finish. This is currently happening and bringing a lean manufacturing approach to the label market.

Technology breakthroughs utilising seven XAAR print stations including a pre-coating station, CMYK White print stations, UV varnish station along with UV pinning lamps and a final UV cure are being introduced onto the marketplace.

A specific system that is powered by INXJet UV ink-jet printing technology uses a seven station, UV ink-jet digital printing platform with a pre-conditioning station that pre-treats raw stock therefore saving on material costs. The next five print stations in this system include white and CMYK stations followed by another UV coating station for durability. Finally, the printed material goes through a fully integrated laser cutting station that kiss cuts labels and rewinds them into a finished roll.

Lasers are designed to cut using different energy levels (pen settings) for different cut parameters and all of this information can be provided in a single .XML file in the pre-press area. Other cases are designed to run a single roll of material with three separate jobs across a web and a variable print image. The only way to perform this type of finishing is via laser cutting.

You will hear more about these integrated technologies in the coming months as companies work together to provide true lean manufacturing equipment. ■

Mike Bacon is vice president of sales and marketing for Spartanics

The NW140 UV digital printing powered by INXJet and Spartanics L140 laser station offers high-class printing/ converting equipment at a low initial investment cost.

Laser cutting stations in-line with digital printing equipment are allowing label manufacturers to introduce 'lean manufacturing' practices throughout their plant.

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TURNING PRECIOUS PAPER INTO A WORK OF ART

Alexander Jauker discusses the beauty of intricate finishing using laser systems

Fine detail is added to a cover with laser finishing

Enhancement and post-processing has been around ever since the invention of printing. Treatments like varnishing, laminating of films and foils, and mechanical embossing is well known within the industry. Several hundred years after Gutenberg's innovation, paper finishing remains an exciting field.

A rather new technology in this field is laser finishing and this technique provides the inspiration for new products. Personalisation, individual design and intricate shapes can be offered – even for unique pieces, small quantities and short runs – and the combination of engraving and cutting is delightful.

LASER FINISHING MAKES PRECIOUS MATERIAL EVEN MORE VALUABLE

Paper finishing with laser technology offers a wide scope for design and leads to impressive results. For logos, photos or graphical ornaments the possibilities are endless for the graphic design, and surface finishing with the laser beam offers wide creative leeway. Users can realise the finest details by combining engraving and laser cutting of paper and creating tactile adventures out of your material.

The combination of engraving and cutting is one possibility, but another workflow that adds value to print is print-and-cut. The laser produces the highest precision and accurate contour cutting and, thanks to laser technology, users can produce their own very detailed geometric shapes to high levels of quality. A cutting plotter is unable to meet such level of detail, and laser cutting offers a kind of a redefinition of paper finishing. An additional camera system enables the precise contour cutting of printed materials, and the best thing is that there is no need for elaborate positioning as distortions in the printed design are identified and the cutting path is adjusted dynamically.

ENDLESS IDEAS

No matter if it's natural paper, laid paper or high quality paper, finest, premium and design stocks become even more valuable with intricate shapes. Opportunities abound for invitations, high-end packaging, personalised letterheads, quality brochures, cards or financial reports, menus, book covers, diplomas, attention-grabbing direct mails and many others. The laser makes the noble substance of paper even more precious.

Paperlux, a design agency for luxury brands and a Trotec customer in Germany, recognised the unbelievable opportunities and possibilities of laser finishing. Searching for new means of expression, the team explored the depth of paper, a product with tradition. The agency is working with a Trotec laser, designing highly valuable and fascinating artwork, delivering true added value.

The vivid fineness of the engraving is outstanding. Marco Kühne, Managing Director of Paperlux, describes his way of working with a saying from the famous designer Richard Buckminster Fuller: "When I am working on a problem, I never think about beauty but when I have finished, if the solution is not beautiful, I know it is wrong."

Since the beginning, Paperlux has co-operated with the Büttenpapierfabrik Gmund. The company has been operating since 1829 with divisions for fine papers, uncoated papers and paper boutique products. Fine paper from Gmund stands for creativity, tradition, innovation, quality and creativity. Another company with tradition and passion within the paper industry is Römerturm which specialises with fine paper, japan paper and paper for artists. Norbert Pritsch, Key Account Manager International for the company describes his impressions after a visit to Trotec headquarters in Austria like this: "What has perfectly become clear to me. If highest quality paper products are processed with advanced laser technology, materials can be virtually transformed. As a new way of paper finishing, this method offers even unexpected possibilities. I was very impressed."

Continued over

Trotec's Speedy 300 features a work area of 726 x 432mm

An example of laser finishing which resembles art (photo courtesy Michael Pfeiffer)

USING ALL SENSES

A fairly common and widespread prejudice is that the laser beam burns paper but this is not true. The beam is very concentrated when it cuts the paper which is sublimated by the laser beam with the following chemical reaction. The energy of the laser beam abruptly vaporises the paper, which means it is sublimated. The material in the area of the cutting gap leaks very fast as gas and the smoke is visible. As a consequence, the paper near the cutting gap is only thermically stressed a little. This fact is precise in that it makes laser processing of paper such an interesting application. With the help of additional gas users can minimise the traces of the laser beam. The surface of the material stays perfectly clean; the cutting edge is slightly brown coloured.

High quality laser finishing can turn an annual report into a work of art (photo courtesy Michael Pfeiffer)

TRUMP CARD PRODUCTIVITY

The clean surface is a crucial advantage of laser processing. Furthermore, this technique is, on the one hand, extremely fast compared with knife cutters whilst, on the other hand, it is the perfect choice for small quantities or short runs. Unlike cutting plotters, lasers are not subject to material resistance. Nor is there the need to raise or rotate the laser beam, as in the case of a knife. Compared to die-cutting, laser processing pays off for small quantities up to 1,000 pieces, and there is the incomparable advantage when it comes to fast, easy and flexible single unit prototyping. When discussing the finishing processes for luxury, high quality products produced in very small quantities, it is not the productivity that counts. It is more the attention to detail and the tactile adventure of paper that delights the spectator. Laser technology fulfils both requirements equally. It's all about choosing the right tool for a specific application.

WE THINK ENVIRONMENT

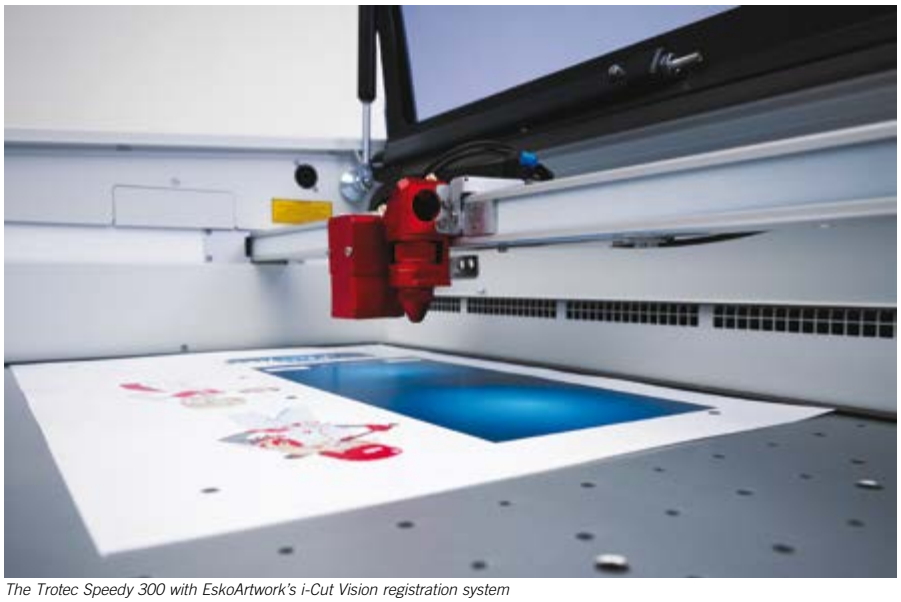
Knowing that laser technology can open doors for new income streams, PSPs have to identify the most suitable laser system. A good starting point when planning to entry in the laser finishing business is the Speedy 300 for engraving and cutting, and is a suitable solution for sheets with a 700 x 300mm or A1 format. For larger sizes, the Speedy 400 has a working area of A0 while, for 1245x710mm sizes, the Speedy 500 is the ideal CO2 laser cutting and engraving system for those who process large surface materials and need high speeds and precision.

For print-and-cut workflows, users should add EskoArtwork's *i*-Cut Vision registration system. Trotec is the first laser manufacturer offering the *i*-Cut with a micro camera on a mid-sized laser system, and *i*-Cut is also available for Speedy 400 and Speedy 500.

Trotec is the only manufacturer of laser systems to be awarded EN ISO14001:2004 certification and, in 1993, the company started to implement measures to ensure better energy use. Throughout the entire value-added process, it pays a great deal of attention to the efficient use of energy and the careful handling of raw materials. Our laser technology and the latest filter technology enable us, for example, to offer our customers production systems which protect the environment by avoiding the use of chemicals in the laser engraving, laser cutting or laser marking of materials.

In the last two years there has often been one question posed: "What does the future of print look like? Is there a future for print in a more and more digital society?" The answer is: "Of course. The USP of paper compared to electrical devices is and will always be. You can feel paper." Thinking of mailshots, greeting cards or menus made out of noble paper, there are many applications that have an effect only with the sensory experience. ■

Alexander Jauker is Product Manager SBS Cutting at Trotec Produktions- und Vertriebs



The Trotec Speedy 300 with EskoArtwork's i-Cut Vision registration system

Laser finishing can also transform packaging (photo courtesy Michael Pfeiffer)

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WHAT REALLY MATTERS ABOUT DIGITAL CUTTING?

Lars Bendixen outlines the importance of criteria needed when investing in a cutter/router

The advantages of digital cutting and an efficient print-and-cut workflow are eminent and new digital cutter/router models and manufacturers continue to enter the market. Print service providers have been involved with digital printing for years and have become experts in evaluating, image quality, resolution, printing speed and other factors. But, when it comes to digital cutting, they may face a new challenge in evaluating and selecting as yet unfamiliar cutting/routing equipment.

Popular multifunctional flat-bed cutter/routers include Zünd, EskoArtwork Kongsberg, Summa, Aristo and similar brands. In the following article we will discuss what really matters and what is important to look for when evaluating and selecting such digital cutter/router equipment.

SIZE MATTERS

Digital printing technology develops fast and equipment normally has to be amortised quickly. Cutting technology, however, is different and when buying equipment it is a common mistake not to recognise that the lifespan of premium cutter/router brands often exceeds 15 years.

It is, therefore, important to consider not only your requirements of today but also your expected future needs. Most look for a cutter size to match their current printing equipment; but when they look back to see how their printing formats have developed over time, they often realise it makes sense to buy a wider cutter than they actually need today.

As you expect your business to grow, it is equally important to evaluate the cutter/router upgrade possibilities and in particular the cost of upgrading, both in terms of cutting capabilities and tooling and also in terms of productivity and automation.

PRODUCTIVITY MATTERS

Another common mistake is to look at speed or acceleration as an expression for productivity. Specifications typically state speed and acceleration as maximum figures when following a straight line in one given direction. Actually, the figures may differ considerably for other directions and, in reality, you will be cutting different shapes consisting more of curves than straight lines. The cutter will further stop in corners to extract, turn and re-enter the blade which naturally also influences the productivity. When routing it is mostly the material and tooling that dictates the speed at which the cutter/router moves and, as a result, one can simply not rely on the cutter with the highest specification as being the most productive.

Remember that productivity includes job preparation time, machine set-up or changeover time, cutting time and material handling time. A larger cutter and cutters with extensions in the front and back enables you to collect the cut parts and position the next sheet while cutting continues. Without such options, even the fastest cutter will never be more productive than the operator's ability to remove cut parts and feed material. In terms of productivity, eliminating such idle time can be many times more effective than, for example, doubling the speed and acceleration figures.

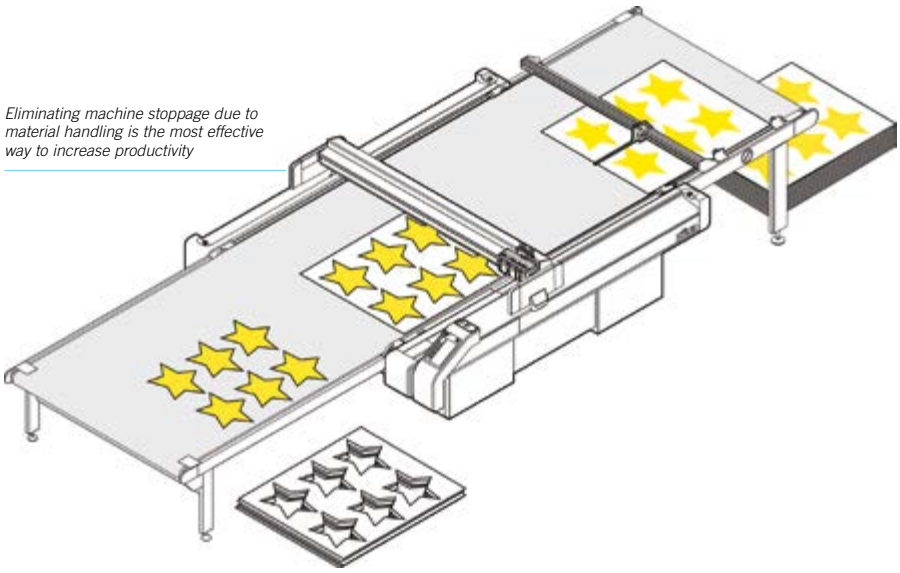
To figure out the real productivity you need to test the time the cutter/router requires to finish several copies of several of your jobs, using your selection of materials. Cutting with two knives simultaneously obviously doubles the throughput, so don't forget to check whether such twin-cutting functionality is offered.

Robust or bulky looking cutter/routers are often expected to cut and route thicker materials faster. Remember that no chain is stronger than its weakest link and even the bulkiest looking or strongest cutter/router is never stronger than its weakest point.

When cutting, the actual force which is put on the knife blade is mainly dependent on its geometry and how sharp it is (its ability to cut), how deep you cut and at which speed you are cutting. All popular cutter brands are easily able to move with forces which will break the blade; even bigger motors or stronger constructions, able to create even larger forces, will not necessarily bring the expected advantages.

For routing, and in order to take advantage of the fast X/Y moving capabilities, most cutter/routers use high frequency routing spindles capable of exceeding 30,000rpm. The weakest point is then usually the spindle bearings and the force put on the bearings is amplified by the length of the router bit. You must act suspiciously when manufacturers claim they can route deeper, faster, while utilising a high frequency spindle. The real question is how long the spindle will last when doing so?

It is often assumed that cutting rigid paperboards like Re-board, X-board and similar brands require a lot of force/strength. Due to the clever construction of these boards, they are both lightweight and incredibly strong and rigid in use. But, for cutting, it is more relevant to consider the weight of the material rather than its strength or rigidity. Less weight indicates that the material contains more air and then often cuts quite easily. Cutting 16mm Re-board material at a speed of 1m/second typically requires around 100 Newton of horizontal force. For cutter/routers like the Zünd G3 this is an easy task, even in a 24/7 operation.



Eliminating machine stoppage due to material handling is the most effective way to increase productivity

VERSATILITY MATTERS

Digital cutting presents printers with an opportunity to expand and differentiate their offerings. Whether it is for new applications, new materials or new services, the larger range of tools available and the more features offered by the cutting system, the greater the opportunities. Even some opportunities appear unlikely or unimportant for the moment; but who knows what the next 15 years and more will bring? What happens when your competitor suddenly offers a capability or application that your cutter doesn't have? Obviously the question about cost of upgrading must be asked again.

One often overlooked and underestimated feature is the ability to route to an accurate consistent depth relative to the surface of the material. Applications involving bending of Di-bond aluminium composite sheet, engraving, in-lays, Braille, and many aspects of illuminated acrylic signage require v-grooves and slots to be routed in exact and consistent depths into the material.

Some cutter/routers are, however, only able to work with depth relative to the table surface. All table-plates have a flatness tolerance of perhaps a few tenths of a millimetre. Often cutter/routers are conveyorised and the conveyor belt has a thickness tolerance of a few tenths of a millimetre. On top of the conveyor belt, a sacrificial routing underlay is placed to protect the conveyor, adding yet another few tenths of a millimetre in thickness tolerance. Finally, add the thickness tolerance of the material being worked at and the fact that routing is not a clean process. In reality there can be routing debris from previous jobs stuck in between each layer and summing up all tolerances makes it impossible to route with accurate depth relative to the table-plate. For applications involving accurate depth, it is absolutely crucial that the cutter/router is able to work relative to the material surface and not just to the table-plate.

Other often overlooked but valuable features include the ability to route soft alloys and 3D signage, create Braille signs, cut picture framing mounts, make multiple angled cuts and the ability to cut textiles. Digital textile printing is probably the fastest growing sector within the digital printing industry and trim-cutting soft signage is often still a manual process, causing a bottleneck in the production. Digital cutting of printed textiles is however not an easy task. Make sure to ask how to avoid wrinkles and stretching. Some cutters are able to advance automatically and pull the textile off a roll. But is the textile stretched by doing so? What do you do when the print/media is distorted but you still need to cut it at exact measures to fit a mounting frame? Which tooling is used to cut textiles and can the textile even be fixed on the cutter by means of vacuum?

MATERIAL FIXATION MATTERS

When applying strong forces on a knife blade or router bit, it needs to be assured that the material won't move or be pushed away. Popular cutter/routers all use a vacuum system to fixate material while cutting, but not all vacuum systems are working equally efficient.

Most systems apply a vacuum pump designed to generate a certain minus pressure. Such pumps are typically rated and compared by their nominal power consumption and a cutter/router may include, for example, one or two 4kW pumps.

This is, however, merely an expression of power consumption and not a true indication of how well the material is kept in place while cutting. Whether such pump will apply the minus pressure it was designed for largely depends on the vacuum system being closed with no air flowing into the system.

This means that all unused areas of the vacuum table must be covered or closed off in order to achieve a proper vacuum. In reality this is not achievable. For example, when routing there will always be air flowing along the path being routed. The more you route, the longer the path, the more airflow and consequently less vacuum and fixation is achieved. When working with porous paper-based or textile materials, air will be pulled through the material, creating a leak in the vacuum system which results in less vacuum and fixation.

In practice, material fixation depends on a

Continued over

CHECK LIST: does your machine tick all the boxes?	
Is the cutter large enough for the years to come?	✔
Does the cutter productivity offer sufficient reserve for your current production?	✔
How can the cutter productivity increase when your production increases? At what cost?	✔
Can the material handling be automated in case you need to reduce labour costs? At what cost?	✔
What options are offered to expand the tooling capabilities/applications?At what cost?	✔
How efficient is the vacuum system. Any need for blocking/covering unused areas?	✔
How much are the expected electricity costs?	✔
Is the cutting area easy accessible for checking cutting depth etc? Is the operator safe when doing so?	✔
How well does the cutter/router integrate into your current workflow and software?	✔
What does the warranty include/not include?	✔
Is service available with short notice? What will a service intervention actually cost you (travel, labour, parts etc)?	✔

combination of vacuum and a certain airflow rate. Systems capable of high airflow rates therefore generally work better, especially for routing and cutting porous materials. For systems without high airflow capabilities, consider how much time is required to close unused areas by masking and finally, ask how much the vacuum system will cost you in electricity on a yearly basis. The vacuum turbine system used in the Zünd G3 typically delivers five times higher airflow using only a fifth of the electricity required by conventional pump systems.

EASE OF USE MATTERS

Most cutter/routers are operated through software of varying complexity. With time and experience good operators may learn to work around certain limitations regardless of the cutter brand. But, let's face it, even good operators will not have the necessary know-how from day one and once operators have proven their skills, they often move on and advance to other positions.

The amount of time required for a new operator to get comfortably working with the cutter/router is a very important factor – and 'comfortable' is the key word here. While cutting is often one of the last processes before the product is packed and shipped to the customer, any mistake at this stage may not only result in wasted, sometimes expensive material but could cause a need for re-prints, overtime, missed dead-lines and even lost customers. Just knowing this to be the case is usually enough to make most people uncomfortable.

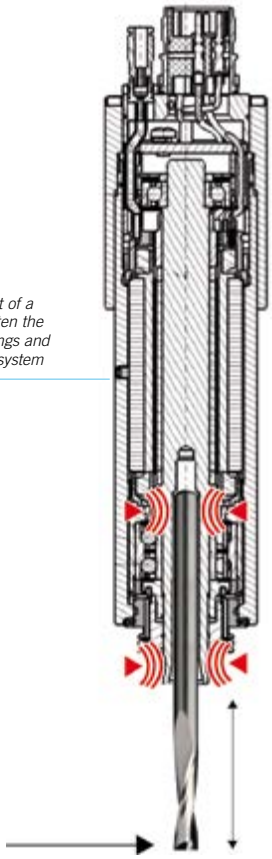
Operators are usually trained at the time of installation, but how much of this training is transferred when, subsequently, one operator has to train the next? How intuitive is the software? And does the system provide any guidance for the operator in selecting the proper tool, knife and corresponding settings for the job? What about software tools for job preparation? Can the next jobs be prepared while cutting? Consider carefully how dependent your company wants to become on operator skills and experience and how quickly a new operator can comfortably press the start button with confidence on the cutter.

Digital cutting will always involve some trial and error and good accessibility is a real advantage. At times the operator needs to pause the cutter to check for example the cutting depth. Consider how easy this is and which features are offered to keep the operator safe in doing so. Can settings be adjusted in the middle of a job and cutting continued? Is the job, for example, lost when you trip the safety features or press the emergency stop?

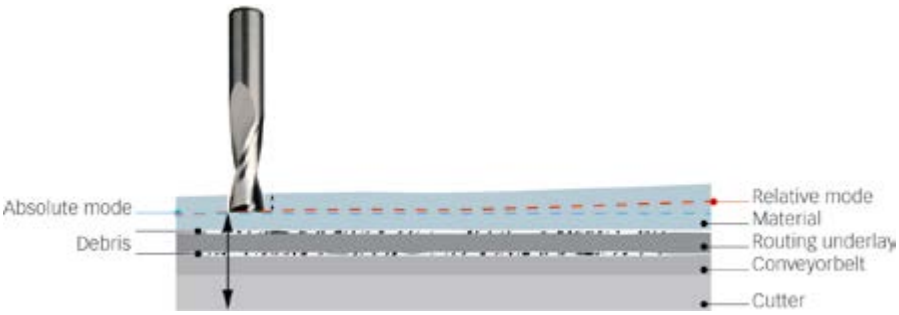
ROBUSTNESS MATTERS

Over its lifespan, the moving parts of a digital cutter/router will travel incredible distances and robustness should not be neglected. However, people interpret robustness differently; there is no exact measure for it and so it is difficult to make direct comparisons.

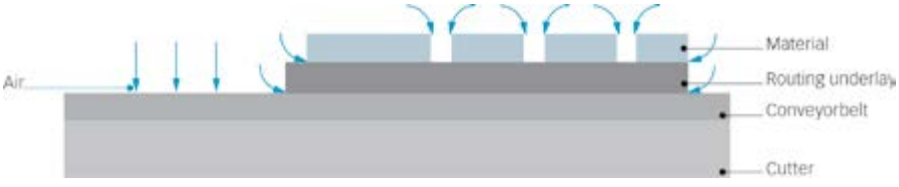
Generally a cutter/router should have a solid base to absorb the frequent braking and acceleration of the tooling. The weight of the entire machine will give you a good indication of the mechanical build, and higher weight is usual better. The weight of the moving parts and tooling however should be low, as one can imagine, frequent acceleration and braking of heavy weight cause more mechanically wear and uses more energy than if it were lightweight. Vibrations are a known cause of mechanical wear and



The weakest point of a cutter/router is often the tool/spindle bearings and not the X/Y drive system



Many applications require v-grooves and slots to be routed in exact and consistent depths relative to the material surface rather than relative to the table surface



High airflow rates improve material fixation

electronic failures etc. The smoothness of, for example, routed acrylic gives you a good indication of any vibrations.

Robustness is often used as an expression for time between failures, meaning how often you could expect something to break. It is better to ask the manufacture for experience with industrial and heavy usage, around the clock over longer periods; don't be shy to ask for references.

With premium brands you should be able to trust that the manufacturer designed the strength of each individual component in accordance with the overall system. With other brands, this should not be taken for granted.

ORIGINAL QUALITY BITS AND BLADES MATTERS

Remembering that no chain is stronger than its weakest link, it is equally important only to use original and highest quality blades and router bits. Premium blades and bits are manufactured with the highest precision and consistency both with regard to grinding and raw material specification. When spinning at more than 30,000rpm, low quality and unbalanced router bits can easily destroy even a heavy duty router spindle. Within the total cost of operation, the blades and bits represent only a minor factor and what may appear as an opportunity to save cost can easily turn into an expensive lesson.

Serious manufacturers put a unique identification on each blade in order to trace any variation in blade life and performance. This aids the manufacturer to have continued development towards improved performance, at the end to your own benefit.

COMMON SENSE MATTERS

Evaluating capital equipment is not an easy task but most of this article is actually common sense, once you know it. Common sense should also be applied to all further factors surrounding the actual product. Is local service available? At what cost? What about spare-parts and training?

What about the software used with the cutter/router? Does it connect with your existing software? Do you need to purchase additional software – and what about workflow? Who can give you the best advice and assure you always get the maximum return on your investment? ■

Lars Bendixen is Product Manager at Zünd Systemtechnik

The smoothness of routed acrylic reveals vibrations and can be taken as an indication of the system's robustness

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Colour casts caused by incorrect separations

INK SAVING TECHNIQUES IN PRINTING

Leo Groen outlines how using CGR can reduce ink usage and save on costs

Printers today are increasingly challenged by rising costs while quality and productivity demands continue to grow. On a daily basis, many print files are not correctly separated for the intended printing process. This can easily lead to problems if the compensated dot gain is incorrect or the total ink limit exceeds the allowed level for that press.

Also, the neutral or grey balance differs from paper to paper and, if the wrong separations are used, a colour cast will quickly be introduced. Sometimes a printer may have to change paper type or even press for a certain job but still the perceived colour should remain the same.

FULL- OR FOUR-COLOUR PRINTING

Theoretically it is possible to create all colours in print with the three primaries of Cyan, Magenta and Yellow. However, in practice a fourth Black is added.

There are several reasons for this. First, the colour pigments used in printing are not pure enough to act as perfect colour filters. So, in practice, the resulting colour combination of C, M and Y is not black but tends to be brown. Next, the total ink layer would cause severe drying issues in high speed printing. Registration and set-off issues might be expected when high amounts of ink are used in print. The most efficient way to darken a colour without changing the hue is to add black instead of a third primary colour. And, in economic terms, black ink is often cheaper.

UNDER COLOUR REMOVAL

Under colour removal, known commonly as UCR, is a technique mainly active in the neutral and near neutral areas. It reduces the so-called achromatic amount of Cyan, Magenta and Yellow in shadows and neutral areas of an image and replaces them with an appropriate amount of Black ink. UCR is mainly used to reduce the total ink layer in print, enhancing the printability. Since this technique is less sophisticated, it has some technical disadvantages in comparison to GCR (Grey Component Replacement). From an economic point of view, UCR does not work in the achromatic part of any colour, reducing a possible ink-save.

SUBSTITUTION OF ACHROMATIC COLOUR

The substitution process of the grey component of a colour by black, is known as Grey Component Replacement (GCR). Contrary to UCR, where only the (near) neutrals in the shadow areas are replaced by black, GCR can be applied over the entire tonal range and in all colours. Black will be used as the equivalent result to what would be printed as a product of the neutral or achromatic component of C, M and Y.

GCR as technique on itself is not new at all; even before ICC colour management it was optional in high-end environments like Crosfield, Hell and Screen, under different brand names of Polychromatic Colour Removal, (PCR), Unbunt, ICR, and others. Since it was a difficult technique in these high-end systems, and printers were not used to working with these types of separations on

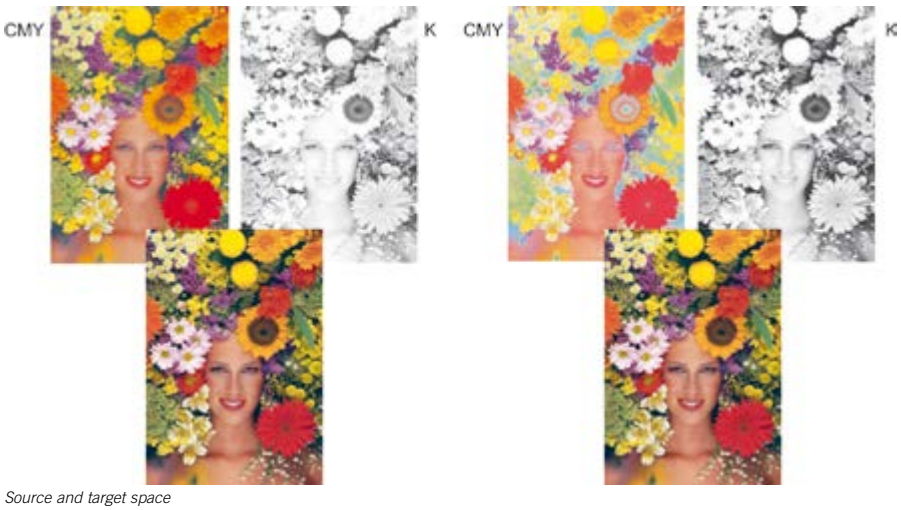
Subtractive colour mixing

Standard separation

GCR separation

single- and two-colour presses, it never became a widely accepted approach or standard.

When desktop publishing changed the entire graphic arts industry in the 1980s, and later colour separations were performed in DTP applications, the first results of GCR carried out by separation tables were very limited in quality. Often, when GCR was applied, a certain de-saturation of colours was shown in print. Only after the ICC colour management was widely accepted, the GCR algorithms improved more and more over time.



Source and target space

BENEFITS OF INK-SAVING USING GCR TECHNIQUES

In a large print job, such as with newspapers, the use of unnecessary CMY ink can mount up to a major expense. Depending on the separations used in the PDF pages, and the type of printing, huge amounts of ink can be saved without a noticeable colour difference.

Economy is a good reason to use Black ink where possible, as is ecology. Black ink is, in most cases, cheaper then colour inks; less black is needed to give the same densities in print compared to colour equivalents. With the current costs for raw materials, ink manufacturers are forced to increase their pricing for printing ink drastically.

MAXIMUM INK COVERAGE

A maximum coverage of 240 is highly recommended for many coldset presses. On high-speed heatset web presses, little time is left for drying between applications of successive layers of ink, and printing more than 300 percent of the four process inks will cause serious problems. For sheet-fed printing on ISO paper type 1 or 2, a maximum coverage of between 340 and 350 percent is advised. With the higher pigmented ISO inks, Fogra 39 is based on 330 percent.

EXCESSIVE INK BUILD-UP

The problem of excessive ink build-up has perhaps been the most important issue for many years. Good printing requires economical use of all ink to avoid any situations where the capacity of the paper to absorb the ink is exceeded. This, in itself, is a good reason to save on ink.

Without grey component removal, dark parts of the image will be produced with CMY process colours and will show colour shifts with the slightest mis-registration on the press. Using GCR, the first acceptable print is reached when starting printing, since neutrality and colour balance are improved. Faster drying time can be realised using GCR, as the printed product can be finalised earlier because the ink layer is lower.

Apart from ink saving by applying GCR in the separation, a transformation to the requested colour space can also be carried out on the fly. Special algorithms can be applied to estimate the separation in the original file. If this is not correct for the target output, this estimated colourspace can be used to transform the colours correctly. As a result much higher ink-savings are possible. ■

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STAYING AHEAD OF THE JONESES

This year's trendy colour opportunities are described by Ulrike André

A few weeks ago I had to work from home to prevent infecting the entire office with a bad case of the flu. Although I don't like being housebound due to illness, after two days I came to the realisation that there is really no 'need' to leave the house anymore; with a simple click we are connected to the outside world.

Work: I am connected to our office, have access to all my drives there via VPN, I can log in to my desk phone, my cell phone is glued to my ears anyway … in short, I can work from home and no one will ever know the difference.

Food: online I find the grocer who offers home-delivery (in my neighbourhood there is even an organic home delivery company that has recipes on their web sites, taking out any guesswork about what's for dinner), fill your virtual shopping cart, pay at the virtual check-out, and a few hours later all gets delivered to your door.

Socialising, dating, living life: TV is showing us one reality show after the next so we don't have to deal with or create our own. I know more couples who communicate via short text messaging than face-to-face. The singles' population appears to prefer dating in the virtual world rather than meeting someone in the real one. We appear to become semi-immune to the on-going atrocities occurring in front of our doors and across the globe as we become inundated with information and images via the various channels available to us.

Could this mean the renaissance of the troglodytes?

2012 spring and autumn colour trends from Pantone

CAD-Color Express Print outlined with CAD-CUT Flock

EXPRESSING YOUR INDIVIDUALITY; GETTING NOTICED – MAKING IT PERSONAL

I believe that it is due to this depersonalisation that we crave being seen and valued as individuals even more! It comes as no surprise that the personalisation industry is growing; some might even say booming and will most likely continue to thrive despite – or because of future upheavals occurring in the real world.

New, intelligent materials are being developed and launched, new colours are gleaming and glittering on the racks of department stores, periodicals en masse are talking about our environmental conscience (or lack thereof) – we are being inundated with information about trends.

Most people want to get noticed. We want to set ourselves apart. We want to make and leave our own, individual mark in the world.

If you are able to help people personalise, you are in the right industry. You can make it personal and help the individual stand out from the crowd.

In order to offer customers the best possible services – knowledge about the hippest colours, the coolest patterns, the most innovative materials – all this helps you give the best advice to our customers and help them stand out in a crowd.

Here's a crash-course of what is up and coming in 2012.

TREND: COLOURS

Colour trends 2012 – where to go

Pantone actively participates in the making of colour trends. They collect information about colours that are being utilised in film, entertainment, popular travel destinations and art collections, to name a few, and then communicate their colours of the year.

This year Tangerine Tango (17-1463) has been nominated as the colour of 2012. Spring/summer colours include: Solar Power (13-0759), Bellflower (18-3628), Cabaret (18-2140), Sodalite Blue (19-3953), Margarita (14-0116), Sweet Lilac (14-2808), Driftwood (18-1210), Cockatoo (14-5420) and Starfish (16-1120). French Roast (19-1012), Honey Gold (15-1142), Pink Flambé (18-2133), Ultramarine Green (18-3338) Bright Chartreuse (14-8445), Olympian Blue (19-4058), Titanium (17-4014), Rhapsody (16-3817) and Rose Smoke (14-1508) are ready to be utilised for the autumn of 2012.

In addition to their colour forecasts, Pantone also offers an app called myPantone that can be downloaded onto your Android or iPhone which enables you to have all of Pantone's colours at your fingertips. In addition you will have access to ICC colour-managed values, and the ability to print colour palettes (Pantone.com).

Online fashion magazines such as 'We Connect Fashion' allows you to sign up for their free e-newsletter which is filled with updates and forecasts talking about trends, colours, and upcoming tradeshows (WeConnectFashion.com).

If you would like to take a look at what European designers are predicting take a look at the website of 'Verband Deutscher Modeund Textildesigner'. You can find information about trends and colour forecasts here and sign up to receive their newsletters. To receive amazing beautifully illustrated and detailed colour and trend predictions you will have to pay a fee (vdmd.de).

No doubt, one can get lost and spend days researching future trends and colours; these sites will give you a good overview of what is going to hit the stores up to two years ahead of the present time.

Direct-to-garment printing with pink/red CAD-CUT Glitter Flake

TRENDS: PATTERNS

From pop art to bohemian folk – creating synergies

In January 2011, more than 2,500 designers and product developers came together in New York to attend Printsource. Hundreds of textile and surface designs from across the world were on display that are now, one year later, available in stores.

Large geometrics, huge floral images, fruits and vegetables, tribal wash, pop art, ink blot cameos, abstract elements – we're going back to our roots by implementing today's technology in search of the perfect synergy.

Patterns are fascinating. They allow us to make a statement and play with texture at the same time. You can create digital prints, by means of a direct-to-garment, screen-print or digital media, and make a bold statement. Depicting exuberant bursts of colour, symmetrical and asymmetrical shapes, abstract motifs only to be interspersed intermittently with a bold image seemingly misplaced but appealing to the eye never-the less. A recurring theme for 2012 is finding that perfect balance between new technology and long-standing tradition. And yes, this year we will be finding Tangerine Tango interspersed to bring in that splash of colour in many places.

TRENDS: MATERIALS

Not all cottons are created equal; is nylon the new polyester?

We have been watching this trend develop over the past years: our customers challenging our industry requesting we personalise textiles not made of cotton. One trend we have observed develop is decorating substrates that demand a little more finesse than the all-enduring cotton. As various sports gain in popularity across the globe, as prices increase and decrease, as new textiles are being developed and introduced … our industry is faced with having to find solutions to decorate these accordingly.

Polyester, once frowned upon, has enjoyed an amazing renaissance in the past decade and it appears that nylon is next in line to be re-introduced. Not just in the sporting industry but in the active- and fashion wear trend forecasters are calling out the shiny and durable characteristics of nylon and polyester, pointing out how these emphasise the bold and synthetic colours that are in our future.

Sublimation is one of the latest technologies our industry is tackling since polyester fabrics are gaining in popularity.

The promotional industry with all of its 'finicky' products can find some amazing solutions for their customers when looking at our product palettes. If you have a hybrid, print-and-cut machine, a direct-to-garment or a roll-fed cutter; you can help them find the right personalisation solution.

Our customers demand and rely on us to make educated, informed recommendations as soon as they become available. We must become experts about all there is to know about the goods we sell just as much as we must know about all the peripheral information that touches our industry in one form or another. That is what will set us apart. That is what will get us noticed.

As a member of the personalisation industry, you have more tools and options than ever at your disposal to help your customers get the recognition they want. With more and more people looking for ways to set themselves apart from the masses, you are in an excellent position to help them get the fashionable custom looks they are seeking. ■

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UNDERSTANDING NANOMATERIALS AND THE IMPORTANCE OF THEIR REGULATION

ESMA
Driving Print Excellence

Elaine Campling discusses the issues surrounding compliance

They might be small, but they are currently big on regulatory agendas. I am, of course, referring to nanomaterials. Whilst nano-technology is not new, many of us within the regulatory world of industry have only fairly recently found ourselves talking nano-technology and regulation of nanomaterials.

Substances generally have internal structures on the nanoscale, since they comprise atoms and molecules, but most are bound in the matrix of larger structures. The health, safety and environmental effects of larger molecules is generally considered to be better understood than those of nanomaterials. At the nanoscale, the physical, chemical and biological properties of materials may differ from the properties of individual atoms and molecules of bulk matter. These specific properties, which are harnessed in nanotechnological applications, may also involve different interactions with human physiology and environment.

Nanomaterials are regulated by several pieces of EU legislation, including REACH[1]. Since there is no discrimination between size, shape or physical state of a substance under REACH, nanomaterials are substances like any other substance and subject to the requirements of the regulation including registration and the preparation of chemical safety reports, where applicable.

DEFINING NANOMATERIALS

However, until fairly recently, there was no formalised European definition for 'nano-materials', resulting in inconsistency, uncertainty and debate regarding what substances, or specific form of a substance should be considered. It was in this regulatory context, that the European Commission was charged with formulating a definition of nanomaterials for use alongside European legislation, resulting in Commission Recommendation 2011/696/EU[2] of 18 October 2011, as follows:

Nanomaterial means a natural, incidental or manufactured material containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for 50% or more of the particles in the number size distribution, one or more external dimensions is in the size range 1nm to 100nm[3].

In specific cases and where warranted by concerns for the environment, health, safety or competitiveness the number size distribution threshold of 50% may be replaced by a threshold between 1 and 50%.

In this context, a particle means "a minute piece of matter with defined physical boundaries"; aggregates are chemically bonded primary particles and agglomerates weakly bound particles or aggregates with similar surface areas to the individual components. It is believed that these agglomerates or aggregated particles may exhibit similar properties to unbound particles, and that particles may be released from these structures during the life-cycle of the materials. The scope of the recommendation covers nanomaterials when they are substances or mixtures, but implicitly not when they are final products. Therefore, if a nanomaterial is used with other ingredients in a formulation, the end product will not be classed as a nanomaterial.

THE RIGHT DEFINITION

Nanomaterials are used in both consumer products and products intended for professional use by design, which include cosmetics and protective coatings. However, the Commission Recommendation has caused some alarm within certain sectors of industry, since several substances are believed to be captured by the definition that would not normally be considered nanomaterials. This includes some inorganic pigments and fillers used within the coatings industry, in paint and printing ink formulations, for example. This is because mineral pigments usually comprise a range of particle sizes, including a percentage of nanoparticles, though they are not designed to be nanomaterials. There is concern that additional testing of these materials may be required, since traditional test methods and evaluation criteria may not be sufficiently applicable to nanomaterials. It is argued that additional testing will increase costs to an already overburdened industry and may result in some materials being withdrawn from market.

On the other hand, some substances are excluded that many believe should be regarded as nanomaterials. The advice from the Commission is that further qualifiers may be necessary in order to target specific materials that may require legislative measures. Further evaluation may also determine that some materials currently in scope should be excluded. The Commission intends to review the definition by December 2014 to take account of technological and scientific progress.

On the REACH front, the Commission, European Chemicals Agency (ECHA), Member States, Industry Associations and other stakeholders have also been working together to provide scientific and technical advice on nanomaterials under REACH, through a series of REACH Implementation Projects on Nanomaterials (RIP-oNs). ECHA is also in the process of updating Guidance on Information Requirements and Chemical Safety Assessment, following the outcome of the RIP-oNs, which is planned for release later this year, intensifying the focus on this 'hot topic'.

ANNUAL REPORTING

Compliance with other regulatory schemes will likely be required, as the focus on nanomaterials intensifies. The French Ministry has recently published a decree obliging organisations to report the production, distribution and import of nanomaterials, which is applicable from January 2013, representing the first mandatory reporting scheme for nanomaterials in Europe. Annual reporting is required for any substance produced, imported or distributed in quantities of 100g or more. The first reporting deadline is 1 May 2013, when 2012 data will need to be submitted and there will be penalties for non compliance.

Organisations supplying to a global market will ultimately find themselves continuing to work with varying definitions and also be required to comply with nationally introduced legislation, designed to regulate the use of nanomaterials. However, it is hoped that REACH and other established regulation may lead to a better understanding of these materials and their properties, which is considered necessary if the predicted growth in nanotechnologies and use of nanomaterials is realised. ■

Elaine Campling is Chairman of ESMA's Health, Safety and Environmental Protection Committee and Product Safety Manager for Fujifilm Specialty Ink Systems

1 Regulation (EC) No. 1907/2006 on the Registration, Evaluation, Authorisation and restriction of Chemicals.
2 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:275:0038:0040:EN:PDF.
3 Nanometre (nm)

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WORKING IN SYNERGY

Simon Jones focuses on a business where eco-friendly chemicals and high precision substrates provide a winning solution

WASP Switches, a company employing more than 100 people in South East England, is a leader in the sector of membrane switches and touch screens. Over the years the company has successfully targeted the highly demanding aerospace market, producing some of the innovative interfaces that now enrich the experience of first and business class passengers aboard foremost global airlines.

Bob Brown, Screen Printing Production Supervisor, explains: "There is no room for errors or for shoddy work. Our products have to reflect the environment in which they are used. A first class passenger travelling half way around the world expects nothing but the best, so we have to print at the highest possible definition achievable within screen processes. At the same time, airlines expect total quality, consistency and the highest possible safety standards attached to each component."

MacDermid Autotype's films, such as those from the Autotex range, are used as a printing substrate because of their combination of durability, reliability and ease of processing. The Autotex range has been devised to offer a long switch life of more than five million actuations, well in excess of the normal life of a finished component. A textured outer surface provides a pleasing tactile experience, with enhanced scratch and scuff resistance when the surface needs cleaning, or if liquids are spilled accidentally. The polyester film is well suited to high-definition printing and its clarity ensures that colours really shine through, as well as the subtle hues which are often part of a modern cabin's interior design.

WORKING TOGETHER

However, the printing substrate is only one of the many components of the overall process of screen-printing. The mesh, stencil material, exposure procedures, inks and even screen cleaning systems have to work together to obtain the highest possible standards. For the stencil material, WASP relies now on capillary films such as Capillex CX or CP. In general, capillary films have many advantages over emulsions as they allow for no waste, tighter control, consistency and higher definition. Capillex CP and CX have been devised for low stencil profile and optimised Rz, resulting in consistently impressive print reproduction.

Brown outlines: "The range of capillary films from MacDermid Autotype is ideal as it enables us to select the most appropriate product for the job in hand. For example, for a flexible circuit we would use Capillex 35, but for the highest possible level of detail we would switch to CX or CP. Their consistency, precision and high tolerance allow us to meet and exceed our customers' demands."

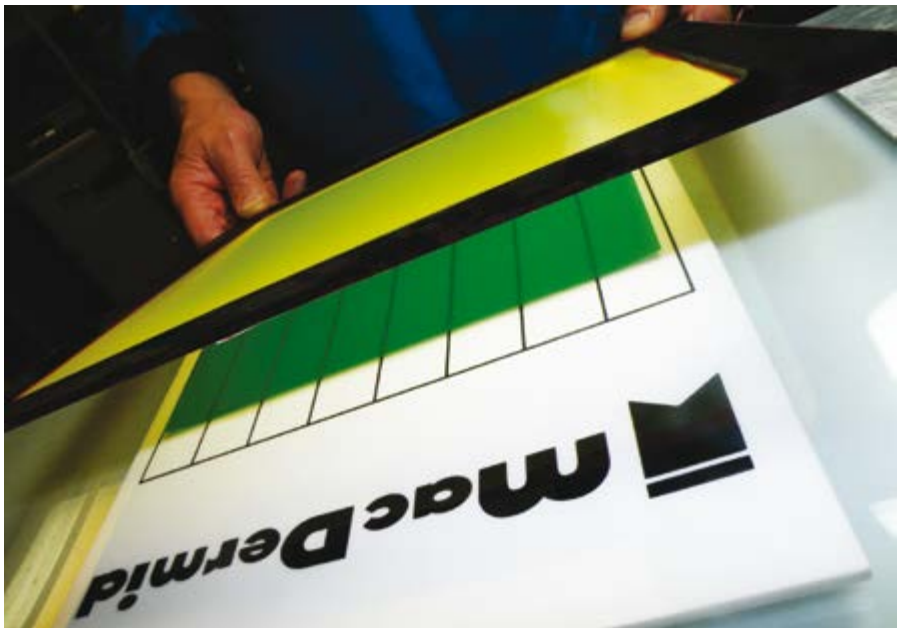
Cleaning and reclaiming the screens is also an integral part of the printing process, an operation that can be laborious and, with the wrong product, hazardous too. Recently WASP Switches was introduced to a range of screen cleaning chemicals from CPS, a subsidiary of MacDermid Autotype and a company that has been at the forefront of environmentally safe screen chemicals since the early 1980s. Brown's production team has been particularly impressed by the efficiency of CPS Haze Remover products. These are low caustic stain removers that work well with all kind of screens, without damaging the mesh.

CPS low caustic ink and diazo stain remover

"We decided to go for the CPS range of screen chemicals for two reasons. The first is that they are really focused on providing the safest solution. The second is that they are easier to use, highly effective and with very low wastage." Brown continues, "These products go beyond mere health and safety compliance and fit in well with our ethos of using environmentally friendly products at all time, something which our clients also expect from us. They are also incredibly effective, which means we waste very little and use less too. This is also a factor that makes these products ideal for environmentally sensitive applications."

Thanks to a combination of printing substrate, capillary films and reclaiming chemicals, all from a single source and all working in complete synergy, WASP switches has been able to guarantee maximum consistency and quality across its entire range, reduce wastage and optimise productivity.

"We have recently moved to newer and larger premises," concludes Brown. "With better infrastructure and excellent products like those supplied by MacDermid and CPS, we are confident we can meet the toughest challenges in today's aircraft and electronic markets." ■



Capillex high quality stencil films are renowned for reliability

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ALLIANCE BOOSTS STRENGTHS IN SCREEN PREPARATION

Last September, two of Switzerland's leading suppliers of printing screen preparation systems, Grünig-Interscreen AG and SignTronic AG announced a co-operation agreement to offer solutions for the screen printing sector. According to Andreas Ferndriger, automation and standardisation are critical to the future success of both organisations

Grünig-Interscreen AG and SignTronic AG are Swiss mechanical engineering companies with the shared objective of providing the perfect printing form for the screen printing industry. Their product ranges are complementary, allowing the recently created alliance to offer customers individual or complete solutions from a single source. Although the two companies remain legally independent, they will be working together very closely in the future, sharing common management and marketing philosophies.

Grünig's Andreas Ferndriger and Marcel Grünig will progressively take over SignTronic, a process that began last September, when Grünig-Interscreen Sales and Marketing Director, Andreas Ferndriger also assumed responsibility for SignTronic's distribution and marketing department. Henk te Brömmelstroet continues his activities as Technical Director, focusing on the development of new projects and products.

Andreas Ferndriger (left) and Urs Hostettler (right) with the STM-TEX during SGIA '11 in New Orleans.

IN-LINE AUTOMATION AND STANDARDISATION FOCUS

It was in 1967 that Hans Ulrich Grünig created Grünig-Interscreen AG, a business that currently employs 40 people at Schwarzenburg near Bern and recorded an annual turnover of approximately CHF7 million last year. Focusing on in-line automation and standardisation in stencil manufacture, the company's product range includes equipment to prepare, dry, wash, coat and stretch stencils. A full range of screen sizes can be accommodated using this equipment, from 100mm x 100mm to 4.8m x 12m. More than 4500 Grünig units are now installed in over 50 different countries.

Grünig introduced its first multi-screen stretching machine for mesh tensioning in 1969 and the industry's first automatic coating machine (type H-41) for direct emulsion a decade later. The company's H-46 automatic coating machine was devised for thick film applications in 1986 and in 1995, a modular and in-line production system for CD screens was developed. Incorporating a multiple radius concept, the patented G-Coat 401 coating trough was announced the following year.

In 2002, Grünig devised its G-Wash 170 modular screen cleaning system and in 2007, an automatic stretching machine was introduced with a robot for the application of UV glue. The next year, an automatic frame profile cleaning system was announced, featuring ultra high pressure water and in 2010, the company launched its XS fully modular screen production concept.

The management team provides many decades of experience. Current CEO, Marcel Grünig has worked for the company since 1996, while Andreas Ferndriger (Sales and Marketing Director) and Urs Hostettler (Sales Manager) have been involved since 1984 and 2001 respectively. Markus Rohrbach (Head of R&D) joined in 1986 and Walter Zbinden (Head of Production) arrived the following year. Export Manager, Hanny Gerber has been with the business since 2000, while Peter Mischler, who heads the Mechanical department, is Grünig's longest serving employee, with 30 years' service.

COMPUTER-TO-SCREEN TECHNOLOGY

Computer-to-screen technology specialist, SignTronic AG operates from headquarters in Widnau, some 260km (less than three hours) away from Grünig. A total of 17 employees are responsible for delivering an annual turnover of CHF7 million, with equipment installations in more than 20 different countries to date. Like its partner organisation, SignTronic successfully exports almost 95% of output throughout the world.

Andreas Ferndriger was confirmed as CEO Sales and Marketing in September 2011, joining a management team comprising Henk te Brömmelstroet (Technical Director), Gerald Wegner (Head of Production), Marco Peter (Head of R&D) and Stefan Rothenbach (responsible for screen technology and training).

Notable achievements in the company's history include the introduction of the first STM with a UV light source and DMD technology (1270 dpi) in 2004 and its

Continued over

The Grünig tabletop exhibit at Advanced Functional Printing & Membrane Switch Symposium 2011'

presentation of the first high resolution STM with 2400 dpi for industrial applications in 2009. Last year saw the installation of the world's largest STM in Germany (screen size: 4.8m x 12m), as well as the launch of the STM-Tex in-line concept for the imaging/developing/drying of small textile screens.

SignTronic has been at the forefront of the industry for more than 20 years, developing a number of machines and systems that have paved the way for greater productivity, better quality and attractive returns for customers. Recently, the company has announced the world's first fully automated in-line screen prepress with direct digital UV exposure. StencilMaster's high resolution of 1270 dpi, micron precision and sharp dot reproduction ensure an image quality with screen rulings up to 60 l/cm (150 lpi). StencilMaster is also available in a computer-to-plate (CtP) version for offset printing and in a combined version for the production of screens and offset plates.

SYNERGIES EXPLOITED

Many valuable sales and marketing synergies have been realised via this alliance, notably in terms of a single mission to provide 'the perfect screen and automation in screen production' and the creation of a single international dealer network to promote both companies. In addition to providing purchasing and export advantages, in the future the arrangement will provide savings via shared costs for exhibition participation, advertising etc. Furthermore, while Grünig produces all parts in-house, SignTronic has traditionally used various suppliers to produce its StencilMaster equipment. Now, Grünig will produce parts for SignTronic and benefit from the opportunity of larger production volumes.

The co-operation has also benefited the customers of both companies. "We show the flag for screen printing, with a combined

Setting the standards for screen preparation

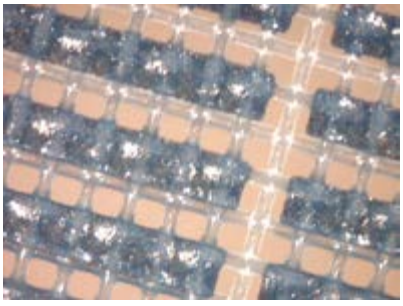
For SignTronic there will be an interested professional audience when it presents its computer-to-screen solutions for the screen-printing industry at drupa 2012. Using its computer-to-screen (CTS) technology, the company will show how perfect screens can be provided in a reproducible and cost-efficient manner. In addition, the printing quality can be improved while increasing the productivity.

In practice many screen-printers are faced with the problem that the repro service providers have disappeared; their own film-setters are very old, spare parts are hard to get and maintenance is extremely expensive. This situation is aggravated even further by the fact that a growing number of suppliers have ceased to sell films, which creates a certain dependency. The solution for all these problems is to use new technologies that cover present as well as future needs.

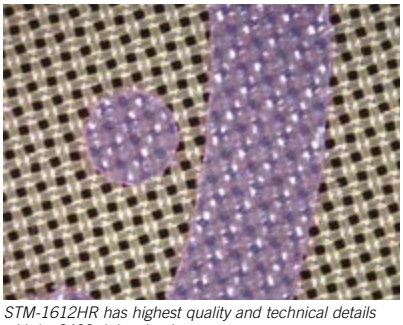
SignTronic offers various CTS solutions based on DMD technology, in different sizes and execution versions and with different resolutions, including STM-TEX a fully automatic system for textile printing for screens of up to 1200 x 1200mm. STM-1612HR has highest quality and technical details with its 2400 dpi technology (10 micron pixels), while STM-1_2_3_4 offers various models for screens of up to 3800 x 4600mm and STM-XXL comes in special versions for maximum widths of up to 7m or heights of up to 12m.

SignTronic's CTS technology offers advantages including lower manufacturing and operating costs, with no film costs, 100 percent reproducible exposure results with 1270dpi and 2400dpi, and a 330W light source with excellent curing of the emulsions. High gauge-pins, precision and short set-up times on the printing machine are complemented by increased printing performance for more output, maximum screen quality and optimal flexibility. Other benefits are short delivery times, fewer printing rejects and less retouching work, with excellent process control and optimal work sequences. ■

SignTronic's inline STM-TEX digital screen making solution



SignTronic's CTS solutions are based on DMD technology



STM-1612HR has highest quality and technical details with its 2400 dpi technology

Optimum screen preparation options

drupa will see Grünig-Interscreen concentrating on its screen preparation solutions for graphics, technical and textile areas, with the emphasis on "be different – print differently". The company's products intend to concentrate on achieving production with the highest degree of reproducibility, optimal print quality and higher output, short delivery times, low manufacturing costs, fewer printing rejects and less retouching work. These factors are complemented by excellent process control, and an operating process with optimum sequences, and no waste water and safety problems.

Grünig-Interscreen's G-Wash system is a stand-alone or in-line solution, encompassing automated screen cleaning, developing, degreasing and water preparation. Designed in a modular concept, the G-Wash 170 XS has been developed to meet the needs of customers, and can be adapted to individual requirements.

From its extensive range of different stretching equipment, Grünig-Interscreen is also presenting its automatic stretching machine G-Stretch 215A. This product distinguishes itself by its automatic frame pre-stressing, which guarantees a reduced loss of tension, as well as by its telescopic size adjustment feature. Today's customers not only expect reproducible stretching results, but there is also a growing tendency towards higher final stretching values.

Grünig-Interscreen is also exhibiting its G-Coat 415 flexible automatic coating machine designed for various screen sizes. All coating machines are complemented by the G-Coat 401 patented coating troughs. The particular characteristic of this system is the fact that the troughs are available in four different radius options and that they come with a cover to protect them against dust and light exposure. In terms of size, the company has recently designed a coating machine for maximum screen sizes of 4.8 x 12m which, again, emphasises the possibilities with screen-printing. ■

The G-Wash system is a stand-alone or in-line solution

The G-Coat 415 automatic coating machine is designed for various screen sizes.

Grünig-Interscreen's G-Stretch 215A stretching machine

focus on the perfect screen for the lowest costs" says Andreas Ferndriger. "We bring automation and standardisation in screen making to customers, who can contact one partner to obtain a full solution for the entire screen making process." Customers are also expected to benefit from combined developments and products based on their collective knowhow and experience for future screen making technology.

Positive feedback has been received from customers, partners, distributors and suppliers alike and in the coming months combined stands will be arranged at the drupa and Glasstec exhibitions in Düsseldorf. In addition, the partners have been working jointly on some in-line concepts, including STM-TEX, which was unveiled at SGIA 2011 in New Orleans last October.

Both companies are working with an established distributor network in many countries, as well as developing direct sales opportunities. In the USA, SignTronic maintains its own sales and service organisation (SignTronic Inc) and in Germany, SignTronic UG is responsible for service, installation and training.

DIGITAL FOCUS

Andreas Ferndriger and his management colleagues predict a strong future for the Grünig-Interscreen and SignTronic alliance, especially in the graphic, industrial and textile sectors. "Digital printing has an increasingly important influence" Mr Ferndriger contends "because this technology is taking over from and replacing screen printing in many sectors. However, while digital is state-of-the-art, in many cases (industrial and textile) it is very expensive and the quality is still not as it should be."

The performance of a strong Swiss Franc against a weak Euro makes for difficult trading conditions for the Swiss partners, requiring them to control their costs closely. Equally important is the ability to innovate and remain flexible, offering customised solutions that match customer requirements. "We offer special products and assist our customers to establish the best way to produce screens for the lowest cost" says Mr Ferndriger. "It is all about costs per screens."

According to Andreas Ferndriger, the keys to survival in the screen printing business are automation and standardisation, especially when it comes to stencil manufacture. The Grünig-Interscreen and SignTronic alliance aims to provide ongoing solutions to maintain the industry's competitiveness. ■

Andreas Ferndriger is CEO Sales & Marketing at SignTronic

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QUALITY AND INNOVATION IN WIDE FORMAT DIGITAL GRAPHICS

Dror Mualem explains the benefits of a one-stop shop for ink solutions

For Bordeaux, its ability to provide a wide range of ink solutions is especially important to print houses that require solutions for different technologies and applications. With solutions for all of their needs they stand a better chance of producing the same high quality prints and the same consistency of colour across all of their different printed material.

A world-wide distribution network is maintained, including dealers, distributors and original printer manufacturers, offering high performance and cost effective ink. Customers are located in more than 100 countries spanning Europe, the Americas, Asia, Africa and the Middle East.

Eco, low and mild solvent-based inks are offered, as well as UV-curable, including UV LED technology inks, for all popular printers in the market, such as Mutoh, Mimaki, Roland, HP and Seiko. These solutions are available in the form of fully printer compatible cartridges, bottles and bulk ink system bags for cost efficiency and flexibility. Many of the inks are part of the Mix & Match portfolio, Bordeaux's proprietary technology that enables on-the-fly swapping with original ink, without the need for new ICC profiles or flushing.

BUSINESS ORIGINS

Having started as a garment and dye manufacturing plant during the 1990s, in 2000 along with the global development of ink-jet technology, Bordeaux shifted its activities to the development and manufacture of ink-jet inks and fluids. As the company grew, Bordeaux developed more sophisticated ink formulations and focused its efforts solely on manufacturing products for industrial applications, based on in-house R&D and scientific strengths.

Today, Bordeaux's products are designed for wide- and superwide-format digital graphics. Its team has the know-how to support printers in all aspects related to their printing and ink requirements, enabling operators to deliver high quality roll-to-roll, rigid media and print-and-cut ink-jet printing applications. The inks play a primary role in the production of posters, billboards, point-of-sale, truck, fleet graphics and numerous other applications.

The company was founded by Chief Executive Officer, Moshe Zach, whose experience in garment dying and in pigment formulation technology was the basis for his decision to move on to ink-jet inks. The decision was based on his prediction, back in 1997, of the future of this emerging industry. This prediction paved the way to the establishment of the company in 2000 and its expansion over the last decade.

GLOBAL PRESENCE

Bordeaux is an international company with a subsidiary and warehouses in North America, Brazil and Israel. The company's R&D teams at its two manufacturing facilities in Israel and on the east coast of the USA serve the company's worldwide clients.

Israel is the acknowledged birthplace of digital printing. The concept was later developed by various Israel-based companies who are leaders in the digital printing technology market today, including the former Indigo, Scitex and Nur Macroprinters businesses, all of which are currently part of HP. Bordeaux benefits from the abundance of IP and know-how availability found in Israel. As such, the company's development is driven by a group of high calibre R&D and manufacturing teams with vast experience in the ink and printer industries, including experts in the field of chemistry and seasoned professionals from leading digital ink'jet companies.

The Bordeaux Digital PrintInk plant at Yavne

ADVANCING TECHNOLOGY

The ongoing development of ink'jet technology and applications has led Bordeaux to expand its offering in line with technological advancements and environmental considerations, as well as health and safety issues. It is no longer enough to know how to develop an ink. To offer a real alternative to original inks, it is necessary to have the technical know-how and practical expertise


Moshe Zach, Chief Executive Officer


A wide range of ink solutions is available for most printers from Bordeaux Digital PrintInk

Bordeaux Digital PrintInk's UV-curable and UV LED inks provide faster drying time and adhesion to more substrates

Bordeaux Digital PrintInk's range of inks combine Mix & Match technology for effortless ink changeover

on all aspects of the inks and the printers. In addition, Bordeaux invested in state-of-the-art pigment milling technology and introduced new manufacturing lines to keep up with demand alongside stringent quality control procedures.

Having enjoyed strong growth during the past decade, the company is achieving continued expansion in volumes with the deployment of new applications and technologies. As the speed and quality of ink-jet technology continues to improve, printing companies are turning their attention to environmentally-friendly ink solutions that are also more cost-effective.

Bordeaux's product lines include mild and eco-solvent formulations that reduce the impact on the environment and provide a healthier and safer work environment because they are composed of softer solvents. As far as quality goes, the latest eco solvent version has improved wetting properties which ensures better film formation especially on coated substrates.

Bordeaux's eco ink, PeNR, made an important impact on the way the organisation launches its products, from research and development through to manufacturing and marketing. This product is most closely identified with Bordeaux and has increased customer awareness to the company's capabilities. The success of the eco inks paved the way for other ink types whose quality is synonymous with Bordeaux.

Bordeaux has also achieved major developments in UV-curable and UV LED formulations. It is the first ink manufacturer to offer PLFD, Bordeaux's UV LED inks for Mimaki's UJV-160 and most other UV LED printers. This technology presents significant advantages in terms of energy consumption in comparison to other light sources. These inks are similar to standard UV-curable inks but are optimised to the longer wavelengths of the LED.

Furthermore, in line with the global economic recession, Bordeaux developed the bulk ink system that is suitable for most printers, reducing ink costs in tough economic times.

The company's new manufacturing facility on the east coast of the USA specialises in the development and manufacturing of water-based and UV-based laminates. These coatings extend the durability of prints for a wide range of applications. Water based liquid laminates are intended for harsh wide-format applications such as fleet, floor graphics and outdoor displays. The UV-based coatings are suited for document finishing and digital presses.

Whether based on water or other printing technologies, Bordeaux is always in development of other ink solutions for the latest technologies, depending on market demands and specific customer tailored applications.

STRONG CUSTOMER FOCUS

A continuing priority for the organisation is to understand every customer's distinct needs, providing them with added value solutions, not only in products but also in service. We sit with our customers and formulate a business plan with them to maximise their deployment in the market for their benefit, as well as our own.

Bordeaux will continue to invest in R&D and technology to develop solutions for markets and applications that are just beginning to emerge. Continued growth is predicted in this field during the next five years and among other activities, the company will continue to invest in products that reduce adverse impact on human health and the environment.

The wide-format digital ink-jet ink market constantly faces different challenges and according to Bordeaux, faster printers using new technologies require matching inks that are fully compatible with these technologies. The industry changes can be seen in the greater acceptance of third party inks by customers and the realisation that our inks are of a high quality, completely reliable and still save an average of 30% over the price of original inks, without sacrificing quality and service. Our ink solutions not only match the original ink but in some cases, even exceed their performance.

Bordeaux provides added value as an independent ink company for original printer manufacturers' co-operation and joint ventures with branded products that enjoy a good reputation for its quality world-wide. A strong alliance with our partners, whether in the form of original equipment manufacturers, printer dealers or distributors, is the key to our continued growth. We work with many resellers, carefully selected because of their excellent customer service, technological capabilities and good understanding of our products and market. As a result, sales of Bordeaux products are growing worldwide, with a positive future predicted for the company. ■

Dror Mualem is Vice President of Sales and Marketing, Bordeaux Digital Printink

NEW BRAND IDENTITY

Bordeaux Digital PrintInk introduced a new brand identity at FESPA Digital 2012 that is designed to communicate a consistent message on a global basis to customers, partners and employees and to deepen awareness of Bordeaux to broader audiences.

"Our customers have always valued our ability to deliver innovative products that provide outstanding cost efficiency and enable breakthroughs for their business," explains Moshe Zach, CEO of Bordeaux. "Our new brand acknowledges our innovative history and conveys a sense of what's possible in the future when we work with our partners and customers to overcome the limits of technology and create new opportunities."

"We hope the new branding, will take the success we have and increase our awareness to more people, so that we can accelerate new account acquisition, deepen account penetration and continue to grow and lead the industry," adds Dror Mualem, Vice President of Sales and Marketing. "We believe that our value proposition enables success and that, when our customers and partners succeed, we succeed".

As part of the company's brand and awareness efforts, Bordeaux has a new website, www.c-m-y-k.com. The site features the new brand identity, user-directed content delivery, and a user-friendly interface for easy navigation and search ability.

Additionally, Bordeaux will demonstrate many new solutions at drupa 2012 where the stand will feature a variety of demonstrations and products, as well as executive one-to-one opportunities and engaging entertainment.

Further information:
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FESPA DIGITAL SMASHES TARGET BY ATTRACTING MORE THAN 12,000 TO BARCELONA

New global audience includes more than 50 percent first-time visitors

FESPA Digital's move to Barcelona for February's 2012 event delivered a welcome business boost to its 350 exhibitors. With a target of 10,000 expected visitors, the final numbers surpassed all expectations with more than 12,000 people making their way to Fira Barcelona Gran Via for the four day event.

More than 46 percent of visiting printers attended for more than one day, bringing the total attendance to in excess of 17,500. This represents a record breaking revisit rate for any FESPA Digital event during its 5 year existence, indicating that the breadth of technology on show, combined with the eight explore-themed visitor features, gave most visitors a compelling reason to extend their visit.

The highest number of visitors came from Spain (45 percent), followed by the UK (6 percent), France (6 percent), Italy (6 percent) and Germany (4 percent). While these leading European markets for wide-format print are typically well represented among visitors to FESPA events, the location of the 2012 show in Barcelona had a particularly positive impact on attendance from Iberia and France. In all, visitors attended FESPA Digital 2012 from around 111 countries.

Several noteworthy product launches kept the show buzzing with news of innovation and fresh opportunities. Exhibitors across the show floor reported enthusiastically about how the event met their business objectives, whether for actual sales, lead generation, awareness building and channel expansion.

Stefano Rogora, EMEA Marketing Supervisor, INX Digital comments: "FESPA Digital 2012 met our expectations in terms of visitors and business opportunities. We particularly appreciate the international extent of FESPA shows, which makes them stand out as unmissable events for INX Digital. INX Digital is putting a lot of effort in the promotion of both alternative inks and customised solutions targeting industrial markets and we are extremely pleased that FESPA Digital 2012 has captured this very diverse audience. We have engaged not only with PSPs, but also companies focused on industrial applications across different vertical markets who showed interest in our products and solution orientated approach."

Johan Suetens, Marcomms Manager for Ink Jet, Agfa Graphics states: "FESPA Digital 2012 has been a very good show for Agfa Graphics. The quality and number of visitors was better than we had expected and we are especially pleased with the Iberian and UK visitor numbers. We are looking forward to London in 2013!"

Andrea Negretti, President Italy Branch, d.gen adds: "FESPA is the place to be for d.gen. It's where we feel represented and recognised on an international basis and surrounded by a valuable community of prospects and customers. We are pleased with the sales results achieved and the positive reception our Teleios Grande textile printer received. d.gen is committed to the development and promotion of environmental friendly printers and we are proud that today the print industry is acknowledging our commitment and compelling proposition in this field."

More than 12,000 visitors attended this year's FESPA Digital

Print Shop Live! proved to be a popular showcase

Print Shop Live!, FESPA's live workflow showcase took place for the first time in Europe. Hosted by Sophie Matthews-Paul, this event was a highlight of the show, with hundreds of print service providers joining moderated tours in English and Spanish. Big Buck$ Cafe, a working cafe highlighting a range of digital print applications was also a popular destination, with many visitors taking advantage of a coffee break to consider the opportunities to diversify their product offering. The Explore Conference, Planet Friendly Printing Zone, Textile Talk Theatre and Narrow Format Zone offered a range of opportunities for visitors to absorb the latest insights into technology, applications, business growth and sustainability.

FESPA Managing Director Neil Felton comments: "FESPA is an amazing organisation to be a part of and the experience I have had on the run up and during Digital 2012 has been incredible. The feedback I received from visitors and exhibitors at FESPA Digital has also been overwhelmingly positive."

He continues: "Our aim to provide PSPs with inspiration to explore the wider opportunities of print certainly seemed to resonate with visitors who voiced appreciation of FESPA's sharp sector focus and our expert business-led content. FESPA is committed to investing in the success of our community, and bringing fun and vitality to each FESPA event".

The next European FESPA exhibition is FESPA 2013, the flagship global screen + digital + textile event, which takes place at ExCEL London from 25 to 29 June 2013. FESPA Digital returns in Spring 2014, running from 20 to 23 May 2014 at Messe Munich, Germany. ■

Further information:
web: www.fespa.com

WILL THIS BE THE INTEGRATION DRUPA?

Sophie Matthews-Paul speculates on the focus of this year's exhibition

drupa open its doors on 3 May 2012

The count-down to this year's drupa, being held at Messe Düsseldorf from 3 to 16 May, has been running for some time. With the last event being called the Ink-jet drupa, this event has yet to be given an associated title although there have been several suggestions. It is clear that digital technologies are still going to be of paramount importance at the show, but it is interesting and encouraging to note that analogue processes will continue to be supported strongly, including screen-printing and flexo as well as offset litho.

As always, drupa will represent the future of print as well as providing a platform for existing technologies which have been accepted production processes for many decades. The sheer depth of what's on show covers every eventuality concerning print and, as such, the anticipated visitor attendance of 375,000 is certain to find relevant and interesting products and services to make journeys to Germany worthwhile.

In preview terms, while some manufacturers have already released information about what they'll be demonstrating at drupa 2012, others have preferred to keep their new announcements under wraps. This is an event where surprises often come to the fore, although it is also fair to say that there are concept machines and technologies which never go on to become reality. Like any major event, drupa represents an excellent platform where ideas can be shown and audience reactions gauged to establish whether or not there is a real, practical demand for some new technologies.

The changing economy, which began its real sea change after drupa 2008, will certainly impact on this year's event, bringing with it leaner and more cost-effective production processes. Environmental issues are going to be more prevalent than in previous years, with the drive for more eco-friendly processes becoming more necessary in day-to-day business practices as well as within the manufacturing cycle and the supply chain.

Where drupa 2008 was nothing short of an extravaganza of technology jockeying for position against established techniques, the signs are that this year's exhibition will show consolidation of recent advances and their practical application in daily working environments. Although 2004 was considered the JDF drupa, it is clear that automation is going to be a key element this time, with the continued drive for process optimisation and increased efficiency needing associated planning and control options. This will be evident in the growth of MIS and server applications, plus tools such as web-to-print, all leading to greater compliance and accountability. Workflow is key, too, extending beyond pre-press and production to finishing and logistics.

Automation will spread across to the offset segment with press developments acknowledging the need for reduced operating costs, faster make-ready and shorter turn-round times. Shorter run lengths continue to dominate, and it's not surprising to find co-operation between analogue and

DRUPA 2012 WELCOMES ESMA MEMBERS

Twelve ESMA members have taken advantage of the special offer from drupa and are now part of the ESMA Screen City, offering visitors to the exhibition a unique perspective on a multitude of novel printing applications ranging from sensors, batteries, touchscreens, RFID tags and smart packaging to textiles. The joint multi-sectoral expertise of these organisations will comprise special effects and solutions for substrates such as glass, plastics and metals under the theme of 'Functional Printing'.

Peter Buttiens, General Manager, ESMA, explains: "Our members will highlight speciality printing at its best. At times when operators of conventional printing processes may be experiencing a downturn, innovative companies have managed to thrive by offering specialist products and applications that provide new opportunities for groundbreaking and profitable solutions. This is an unmissable occasion to interact with all these organisations, gathered within a single pavilion of more than 400 square metres."

Twelve member companies will exhibit in the ESMA pavilion at drupa 2012

ESMA's Screen City exhibitors include: Fimor, Fotec, Hurtz, KIWO / Kissel + Wolf, Marabu, Printcolor, Remco, Saati, Sefar, SPS TechnoScreen and THIEME. ■

Further information:
web: www.esma.com

digital specialists that brings together the prime components of both processes to result in a combination that allows for options, such as VDP and automated colour control, to be incorporated in presses.

There will be new developments in ink-jet and other digital technologies but these are, to an extent, driven by ink formulations and materials and not just in machine design and construction. Narrower machines are getting wider and wider machines are getting narrower as the different sectors close the gaps which formerly identified engine or printer size and target market.

Perhaps the key to this year's drupa lies in integration of the design and manufacture of machines, in the software and production options, in finishing processes and in overall workflow and business management. We will see the next generation of technologies, but we will also be reminded of existing solutions, many of which have been refined to accommodate the needs of 21st century print requirements for companies of all sizes.

Perhaps 'integration' might be a suitable adjective to describe this year's event. ■

Sophie Matthews-Paul is an independent analyst and Editorial Consultant of Specialist Printing Worldwide.

Further information:
web: www.drupa.com

THE FUTURE OF FUNCTIONAL PRINTING

The drupa Cube will feature a series of symposiums covering various topics of the day and, organised by ESMA on 13 May with Specialist Printing Worldwide as the media partner, the theme will be the 'Future of Print: Functional Printing'. Concentrating on prevailing trends and developments, topics covered include areas specific to specialist printing and cover screen-printing advances across different industry sectors.

Pavel Banes, Managing Director of ELON Technologies will be discussing opportunities for functional printing in smart packaging, advertising and health and safety applications, while MacDermid Autotype's Global Strategic Marketing Manager, David Parker, explains the role of the stencil in screen-printing high specification functional inks. New opportunities in high-end screen-printing are covered by Dr Christian Maas, Managing Director of Kammann Maschinenbau, followed by Kissel + Wolf's Holger Walter explaining up to date surface refinements with new trends in print and flock technology, and applications onto paper, textiles, metal, plastics and glass. Russel Schwartz, Chief Technical Officer at Sun Chemical looks at innovating with screen-printing and SPS TechnoScreen's Axel Kaiser concludes with a session on how to combine quick make-ready and high precision on cylinder screen-printing lines.

This event, as well as being highly informative, also provides an excellent opportunity for attendees to spend valuable time networking amongst those who specialise in these and related processes. The cost to ESMA members is €169; for non-members the price is €199. These fees include an entry ticket to drupa plus generous catering. ■

Further information:
web: www.drupascreencity.com

drupa cube

DRIVING PRINT EXCELLENCE

As sponsoring journal of ESMA, Specialist Printing Worldwide caught up recently with Peter Buttiens (ESMA CEO), Arthur Vanhoutte (ESMA Chairman and Managing Director of Mutoh) and Jon Bultemeyer (ESMA Vice Chairman and Managing Director of Corporate Central Functions at Marabu)


Mutoh's Arthur Vanhoutte


Jon Bultemeyer


ESMA's CEO Peter Buttiens

Specialist Printing Worldwide: Peter, what do you consider to be ESMA's prime objectives?
Peter Buttiens: The association has several objectives, starting from global networking, seminars, conferences, committee meetings, to exchanging and gathering technical information and knowledge. Technical knowledge is still the core competence of the ESMA organisation and its members; this helps to explore new industrial frontiers for printing such as functional printing, printed electronics and additive manufacturing. There is an increasing trend towards closer co-operation with exhibition organisers in regards to pavilions for members, special programmes and conferences. ESMA still carries the flag of Health & Safety and Environmental protection highly, supported by its HSEP committee.

SPW: Arthur, what does the role of Chairman of ESMA mean to you?
Arthur Vanhoutte: It means being able to play an active role in increasing the brand awareness of the ESMA association. It also means being able to promote the common goals of the European printing industry, determine ways to better assist and support the related industries and, last but not least, to shape the outlines of the future ESMA policy in line with the changes in the industry together with the Steering Committee. It is all about strengthening our industry and preparing for the future.

SPW: What expectations did you have when becoming Chairman?
AV: The ESMA association has always had a strong foothold in the analogue printing industry, the majority of the founding members being screen manufacturers. Until the past few years, ESMA did not play a major role in the digital printing industry. Having myself about 40 years of experience in the digital industry, I considered it as a personal goal to be one of ESMA's ambassadors towards the European digital printing industry and to promote the association's added value to digital manufacturers. I also consider it as very important to achieve as much as possible synergies between the digital and analogue members by defining common goals and interests.

SPW: Jon, what does your role as Vice-Chairman of ESMA entail and does it mean that you automatically succeed Arthur Vanhoutte as Chairman?
Jon Bultemeyer: Association work is in general quite dynamic. There is naturally the challenge to create and implement visions for the membership in line with the changes in the industry but, also, being not-for-profit volunteer work, the personnel make-up can see a fair amount of fluctuation. When ESMA reorganised itself a couple of years ago, we felt it important to ensure a degree of reliable transition. For that reason, the Vice-Chairman indeed automatically assumes the role of Chairman following the current Chairman's tenure. Naturally it is in the VC's self-interest to be active in the vision creation and implementation of the association's goal prior to having the Chairmanship.

SPW: Jon, how does the experience of your many different previous roles within ESMA benefit your contribution to the association now?
JB: As with any job, familiarity of the organisation allows for a deeper understanding of the group's strengths and weaknesses. Having been active in a number of roles, this familiarity has helped me in understanding where I believe this association can assist our related industries. In the end, however, I must say that I have been the beneficiary as the co-operative spirit between the members; to achieve a common goal has always motivated me to be active in ESMA.

SPW: ESMA has made significant organisational changes over the last five years. What has been the result of these changes?
PB: Starting with a full-time manager in 2007 was a big step forward for the association. Daily operations increased because many members did not have time to get involved in day to day support for the association. In the last five years we have grown to almost double in size, and obviously this demands more work such as online support for the various websites, as well as more meetings and conferences. At the moment certain plans and objectives are still difficult to develop with a small team, but the future might bring some changes.
JB: Our goal has been, and continues to be, to strengthen our industry by providing leading technology know-how to the market. The greatest contribution to achieving this goal has been the staff we hired. Not only is their energy and commitment decisive, but the reliability to address needs on a daily rather than a quarterly basis has brought ESMA to a much more professional and thorough level. At the same time, the regular input and activity of the individual members is the substance for the association. With the steering committee of the board now designed to have permanent representation from all the various processes
in the specialist print workflow (from pre-press including software to press to consumables, etc.) ESMA benefits from varying viewpoints in understanding how to bring our industry further. Finally, associations which rely year-on-year on the same individuals run the risk of stagnation. ESMA's make-up allows for not only a stable transition but also fresh ideas and input from new members.

ESMA
Driving Print Excellence

SPW: Is ESMA growing?

PB: ESMA is still growing! The economical situation from 2008 has slowed growth, but new members are joining. Recently ESMA has opened its association doors for consultants and print service providers. This not only expands the association but makes it generally more attractive for all members.

AV: The growth of the association should not solely be quantified from the growing number of members. The growth should also be reflected in the quality of the work delivered. In the past years, the association has succeeded in creating more added value through industry seminars, speciality conferences and technical events with a growing number of attendants, which is also an important measure of growth. ESMA has also succeeded in bringing together all key elements of the printing industry.

JB: Growth is often measured on a quantative basis such as the number of members or budget levels. While we have indeed grown in both of these areas, the greatest growth has been the brand awareness that ESMA is bringing value to and re-investing in the industry. Specifically, our annual technical events have seen dramatic growth in terms of those attending for the first time as well as those desiring to be informed of the update releases of study work. The comments our event teams receive lead us to understand that this high level of know-how is what makes ESMA and our events attractive.

SPW: How does ESMA divide its priorities between the digital and screen sectors?

PB: Overall, screen-printing is still very important for ESMA because the founding members are all screen manufacturers. Screen-printing has been working very hard to ensure its survival amongst newer print technologies, finding its way to industrial printing solutions.

ESMA has played a similar role for the growing digital printing market, introducing new markets such as advanced functional printing, printed electronics and focusing on more common topics like interior decoration.

Digital printing is becoming more mature in speed and reliability. The fierce competition in graphics is creating a demand for new opportunities, often more industrial. A healthy mixture of digital and screen topics is being discussed during our conferences. All our committees are open to both printing technologies because there is no discrimination between the technologies.

SPW: Arthur and Jon, what are the main benefits that Mutoh and Marabu respectively enjoy from being an ESMA member, and would you encourage non-members to join the association?

AV: The association allows Mutoh to better address current manufacturer concerns, such as the needs for print quality standardisation, the co-existence of technology and ecology, and the need for equal rules of play among printing industry manufacturers worldwide. Being a member of ESMA allows us to share our ideas with other members and define common goals. Being a member of ESMA also allows us to exchange expertise and know-how to evaluate possible niche markets and determine market trends for the future. Last but not least, it is a way for our own employees to increase their knowledge level about print in general.

JB: ESMA is an association made up of individual companies. While each member naturally strives to maximise his own performance and position, there are many industry goals which can be best achieved via cooperative work. Technical print standards, for example, can only be effectively implemented if the various components of the print process work together, as print is not simply material or machinery but the result of a well connected chain of events. Achieving these mutual goals has indeed helped Marabu by, as the ESMA sub-line suggests, driving print excellence in our related industries. I have always admired the academic world with the concept of a sabbatical. An exchange of researchers between universities or institutions allows for an exchange of fresh ideas. I see association work as a small scale

Continued over

model of this concept. Exchanges of thoughts and decision making processes with other members help my company develop.

SPW: How important is it for manufacturers to be members of ESMA during challenging economic times, as we are experiencing now?
PB: Members can thrive from the advantages of a pavilion which gives an alternative solution for going to a show; joining an ESMA pavilion means investing less time and energy. This can be for a traditional show, such as drupa but, also and even more important for non printing shows, a pavilion at large show always attracts more people than a single small booth.

Our conferences are very often an excellent introduction in new niche markets. With minimal investment for a tabletop, our members meet potential customers in a short time.
AV: In challenging economic times, it is important for a manufacturer to explore new niche applications and new possible markets for print. That's where the true added value of ESMA lies.
JB: Particularly in challenging times, new ideas are critical. Creativity is the cornerstone of excelling in challenging times and the mutual benefit of networking is the foundation of association work.

SPW: ESMA has opened its doors for PSPs and consultants this year. How can they benefit? What is their position within the association?
PB: PSPs in general, and the industrial or specialist printing type PSPs, have no real association which can offer high level technical content on an interesting platform. A close co-operation with PSPs is of value for the whole association. In the same way, consultants can play an important role in committees and projects managed by ESMA, their involvement could bring them closer to manufacturers and PSPs.
AV: It is essential for a manufacturer to have a close relationship with PSPs as these are the people who are the current and future buyers of our equipment. Exchanging ideas with PSPs can lead to improve current products and can also generate new product ideas. At the same time, the member PSPs are better aware of what is going in with the manufacturers, which is the basis for future win-win situations. Consultants can provide manufacturers better insight in market trends and can play an important role in the future strategy of a manufacturer.
JB: When ESMA took the step in our restructuring a few years ago to consciously ensure all processes of the print process were represented, it became clear that the PSPs were, in the end, the drivers and recipients of our work. As a result, the decision to expand the chain with their inclusion was a logical but also profound step. While the manufacturers have a common goal of driving print excellence, the entire print community has the same challenge today in maximising our position in the world of communication. With electronic media finding new niches, it must be a goal of the print community to find ways together to ensure our strengths are maximized and communicated. Working all together gives the chance to realise this goal.

SPW: ESMA is building a certification label not only for its manufacturers members but also for PSPs. What are the goals and benefits of this new label?
PB: The endorsed Supplier Label will be established for all ESMA manufacturers to show their level of product development. This certification will reflect that members follow all EC legislations and directives, that they have special internal control systems on their production processes, and that they provide all necessary after sales service and support.

We are building a certification program for PSPs which will be unique for Europe. At the same time, PSPs can show off their competences and will enter a programme which will guide them in the current market for sustainability, quality, ecology, and the more niche market of special applications. The result will be an official PSP rating, highly important for print buyers.

SPW: What is the benefit to ESMA members and show visitors for ESMA to have a pavilion of exhibiting member companies at events such as drupa and glasstec?
PB: We have created one global theme for drupa 2012 – ESMA Screen City and a supporting theme: Functional Printing. At such a big show screen-printing is not a major print technology. However, with the support of drupa, we are developing a knowledge platform on functional printing. Furthermore, all information on functional printing at the show is linked to ESMA and its pavilion. The impact of a 500 square metre pavilion is very high. Our participating companies would not have been able to create such a major booth but, together, we have a large and important section in hall 3. Because of the duration of the show, additional costs are running high and having support on catering and hostess staff is always a help.

On a non-print orientated show like glasstec, the impact of our pavilion will be higher when several companies are showing a solution for printing on glass or decorating glass. glasstec is a major show where printing is only a small part. The time for preparation and energy for many members is an extra burden which doesn't result in the best ROI. Members can prepare their campaign much better because they are not distracted by preparation work.
AV: It is important for ESMA to have a pavilion booth at world shows like drupa – first of all to increase the brand awareness for the organisation. For members who do not have the opportunity to present themselves with their own booth at international shows, it can be an efficient, cost-effective means to be present at important industry events and create new business opportunities.
JB: I once heard a supplier to the print industry provide his definition of print, namely that print was the product. The specialist print world, however, sees print on a much broader scope. Not only is print a decorated sheet of paper or plastic, but also a logo on a TV frame, an antenna on an RFID tag, a coating on a solar panel, and so on. Specialist printing is not only decoration but also functional. While print is an essential step in such products, it is not generally well represented at many larger broader scoped exhibitions. glasstec, for example, is not only about the melting and forming of glass, but also the decoration, the increased stability, and other factors which print offers. Bundling member know-how in the form of a pavilion increases the awareness of this step in the overall manufacturing chain, and allows the corresponding staff, such as from glass manufacturers to have their focused needs addressed.

SPW: Does ESMA any plans to use some of its funds on major projects in the coming year?
JB: I earlier mentioned one of ESMA's investments, namely technical events. ESMA offers several events annually. Our re-investment to the industry is a significant portion of our annual budget.

SPW: Does ESMA have any other new initiatives on the horizon?
PB: There are several new initiatives but everything depends on members' interest, involved costs and human resources. In general, the trend seems to grow more in direction of education – workgroup meetings and platforms for applications. In Belgium, ESMA and Roularta (a large media group) launch a day of Printed Electronics for the SME companies and printers.

ESMA organises a day of introduction to 3D printing and additive manufacturing at Sirris in Liege. They will show various solutions and different machinery in their testing labs.

SPW: What is ESMA's relationship with trade exhibition organisers and national associations?
PB: ESMA believes in a good co-operation with several exhibition organisers. Times have changed; there is no longer just a customer – supplier relationship, and most exhibition organisers understand this change. Due to a growing amount of exhibitions it has been difficult for manufacturers to participate in all these shows. The economic changes have put pressure on the organisers, and collaboration with associations such as ESMA lead to successful possibilities. Working with national associations is an ongoing development.

SPW: What is ESMA's relationship with other associations and what goals do you share?
PB: Working with different associations around the world expands ESMA's possibilities; markets such as the BRIC countries are very important. Their local association provides opportunities to interact with their members and markets.

SPW: Is ESMA still collecting statistical information for the benefit of its members and their customers?
PB: The more traditional collection of statistics has stopped, as many members were questioning its value; it was time consuming. We are now working on a new online system that will provide general industry trends, indicators for sales, product sales and market expectations on a monthly basis.

SPW: How are ESMA members currently finding the markets around Europe and do they expect the situation to get worse or better in the next twelve months?
PB: Many members are very cautious; 2012 is an expensive year with drupa and additional shows. Sales should compensate these investments. ESMA has decided not to organise any big conferences in 2012 as this would be too hard to sell to the members in such critical, busy times.
AV: It is very difficult to find an answer just before the drupa show. I am personally convinced, however, that we are going to a positive trend. It is only after drupa, however, that we will be able to quantify the true results and trends for the printing industry in the next coming years.

SPW: Are ESMA's activities in staging and co-staging conferences and tabletop exhibitions allied to supporting technical development and improving market knowledge?
PB: Technical development and market knowledge have always been corner-stones of ESMA's conferences. Technology within specialist printing is a must and the connected market knowledge is very important for setting up an excellent conference. The research and time invested in organising such a conference contributes towards new market knowledge and establishes even more technical expertise.

SPW: In addition to running several successful seminars over recent years in co-operation with its media partner, Chameleon Business Media, ESMA also sponsors *Specialist Printing Worldwide* to help spread good technical advice. Is the association satisfied with the way the magazine has developed since its launch five years ago?
PB: *Specialist Printing Worldwide* has grown with the support of ESMA. The magazine reflects the close co-operation between Chameleon Business Media and the high level support of ESMA's members. The articles with their specialist content make it a unique magazine in the industry; it is the ideal reference towards the ESMA organisation. As a proud founding sponsor, ESMA will certainly keep on supporting the magazine!
AV: *Specialist Printing Worldwide* is a unique medium in the industry. Its focus is clearly on exchange of technical know-how and expertise. As such, is it a true ambassador for what ESMA stands for – bringing new and fresh ideas to the printing industry and sharing technological know-how in the printing community.
JB: ESMA is convinced that professional state-of-the-art technical information provides the greatest value for our industries. With *Specialist Printing Worldwide* we see a media company with the same philosophy, and this co-operation has enabled us to communicate our member's added value. ■

Specialist Printing Worldwide thanks Arthur, Jon and Peter for their time

STOP PRESS:
ESMA announce Advanced Functional & Industrial Printing 2013
SEE PAGE 37

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EVOLVING TOWARDS AN EVEN BRIGHTER FUTURE

As sponsoring journal of NASMA, new Chairman Mike Fox spoke to *Specialist Printing Worldwide* about how the association has evolved to best serve its members and their customers


Mike Fox.


Steve Kahane.


Parnell Thill.

Specialist Printing Worldwide: What do you consider to be NASMA's primary goals?
Mike Fox: Our primary objective at NASMA is to provide our members with a forum where industry leaders can better get to know each other and discuss business issues affecting our industry that are common to each of us. Our Forum Group provides us with an opportunity to ask our colleagues for their opinions and advice on non-competitive issues. We can share our views of current trends and future developments.

SPW: What does the role of Chairman of NASMA mean to you?
MF: I am lucky to be following Steve Kahane who did a masterful job in establishing an effective format for our forum group meetings. Like Steve, I want to continue to have meetings that are interesting, informative and stimulate conversations that allow us to take something away from each meeting that will help us in running our own businesses. It is good to have a place to go to share ideas.

SPW: How long will you be Chairman for and were you active within the NASMA committee before taking over the Chairmanship?
MF: I will be Chairman for two years and have been active at NASMA since our founding, seven years ago.

SPW: What would you like your legacy to be after your term as Chairman and what do you feel were the main strengths of your predecessors?
MF: I would be most pleased to be held in the same regard as Steve Kahane, Parnell Thill and Graham Cooper after my term ends. Steve, Parnell and Graham set the foundation for NASMA.

SPW: How has NASMA's restructuring away from a formal association reaped rewards for members?
MF: Our current format allows us to spend our time developing relationships and discussing common interests in an informal setting. We are not consumed by administrative issues.

SPW: Is NASMA growing?
MF: Yes, NASMA is growing and we are open to new members. As Steve has stated, our goal is to have a forum group that allows members to network and share ideas. Our goal is to have a mix of members that provides experience and expertise that benefits everyone. We want to be inclusive but are not striving to be the largest group. We want quality.

SPW: Does NASMA have any other new initiatives on the horizon?
MF: I think we have established an effective format that we will continue to follow.

SPW: What do you think are the primary benefits for manufacturers that are members of NASMA?
MF: NASMA is a place to make new friends and reconnect with old friends. We offer a collegial setting that allows members to share views and ideas that help each of us become better.

SPW: How can these benefits assist members during recovery from the global economic crisis?
MF: In challenging times, it is good to have a place to go where we discover that we are not alone. In fact, we can share steps we have taken to advance the cause of our business and our industry.

SPW: How does it benefit customers to know that their suppliers are NASMA members?
MF: I think it is important that customers know that their suppliers are not satisfied with the status quo. We, as manufacturers, are continually looking to improve the benefit we provide our customers which we know will benefit our business in turn. Sharing ideas is a good thing for everyone.

SPW: Your company, Nazdar, is a member of NASMA and the European counterpart ESMA. Are there synergies and shared goals between the two associations?
MF: Yes, I think so. Each organisation's members belong because they want to advance their businesses to benefit their customers, their employees and their owners.

SPW: NASMA has sponsored Specialist Printing Worldwide for five years, which has significantly contributed to the magazine becoming established as a leading reference source in North America in addition to its global coverage. Would you comment on the benefits to members and end-users of this partnership?
MF: At NASMA, we feel fortunate to have the relationship with *Specialist Printing Worldwide.* You provide us with an opportunity to share what we are doing and to let our industry know we are looking to help us all grow and succeed.

SPW: In general, how do you see the current status of the North American market and what is your forecast for the short, medium and long term?
MF: Our members are optimistic. We see sales increasing; we will be spending more in our R&D and marketing efforts. Capital expenditure will be even with 2011, and we will be increasing salaries and wages, and expect headcount to grow. ■

Mike Fox is Chairman of NASMA and President of Nazdar

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IT'S ALL ABOUT THE CONSUMER

Michael E Robertson observes the relationship between customer buying patterns and printed graphics

SGIA
Specialty Graphic Imaging Association

Michael Robertson

Today, consumers are using technology to take greater control of their purchases. For instance:

- Internet shopping is redefining the role of brick and mortar retail stores
- Smart-phone apps allow for easy comparison of product pricing and availability
- Consumer feedback validates or dramatically hinders the sale of a product

All of this available knowledge is resulting in educated consumers. It's not uncommon for a savvy customer to know more about a given product than the sales person trying to offer advice. As consumers use information technologies to take control of the purchasing process, the role of brick and mortar stores is changing.

Information technologies not only help consumers learn about products, they also help retailers learn more about their customers. A recent article in the New York Times, 'How Companies Learn Your Secrets' by Charles Duhigg, told the story of Target using purchasing history to predict future needs for a very specific market segment. Target developed a pregnancy prediction model that was triggered by women changing their buying patterns. A shift from scented to unscented soaps, the purchase of an oversize purse that could serve as a diaper bag, or the move from conventional household cleaners to 'greener' products, all trigger Target's pregnancy prediction model.

Target found that the information they gained had to be managed very carefully, but the results in terms of sales have been impressive. Target's president, Gregg Steinhafel, said that their revenue increased from $44 billion to $67 billion in large part to their ability to use data mining techniques in order to appeal to specific market segments at the right time.

So, communication and data technologies are making consumers more independent and retailers more aware of customer buying patterns. But what does this have to do with printed graphics? Plenty.

- The purely functional role of graphics increases in value as consumers become more independent. In-store graphics will have the responsibility of helping consumers find the products they researched, as well as offering cross-selling opportunities
- Large department stores in the US are changing their internal structure to be a collection of stores within the store. Each 'boutique' store resonates with a specific market segment to target the consumer's immediate interests. Development of these boutique areas relies heavily on environmental graphics
- The entertainment factor that is created through environmental modification will continue to drive market share. Stores will be refreshed and modified more frequently as consumers demand new experiences
- Customisation of product identification and packaging are growing in value

While some in the graphics community see electronic communication as a threat, others see it as a reality in the marketplace and are learning how to maximise future business. They are finding new and exciting ways for printed graphics to interface with information technologies and data mining techniques.

The leading graphic producers will find new opportunities to coordinate the reality of brick and mortar with the virtual reality of the internet. ■

Michael E Robertson is President of Specialty Graphic Imaging Association (SGIA)

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