ISSUE 3
2014

GLOBAL TECHNOLOGY IN FOCUS

DIGITAL SCREEN AND PAD PRINTING

SPECIALIST printing worldwide

Sponsored by

CSGIA

CSPIA 中国丝网印刷行业协会

ESMA Driving Print Excellence

NASMA

SGIA

RD SENSITIZING TECHNOLOGY

THE FUTURE OF DIRECT EMULSION

RD SENSITIZING TECHNOLOGY RE-INVENTS DIAZO EMULSIONS

No Mixing, Stirring, or De-Bubbling Time!

In a major photochemical breakthrough, Ulano Research and Development has introduced *RD Sensitizing Technology* that functions with our familiar diazo-sensitized and diazo-dual cure emulsions—without the need for diazo! ***RD Sensitizing Technology products are ready-to-use!***

Conventional diazo-sensitized products have been on the market for more than 30 years. They are labor-intensive for stencil makers, who have to dissolve diazo in water, wait for the release of any air that has been entrapped, stir the diazo solution into the emulsion, then wait again for at least an hour for the emulsion to de-bubble the nitrogen that the mixing has generated. Diazo is especially vulnerable to heat and humidity influences, which slow its exposure speed and accelerate its aging. Moreover, under hot and humid conditions, unless dissolved very carefully, diazo tends to clump, risking pinholes or incomplete sensitization. Conventional diazo-sensitized products also have a relatively short pot life; they create yellow diazo stains; and the diazo itself is a readily airborne irritant. By eliminating mixing and measuring for customers, Ulano has greatly reduced the possibility of errors—and greatly improved the assurance of highest quality stencils for customers, each and every time.

Ulano Corporation, 110 Third Avenue, Brooklyn, NY 11217, U.S.A. Tel: +718 237-4700
Ulano Int'l Representative Office, Rütistrasse 17, CH-8952 Shlieren-Zurich, Switzerland. Tel: +41 44 755 44 77
Singapore Correspondence Address, 16 New Industrial Rd.#05-07, Singapore 536204. Tel: +65 6451 7505
www.ulano.com

Specialist Printing Worldwide (ISSN No: 2044-2319) is published quarterly by Chameleon Business Media Ltd, GBR and distributed in the USA by Asendia USA, 17B S Middlesex Ave, Monroe NJ 08831. Periodicals postage paid New Brunswick NJ and additional mailing offices. POSTMASTER: send address changes to Specialist Printing Worldwide, 701c Ashland Ave, Folcroft PA 19032

SUBSCRIPTIONS: 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

MESSAGE FROM BRYAN COLLINGS

Welcome to all our global readers, including anyone that may have picked up this copy at Screen Printing Now, SGIA Expo, The InkJet Conference or one of the FESPA or Viscom events. If you find our high standard of content useful, the only way to receive all future issues is to subscribe at www.specialistprinting.com

We wish all the autumn events the best of success in their various territories. The Euro zone gets my attention, where we see GDP growth less than 1%, manufacturing flat and unemployment of over 11%. Euro zone stagnation is probably the biggest current factor influencing the future of our businesses, unless you happen to be big in Ukraine, Iraq or Syria when other matters will be uppermost in your minds.

Portugal and Spain took hard medicine in recent years and now show all the signs of growing their economies and reducing high unemployment - all to the benefit of the Euro zone. Unfortunately, they are of less significance relative to the 'Big Three'. Two of the major economies, France and Italy, are encumbered with politicians who have no stomach for taking on their voters to introduce hard measures needed to get their respective houses in order with the result that they are both still languishing with little growth.

This in turn has held Germany back and has a negative effect on Britain's economy. If this scenario doesn't change, we are in danger of seeing the Euro Zone entering a period of economic stagnation similar to that of Japan for the last couple of decades.

For businesses operating in this region, this will demand new strategies to achieve the growth which most thrive on. For many, it will mean beefing up their export departments and investing in developments outside of the Euro zone.

Still it's far from being all doom and gloom; North America is starting to motor again, as will no doubt be evident at the SGIA Expo, and India is picking up momentum - both very significant markets.

There is most definitely business out there to be won by the most dynamic companies.

Bryan Collings,
Publishing Director,
Specialist Printing Worldwide

CONFERENCE CALLS

People often ask me why I bother attending conferences about the various different aspects of our industry. After all, in their view, you can visit a trade exhibition and see everything there in the flesh, as it were. Today's shows often include a programme of presentations so the argument goes that you can find out pretty much all you need to know by spending a couple of days or more wandering the halls of a busy venue and concentrating on the aspects that are of the greatest interest.

But exhibitions are staged primarily as showcases for products and services. Participants man their stands, or booths, with everyone ranging from technical experts to sales staff all more than willing to provide you with information. But, although you can get the chance to pick over a new machine or print-head or ink, the opportunity to dive more deeply into the whys and wherefores is not so easy, particularly when you're not a customer with an eye on investment but want to know what's going on beneath the surface.

Conferences, however, are dedicated to one or more sectors of print, be it analogue or digital, or both, or based on a topic related to running a business or making the most of available technology. These are planned, specialist events that target different levels of involvement in their respective industry segments, and are devoid of fluff and sales patter for the most part. You know, when you sit down for a batch of sessions, that you're going to be presented with concentrated information, mainly from manufacturers and developers, and you're not just up for a pitch into why you should be using a particular product.

RAISING PROFILES

In recent years conferences have raised their profiles considerably. They are no longer the rather cliquey gatherings where newcomers, or those with only an indirect interest but who want to learn more, feel ignored or out of their depth. Instead, the events of today welcome everyone. Brimming with good presentations and explanations about specific topics, they also generate plenty of opportunity for networking, with getting to know the participants and delegates rating high on the agenda, too.

What makes today's industry developments ever more fascinating is that the companies involved want to share their knowledge and expertise. For participants, there is the opportunity to ask questions and learn more in a concentrated environment without being enveloped in the hustle and bustle generated by exhibition fever. Taking time to absorb what manufacturers are developing and putting out onto the market avoids the kind of technological indigestion that can result from trying to soak up a mass of patchy information on one company's trade show stand before lack of time means you have to rush to your next appointment.

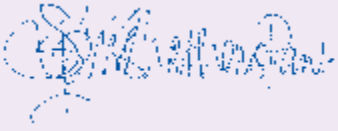
There is certainly a steady, and most welcomed, growth in the numbers of conferences now coming on-stream these days. Increasingly they cater for all elements of the industry from the ground up. There is no longer an excuse for failing to find a specialist gathering that fills in the gaps in integration processes, developments or, just, general knowledge about manufacturing trends and directions.

DEFINED AREAS

Another encouraging aspect to the growth in the annual conference programme is that the choice of these events caters for clearly defined areas. This means it is straightforward to find a gathering that suits the knowledge requirements of the attendee rather than presenting a mish-mash of content where pot luck determines whether or not relevant information is forthcoming.

Developments might not be as instantly dramatic as they were when ink-jet first hit the market in a big way and where every announcement was greeted with a gasp of incredulity about its potential practical credibility. Digital production today is an established process that offers an interesting dichotomy in that it both challenges and sits happily alongside its analogue counterparts. But at its roots lies the necessity of learning about new technologies and how their integration is key to shaping the processes of the future.

Seeing the new IJC ink-jet conference appear onto the calendar for this year is a welcomed addition as it gives a rapidly advancing sector involved in development, manufacture and integration the opportunity to concentrate on the industrial segment of the industry. The best of these events will always be organised by those who have a good knowledge of the area they're covering and, with ESMA in the engine room of this meeting of minds, it is certain to fill in the gaps for those wanting more in-depth information about market evolution and growth.



Sophie Matthews-Paul is an independent analyst and editorial consultant to Specialist Printing Worldwide

Conferences offer concentrated information plus valuable networking

The PERFECT SCREEN offers a number of advantages:
Enhanced printing quality, more output and lower costs!

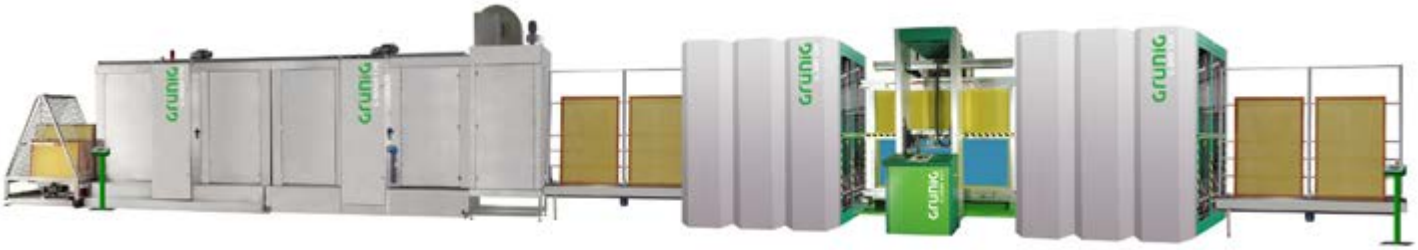
Come and see us in Hall 12 at glasstec

GRÜNIG

Grünig-Interscreen AG
Ringgenmatt 14
CH-3150 Schwarzenburg
Switzerland

Phone +41 31 734 2600
Fax +41 31 734 2601
www.grunig.ch
mail@grunig.ch

IN-LINE



SignTronic® AG

Come and see us in Hall 12 at glasstec

®

DIGITAL SCREEN MAKING

New technology for perfect screens:

- Better printing results
- Higher printing output
- Lower operating costs

SignTronic AG - Böschachstrasse 117 - CH-9443 Widnau - http://www.signtronic.com - Tel.: + 41 71 727 19 00
SignTronic Inc. - 8260 Arthur ST NE, Ste B - Spring Lake Park - MN 55432 - USA - Phone: +1 678 938 6517

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

Specialist Printing Worldwide (ISSN 2044-2319)
is published by: Chameleon Business Media Ltd,
1 Cantelupe Mews, Cantelupe Road
East Grinstead, West Sussex RH19 3BG, UK
Fax: +44 (0)1342 322664 www.specialistprinting.com

PUBLISHING DIRECTOR:
Bryan Collings
bryancollings@specialistprinting.com

EDITORIAL CONSULTANT:
Sophie Matthews-Paul
Tel +44 (0)1544 340057
sophie@specialistprinting.com

DESIGNER:
Alison Smith for
Blue Daze Design Ltd
copy@specialistprinting.com

PUBLISHER:
Frazer Campbell
Tel: +44 (0)1342 322278
frazercampbell@specialistprinting.com

PUBLISHER:
Debbie Drewery
Tel: +44 (0)1342 322392
debbiedrewery@specialistprinting.com

PUBLISHER:
Dave Fordham
Tel: +44 (0)1342 315032
davefordham@specialistprinting.com

**ADMINISTRATION/
SUBSCRIPTIONS MANAGER:**
Sam Dunmore
Tel: +44 (0)1342 322133
samdunmore@specialistprinting.com

GERMAN AGENT:
August-Wilhelm Rust
Internationale Medienvertretungen
Tel: +49 6127 660325
Fax: +49 6127 965 9734
a-wrust@specialistprinting.com

Royal Mail
Periodicals Code for
Presstream Y4778

CONTENT PARTNERSHIP:
OUTPUT
www.outputmagazine.com

Trotec Laser adds to sales force

Meredith Newman joins Trotec Laser as Marketing Manager

Five new appointments have been made at Trotec Laser with Meredith Newman taking up the role of Marketing Manager based at the company's Canton, Michigan, head-quarters and Gary Brekher, Frank Fernandez, Brittany Schmidke, and Janine Yanessa all joining as Regional Sales Managers on the East Coast.

"We are excited about adding Meredith to our team," says Warren Knipple, President of Trotec Laser. "Her background in both commercial and industrial marketing will be instrumental in steering our marketing efforts as we continue our exponential growth in the future."

Newman was previously in the building materials and industrial coatings industries, and comes to Trotec with more than 15 years experience in marketing. In her off time, she teaches yoga at local studios, enjoys spending time with her family, and is an avid skier.

Knipple is also highly enthusiastic about the new sales specialists. "The addition of Brittany, Gary, Frank and Janine will allow us to expand our direct sales sorce to better meet our customers needs, and strengthen our regional markets along the Eastern Seaboard."

Brekher is now covering the Virginias, Maryland, and DC area while Fernandez is responsible for covering New York City and the surrounding area. Schmidke oversees the state of Florida and Janine Yanessa is managing Pennsylvania, Delaware and parts of New Jersey. ■

Off-line packaging system is joint venture between BDT, Fujifilm Dimatix and Phoseon

BDT Media Automation has joined forces with Fujifilm Dimatix and Phoseon Technology to work together to integrate a media transport, print engine, and curing device for various packaging applications. The new system will take advantage of the flexibility of the BDT Tornado media handling technology and the versatility of UV-curable printing provided by Fujifilm Dimatix and Phoseon. A demonstration will be available at Pack Expo International in Chicago in November.

The Tornado-based Product Feeder (TPF) and print-engine will be able to perform off-line processing of various packaging materials including coated and uncoated cardboard, corrugated board, and paper stock, as well as more exotic packaging materials such as metallic foils and plastics. The system will feed, align, print, cure and stack – all with minimal user intervention and greatly shortened job set up times.

"We are very pleased to be co-operating with Fujifilm Dimatix and Phoseon, two market leaders in their respective fields, to bring the TPF system to market," states Ralf Hipp, Vice President of Print Media Handling at BDT. "This demonstration will bring the best of material handling and UV digital printing to packaging manufacturers. Our goal is to enable higher shop profitability by enabling our customers to achieve unprecedented packaging job flexibility."

"Fujifilm Dimatix is the world's leading supplier of piezo-electric drop-on-demand ink-jet products for industrial applications," adds Howard Baldwin, Vice President of Sales at FujiFilm. "The synergy of material handling, printing and LED curing together will deliver an optimal industrial package both for end users and OEMs."

"Phoseon Technology is excited to support BDT's TPF system by providing leading-edge UV LED curing capability," confirms Chad Taggard, Vice President of Marketing at Phoseon. "The combination with Fujifilm Dimatix and BDT showcases how industry leaders can work together to enable customers higher productivity solutions with improved quality." ■

DOUTHITT

CONVENTIONAL OR CTS - DOUTHITT HAS THE OPTIMAL SOLUTION!

The World's Best Metal Halide Lamps

Model CTS Digital Screen Imager

No film required - just print the image directly on the screen and expose. Print head technology with solid ink enables better image detail, density, and consistency in a fast robust system. Call us to see if CTS is right for you.

Model Sahara Screen Dryer

- Uniform Air and Heat to Insure Fast and Complete Drying of Screens
- Digital Temperature Control
- Any Size Available

Model DMAX

Model DMZ

Douthitt's self contained screen exposure systems provide the best vacuum contact and the best registration. Combined with our focused reflector metal halide printing lamps, our units offer the sharpest resolution, best unifomity, shorter exposures and completely hardened emulsion.

Olec Olite & Theimer Violux Lamps & Parts in Stock!

Contact us for more information on Douthitt's complete line of Exposure Units, Vacuum Frames, CTS Imagers, Dryers, Inspection Tables, High Wattage UV Printing Lamps, Integrators and Blankets for any vacuum frame.
Visit us at www.douthittcorp.com

SGIA

Once you've seen it you'll never be satisfied until you own it

THE DOUTHITT CORPORATION

Call Toll Free 1-800-DOUTHIT(T) • www.douthittcorp.com
Phone 313-259-1565 Fax 313-259-6806 E-Mail em@douthittcorp.com

Druckprocess takes to industrial print as new consultancy

Druckprocess has been formed as a specialist company that consults and advises industrial businesses in matters related to ink-jet printing specific applications. The processes is set up, machines adapted, inks developed and software configured, if required. In addition, printers and consumables are offered for sale as part of the service for clients wanting to achieve the best results.

For many years, founder and CEO of druckprozess, Jan Baden, says he has been observing the increasing levels of interest for ink-jet technology in industrial applications on one hand, and the lack of appropriate driven consultancy on the other. "I founded the company to close that gap," he explains. "But what is really new is the fact that we are free of manufacturers. This means that we can advise and offer the best solution and not break down any application into what any specific printer or ink is able to provide.

"We co-operate with most of the manufacturers for ink-jet equipment, we have good access to institutes and universities and, last but not least, we have an understanding of the technology and what we are doing," Baden continues. "We are experts from the printing industry and we're well connected to industrial companies, scientific institutes as well as creative professionals."

The company also gathers new concepts of industrial ink-jet printing, as well as developing ways of manufacturing that involve digital print and its materials, inks and processes. It also works with sustainable technology to help saving resources such as raw materials, energy and water. ■

Orafol Japan extends operations

Orafol Reflective Solutions Japan has extended its operations to include sales of the entire product range from Orafol. This includes not only the broad range of reflective films for which the division is already known but, also, the vast selection of high quality graphics films and its equally successful range of adhesive tape systems. Managing Director of Orafol Japan, Haruki Hosokawa, says: "The Japanese market is in constant growth and provides so much opportunity for all of the Orafol products. Having a local presence now for all of our product categories will make a big difference not only to the current customer base but also to firmly establish growth opportunities for the future."

The change also includes a modification in company name. From the start of September the former Orafol Reflective Solutions Japan KK will become Orafol Japan Inc. Linked to this news is the launch of the Orafol website in Japanese. ■

New managing director for Durst France

Specialist industrial ink-jet applications manufacturer Durst has appointed Antonio Castaño as the new Managing Director for its subsidiary Durst Image Technologie France SAS. Castaño's predecessor, Luc Coruble, will retire after a long and successful career having been instrumental a decade ago for establishing the French branch as an important section of Durst's internationalisation strategy. Castaño's appointment signifies a change of generation at Durst's management level and his official inauguration took place at FESPA Digital back in May.

Antonio Castaño is new Managing Director of Durst France

"We sincerely appreciate Coruble's successful work over the years and wish him all the best for his retirement," says Christoph Gamper, CEO, Durst Phototechnik AG. "At the same time we would like to welcome Antonio Castaño at Durst. We are very pleased to have found a reputable and experienced successor from the imaging industry for this very important market."

A graduate of the Ecole de Photographie de Bruxelles, Castaño has held positions as Marketing and Sales Manager for manufacturers such as Scitex, Indigo, NUR (today all divisions of HP). From 2004 to 2011 has was Sales Director EMEA at EFI VUTEk where he was in charge of transnational business operations. He has also formed his own company, and sold digital signage systems as platforms for marketing and information.

"Within a few years, ink-jet technology has advanced tremendously. So for me, it doesn't really feel like I'm coming home, it's more like a re-discovery of an exciting world," states Castaño. "I am thrilled to take on the responsibility for the region and to be able to represent Durst." ■

Kiian Digital and J-Teck3 join forces to meet future digital printing challenges

With extended capability and greater resources to meet the challenges resulting from the growth of the digital printing sector, Kiian Digital and J-Teck3 are joining forces to create a new group. Both companies have a track record of innovation, quality, reliability and sound financial performance.

This new group reflects the strategic consolidation in the digital printing market, with the two companies retaining their independence. J-Teck3, which has just celebrated its tenth anniversary, has a technologically driven business approach that permits rapid development of new products. J-Teck3 has brought to market a wide variety of disperse, sublimation and pigment inks for printing. The diversity of the various products marks the leading position of J-Teck3 in the global market. Kiian Digital has a long history of providing chemicals and digital inks and is regarded as the "trusted commercial and technical partner" in more than 90 countries world-wide.

Combining the two companies' strengths leads to a significantly increased global coverage to all key segments with a joint portfolio of inks that is compatible with a wide variety of digital print heads. Maintaining its focus on high quality industry standards and on driving market expansion internationally, the new Group will give the customer base the benefits of a combined R&D and customer service.

Kiian Digital President, Dennis Wilby, states: "Thanks to the support provided by our shareholders Alcedo SGR and Wise SGR, we have been making important investments in our production capability in recent months including a new facility in USA last year and a state of the art production and development centre near Como which comes on stream later this year. Following our focus in the US market earlier this year in acquiring our distribution partner, we are now embarking on a further new project – a growing international business with a strong product capability. The coming together of our two companies will strengthen our ability to service our customers world-wide and ensure that the many years of experience and know-how of both companies will be of increased benefit to the print industry."

The management of J-Teck3, Italo Mariani and Enrico Grasselli, former owners of J-Teck3, both add: "We are delighted to join forces with Kiian, since our companies share common values and our product offerings are complementary. Putting together our resources – technical, production and marketing – we are much better able to maximise the potential synergies and give the digital ink market a service and support of the highest level."

Both management teams, including the former J-Teck3 owners, will continue to be fully involved in the ongoing development of the business. ■

J-Cube addresses the Ricoh and Kyocera print-head market

New Ricoh and Kyocera compatible textile inks arrive from J-Teck3

J-Cube is a complete range of digital inks by J-Teck3 that the company has introduced for textile printing with Ricoh and Kyocera print-heads. Designed for polyester fabrics, the series consists of two specific ink lines with different formulations for both transfer sublimation and direct options.

J-Cube KF40 (Kyocera) and J-Cube RF40 (Ricoh) are disperse dyes for high speed printing of sublimation papers and subsequent heat transfer onto polyester fabrics. Manufactured with J-Teck3's cluster technology they allow for reliability and printability on digital printers for industrial production runs. The colour range is CMYK plus fluorescent yellow and pink, and suitable applications include sportswear, fashion items and garments, soft signage, flags and banners, and different materials treated with polyester coating.

For direct-to-fabric printing, J-Cube KP41 (Kyocera) and J-Cube RP41 (Ricoh) are disperse dyes with large molecules, non-sublimatible, for high speed direct printing on polyester fabrics dedicated to the fashion market. Manufactured with the same cluster technology their special formulation makes them suitable for any type of thermofixing, steaming, oven drying or calendering at high temperatures. These inks come in a four-colour CMYK set and are also suitable for home decoration, soft signage, flags and banners as well as garments. ■

Aarque Graphics and Sublimation Solutions join Sawgrass's global dealer network

Sawgrass has welcomed Aarque Graphics and Sublimation Solutions to its global dealer network. These two new partners will provide services to digital decorators throughout Australia, New Zealand and the Pacific Islands.

"We are happy to have two wonderful companies with so much experience in the sublimation industry join our network," states Cameron McGregor, Asia/Pacific Regional Sales Manager for Sawgrass's Consumer Division. "It's through these types of partnerships that we can enable digital decorators of all levels of experience to get the supplies and support they need to strengthen their businesses."

Aarque Graphics has been in existence for more than 60 years and is New Zealand's leading digital print solution provider. As part of Sawgrass's global dealer network, the company will provide services related to Epson printers for sublimation throughout New Zealand and the Pacific islands.

Sublimation Solutions is a new business venture that is based in Sydney, Australia. Led by Toby Warne who has worked in the industry for more than 20 years with Nova Sublimation, Sublimation Solutions will provide a wide range of equipment and supplies to customers in Australia.

Sawgrass works collaboratively with more than 400 dealers world-wide to support nearly 100 countries and ensure that businesses can find the right digital printing solutions for their needs. ■

EFI's Fiery proServer realises significant speed improvements

With world-wide availability, and designed primarily for EFI VUTEk printers, EFI's Fiery proServer Version 6 is an advanced digital front-end system that drives wide- to superwide-format inkjet printers. It features the Fiery Accelerated System Technology (FAST) RIP, which processes PDF files up to seven times faster than before. Stated to be more than a RIP, the proServer provides a high-performance colour management workflow, supports Fogra PSD Print Check and is compatible with more than 540 printers from numerous major manufacturers.

"Fiery proServer 6 is a truly innovative addition to the world of wide- and superwide-format printing," says John Henze, Vice President of Marketing for EFI Fiery. "It represents the first time EFI FAST RIP technology has been available to the ink-jet production market, which provides a unique performance benefit. This release marks a new age of high-performance production front-ends for the sign and display graphics market."

This latest version of the Fiery proServer made its debut at FESPA Digital where FAST RIP, an EFI-developed acceleration technology, was demonstrated improving processing for the Adobe PDF Print Engine (APPE) as well as the Adobe Post Script Interpreter (CPSI). A combination of file compression algorithms and efficient memory management now redefines how complex images are analysed, and the result is industry-leading performance with blazing fast PDF processing times, factors that make a clear difference where a significant amount of signage work consists of single-copy jobs.

According to Mitch Konstantinovic of Kamset, a UK-based print shop that is among the very first companies to upgrade to Fiery proServer 6: "The Fiery proServer is much, much faster than other RIPs. It removes the great frustration of having a lot to print and watching the printer idling. FAST RIP is a complete game-changer – we don't like using others any longer."

"While we are extremely excited about bringing the performance improvements of FAST RIP technology to sign and display graphics printers," Henze states. "We are also very pleased to be offering a number of additional innovations in this release."

The newly available Fiery proServer 6 supports Fogra PSD Print Checks, giving users the ability to serve even their most demanding customers. A dynamic smoothing feature ensures superior gradient output regardless of the file type or printer used, while advanced spot- and process-colour optimisation features increase colour accuracy, making it easy to achieve precise and predictable prints.

EFI has enhanced usability around tiling as well. Tile mounting is much faster, more accurate, with increased efficiency so that users waste less time and material. All of Fiery proServer 6's new features, combined with the faster processing times, reduce idle times for printer capital investments and return benefits directly to the user's bottom line.

Fiery proServer 6's bi-directional job definition format (JDF) link provides information about the printer status, job status and consumables usage to EFI's Pace management information system as well as to EFI's web-to-print software. As a result, users can create an end-to-end, automated work-flow that eliminates touch points while improving speed and accuracy.

The upgrade to Fiery proServer 6 is available at no charge to all existing proServer customers who have a valid software maintenance and support agreement, or an enhanced software programme with Fiery XF coverage, in place. Others can acquire Fiery proServer 6 directly from EFI. ■

Arthur Vanhoutte passes the Mutoh mantle to Akio Kotake

Akio Kotake has been announced as the new Managing Director of Mutoh Belgium, taking over the responsibilities of Arthur Vanhoutte who, after 24 years of leading the Ostend-based operation, is now taking on the role of senior consultant for the Mutoh Group.

As newly appointed Managing Director and General Manager of Mutoh Belgium, Kotake is overseeing the sales, sales support, logistics, commercial and product marketing, product support and after-sales service activities for Mutoh wide-format printing and sign-cutting equipment in the Belgian operation's sales area. He joined the Mutoh Group in 2011 as General Manager of the International Management Division at Mutoh Holdings in Japan and has been involved in Mutoh's European business since 2012 as Managing Director of Mutoh Deutschland. The Belgian Mutoh division currently has an annual turnover of €35 million. ■

From left: Nobumasa Hayakawa, Arthur Vanhoutte and Akio Kotake with Hisayoshi Aoki, Managing Director of Mutoh Holdings

Esko Suite 14 brings next-generation productivity to packaging pre-production

Stated to be more than just a software update, Esko Suite 14 is a new resource for packaging and pre-press professionals. Its intention is to enable better connections throughout the supply chain, with improves workflows, higher consistency and quality, designed to help operators to work in a smarter way with templates and intuitive operator tools.

"To be successful today, packaging service providers and brand owners are required to perform exceptionally well in all areas of packaging pre-production," states Carsten Knudsen, Esko President and CEO. "Brand owners must create packaging designs that resonate with consumers and that are designed, developed and produced with the utmost accuracy. Converters must execute perfectly and efficiently to remain profitable. There is also a need to ensure regulatory compliance and to operate in an environmentally sustainable manner within the entire eco-system. Above all, everyone throughout the entire packaging supply chain must be able to work together effectively to achieve these goals."

Esko Suite 14 builds on the company's years of packaging pre-production expertise and features breakthrough developments as a result of on-going investment in innovation. It is also based on feedback received from brand owners, packaging converters and industry thought leaders. Knudsen adds: "In the Suite 14 development process, Esko concentrated its resources on addressing five key trends in packaging preproduction." These are increasing the importance of workflow automation, the use of smart templates to handle package variations, having quality as the most important driver, gaining the presence of a more task-focused software user interface to drive increased efficiency and integration of the supply chain and data-sharing via the cloud. ■

Esko's new Suite 14 is for packaging and pre-press professionals

SAATI

THE MOST COMPLETE AND INNOVATIVE PRE-PRESS PACKAGE

Saati Printing and Chemicals Divisions offer innovative solutions to meet the most demanding requirements for pre-press products in the following industries:

- Graphic
- Glass
- Textile and Garments
- Touch Panels and Electronics

Pre-press Solutions include:

- Precision monofilament woven fabrics (Saatilene HI-R, Hi-Lo, Hibond Plus, Hi-Format, Hi-Glass)
- Application Specific Emulsions
- Adhesives
- Mesh pre-treatments and degreasers
- Capillary Films
- Reclaim Chemistry
- Pneumatic Tensioning System
- R&D and technical support

WORLD HEADQUARTERS
SAATI S.p.A.
Via Milano, 14
22070 Appiano Gentile (CO), Italy
Phone +39 031.97.11
Fax +39 031.933.392
info.it@saati.com
www.saati.com

PRINTING CHEMICALS

Goccopro QS200 simplifies digital screen-making

According to Riso Kagaku Corporation, screen-printing has never been easier than with the Goccopro QS200. This thermal digital printing system uses the company's s eco-friendly approach with no chemicals, water or emulsions, thereby eliminating the need for prepping, exposing and reclaiming areas. It also reduces space requirements and increases efficiency and its easy and fast clean up appeal to any screen-printer looking to increase productivity and reduce costs.

Riso says that the Goccopro QS200 stands alone with its capability to work with pre-stretched screens. With a variety of ways to stretch a screen, the Newman Roller, Workhorse Pneumatic and, even, manual stretchers make the process of achieving the correct tension a snap.

Riso provides two types of manual self-tensioning frames, known as Quick Frames. Quick Frame A is a clamping screen with a clamp bar which stretches using Allen screws to a high tension. The Quick Frame B is a window screen type using a silicon strip that pushes into a groove, works easily on not only removing, but also renewing, the screen. With endless possibilities, these options increase not only durability on press but, more importantly, the accuracy of screen for multi-colour printing. In addition, the Goccopro QS200 boasts the capability to handle a larger 580 x 780mm (23 x 30 inches) frame which accommodates an image as large as 420 x 620mm (16.5 x 24 inches). The larger frame can be used on both manual and automatic screen-printing presses.

The green footprint of the QS200 adds to its ease of use and appeal to all screen-printers, experienced or novice, claims Riso. Users can become creative with artwork and simply download an image and prepare to print in minutes. Compatible with both PC and Macintosh, the Goccopro QS200 allows end-users to utilise artwork or images from existing software, such as Adobe or CorelDraw. It will burn an image at a resolution of 600dpi, and handles vector, half-tone and greyscale formats.

Goccopro QS200 digital screen-maker uses thermal technology to expose a heat–sensitive screen mesh

The Goccopro QS200 print driver is an option within the design software's print window where users can change screen angle and frequency when using half-tones before the artwork is then output via USB cable.

Users can utilise artwork or images from existing software, such as Adobe or CorelDraw

This digital screen-maker uses thermal technology to expose a heat–sensitive screen mesh for screen-printing. With three available mesh counts and the ability to image up A2, the QS200 provides versatility and flexibility in printing on a variety of materials. Both the 70 and 120 mesh count are considered ideal for most textile applications while the 200 mesh count lends itself to more intricate detailed artwork, air-dry non-solvent inks and substrates such as wood, plastic, rubber or metal. Each screen mesh has a heat-sensitive coating on one side and, as it comes in contact with the thermal print-head, the image is exposed directly onto the mesh. Once the artwork has been transferred onto the mesh, the screens are ready to print.

Clean up is simple as the frame is disassembled, and the ink left in the screen mesh is cured, before disposal of the screen. The Goccopro QS200 is also claimed to be easy on the environment and less labour intensive than alternative methods. ■

Stahls' increases productivity with new Hotronix Dual Air Fusion

With two printing stations, the new Hotronix Dual Air Fusion from Stahls' increases productivity by nearly 50% based on a single operator time study. The manufacturer states that this percentage is compared with a standard swinger-style heat press.

The new Dual Air Fusion ups productivity by 50%

Stahls' credits this performance gain to the Dual Air Fusion's ability to rapidly shuttle between the two individual workstations and the capability to adjust application time and multiple pressure settings based on the position of the upper platen via its touch screen technology. With this technology, a user can configure the Dual Air Fusion's A and B workstations for a variety of different platen sizes and accommodate various heat application settings, enabling a dynamic range of mixed-media applications.

With the Dual Air Fusion's optional laser alignment system, operators can realise additional productivity gains. Featuring four independently-adjustable lasers per platen, the laser alignment system enables precision decoration for full front, left chest and numerous other garment locations. The laser alignment system can be operated utilising the touch screen technology and lasers will turn on and off automatically to accommodate the station in use.

Suited to direct-to-garment printers, the Dual Air Fusion makes pre-heating, pre-curing, pressing, and post-curing easy. The A station is set for pre-treatment and the B station for post-curing, cutting set-up and production time in half. With exceptional pressure/square inch, fibrillation is eliminated, making printed images crisp and vibrant.

The Dual Air Fusion is built around a sturdy, corrosion-resistant, die-cast aluminum framework and features a number of proven Hotronix innovations. Features include a touch screen control panel, Auto-Adjust pressure, Quick Change platen latch, Threadability and a cast-in tubular heating element. ■

New sales manager added as Hollanders continues its growth strategy

Bart van Kempen is now Sales Manager at Hollanders

As part of its continuing growth strategy in-line with the increase in demand for its digital textile print solutions, Hollanders Printing Systems has added a new sales manager to its dynamic Eindhoven-based team. Bart van Kempen joined the company at the beginning of July and will play a key role in generating new customers as well as developing new territories for the product family.

Van Kempen's experience includes working at Nestinox in Best where his sales roles involved dealing with specialist companies across a diverse range of manufacturing industries. His role at Hollanders gives him the opportunity to be involved with an ambitious company and use his customer skills to promote the ColorBooster family of textile printing systems.

Working alongside Hollanders CEO Jacco Aartsen Tuijn and founder and CTO of the company, Peter Hollanders, van Kempen is now an integral member of the close-knit highly experienced management team. His remit is to develop sales of the ColorBooster CB250 and CB250 Carpet Edition entry-level textile printers which received their European launch at Fespa 2014. In addition, he will be responsible for generating more success for the company's 3.2m ColorBooster XL, the award-winning ColorBooster DS double-sided printer, and the ColorFix and ColorWash finishing systems.

"Working for this young yet experienced and ambitious company is a challenge I welcome. Its textile printing machines offer the highest levels of productivity and reliability," comments van Kempen. "Peter Hollanders and his technical team have developed the finest quality family of products and it's now up to us to share this 'best-kept secret' with the rest of the world."

"In the first six months of 2014 Hollanders has seen a significant increase in interest across its entire product portfolio. Van Kempen will play an important role in helping us to extend our reach to new customers and those wanting to upgrade to a new system," states Aartsen Tuijn. "We are now on a very positive upward trajectory and, with this strong addition to our team, we can continue to move forward in the market." ■

Proell's new products target the IMD and FIM sectors

With its core business in the development of custom-made chemical products for the coating and decorating of plastics and other materials, Proell KG is also known for its ink systems using IMD and FIM technology, plus its screen- and pad printing products. Its latest introductions in this sector include Norilux DC, the Noriphan XWR series of inks for in-mould decoration and film insert moulding, its Matt Lacquer ATM 1 and ATM WB 5 over-printing systems and its NoriCure UV-L 3 screen-printing lacquer.

Norilux DC is a formable, chemical and abrasion resistant dual-cure screen-printing lacquer that can be used as protective lacquer or hard coat on PC, PMMA and ABS films. It's ideally suited for first surface coating/protection of products manufactured using IMD/FIM technology and the glossy version of the lacquer can be printed on textured film surfaces to produce abrasion resistant and transparent display windows. The matt version of Norilux DC can be used on uncured transparent hard coat films such as Makrofol HF 278 or 312 to create matt and high gloss effects in one item.

As well as high gloss and matt versions, UV-stabilised options are available. Using a special formulation of Norilux DC lacquer, line and brush effect structures can be printed. The dual-cure screen-printing lacquer can be used for overprinting silicone-free UV, solvent and water-based screen-printing inks although pre-tests are required, and drying is by evaporation of the solvents in jet dryers. ■

Speedometer panels decorated with matt lacquer

THE DIFFERENCE BETWEEN LIGHT AND LIGHT

Chromaline Screen Print Products offers opinions on why UV-LED is a viable alternative for exposure units

A Chroma Labs chemist reads viscosity measurements of UV-LED emulsion

A Chroma Labs chemist working in the lab

Screen-printers of every variety know that all light is not created equal. Of the myriad variables involved in screen-printing production, perfecting the exposure step of the process is among the most complex and nuanced of all. From the primitive – and still widely used, globally – practice of exposing screens to direct sunlight, to the exquisitely tuned exposure equipment used in industries such as consumer electronics/touch screen circuitry, the criticality of correctly dialling in exposure cannot be overstated.

According to Mick Orr, screen-printing veteran of 44 years and Applications Specialist at the IKONICS Corporation's Chromaline Screen Print Products division, problems with the exposure element of the screen-printing process account for roughly 80% of the technical calls he gets.

"It's just an inherently challenging part of the screen-printing process, no matter how basic or how advanced the operation is. There are so many variables that affect how the screen gets exposed – ambient lighting and humidity, the thickness of the stencil, the substrate, the quality of the stencil emulsion – so many things come into play. There's no one right way that works across the board; it really is an art."

ON-GOING EVOLUTION OF SCREEN-PRINTING

Generally, the chronological evolution of the exposure step of the screen-printing process reads like this: sunlight, carbon arc, fluorescent, mercury vapour, metal halide, and, most recently, UV-LED. According to Orr, and others with deep insight into the world of screen-printing, the introduction of LED exposure units is an obvious next step in the on-going evolution of the screen-printing process.

"UV-LED exposure units just make sense," Orr says. "They are inherently cheaper to operate (110 volt,) and need no special wiring. The UV LEDs last longer, burn consistently and, as long as they're able to provide ultra violet in the 350-420 nanometre range, they're going to be popular, especially for printers operating in the textile market."

Orr's company, through its Chromaline Labs institute, is now engineering emulsions and capillary films designed to expose optimally using UV-LED and traditional metal halide equipment.

Ron Hopkins, Domestic Sales Manager at NuArc, an M&R company, echoes Orr's comments regarding the advent of LED exposure equipment in the screen printing industry. "I've been in this business a long

Continued over

A chemist creates a film by coating a draw down

KBA
KBA-KAMMANN

Flexible.
Precise.
Innovative.

K9 CNC

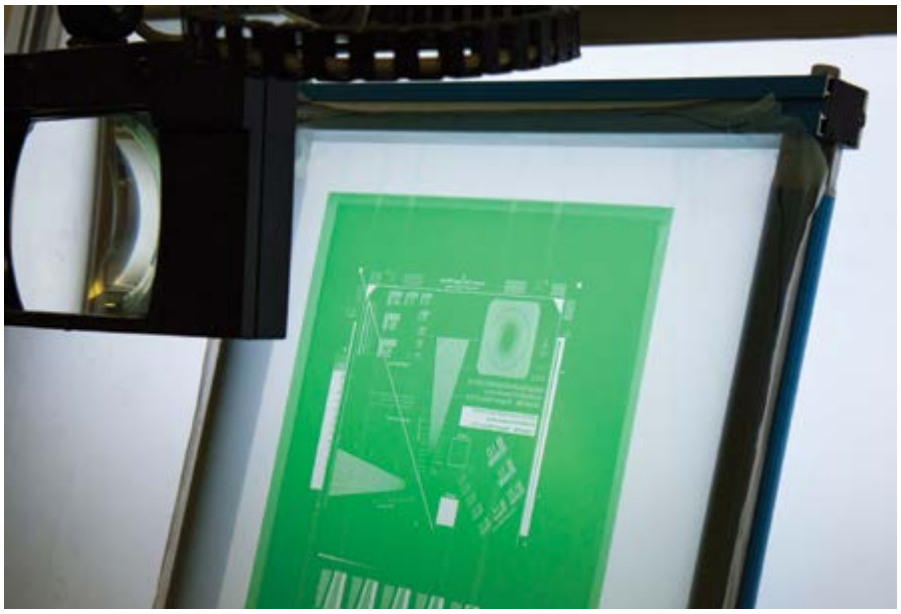
FAMILY OF
Fully Automatic
CNC Controlled
Universal Decorating
Machines

K1 CNC-100...2250

K15 CNC

Please visit us at
GLASSTEC EXHIBITION
21. - 24. October 2014 · Hall 12 · Booth 35

Visit us for more information:
KBA-KAMMANN GmbH
Bergkirchener Str. 228
D-32549 Bad Oeynhausen (Germany)
Fon +49 (0) 5734 5140-0 · mail@kba-kammann.com
www.kba-kammann.com



Stencil inspection for new UV-LED emulsion

time," he states. "We looked at LEDs as a possible light source for exposing screens about 15 years ago. But the spectral output was not where it needed to be and the cost was prohibitive. Things have changed."

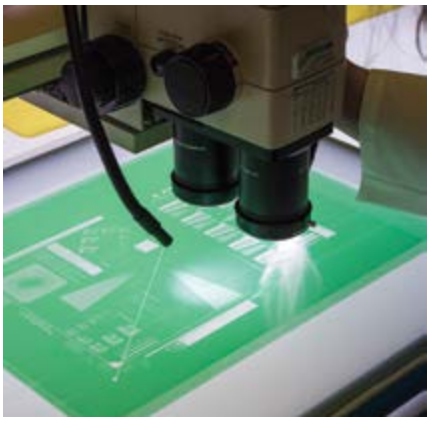
INCREASING EFFICIENCY AND REDUCING COSTS

According to Hopkins, the move toward LED exposure is a continuation of the industry's steady march towards ever-increasing efficiency and cost-reduction. He emphasises: "Bottom line, UV- LED lighting works. And it's cheaper. Companies like ours are leading the way in taking advantage of that fact."

Still, as indicated, not all light is created equal. And that goes for UV-LED sources as well. While the general availability of LED technology is, on balance, an improvement, that improvement in availability has led to an increase in "not-very-functional" exposure unit production. Hopkins recalls: "In the same way mercury vapour and metal halide light sources of the past were inconsistent from unit to unit, not all LEDs are the same, either. But using LEDs with proper spectral output and positioning, our testing has shown the quality of screen exposure is on par with traditional metal halide equipment."

Meanwhile, screen-printers themselves are slowly but steadily considering the transition from what have become "traditional" exposure sources, like metal halide and fluorescent units to UV-LED, with some taking a wait-and-see

High magnification stencil inspection with video display



Microscope stencil inspection of new UV-LED emulsion

posture, unwilling to make such an operational change without first vetting the technology.

According to Chromaline's Orr, production managers around the world are very much aware of the newly introduced LED exposure unit technology, but many are just not ready to pull that particular trigger just yet. "I'm sure significant numbers of print operations will end up using UV-LED at some point," he says. "But right now they're just so busy, the thought of changing production technology gives them a headache."

"That's a fairly typical mindset," adds Hopkins. "It's understandable that folks don't want to make an operational change just for the sake of changing. That's why, at this point, it's important for production managers and business owners to understand that there are products out there that work with both LED and more traditional exposure units."

A BUSINESS DECISION, NOT A TECHNICAL ONE

On the other hand, Hopkins and others like him are confident that the trickle of UV-LED technology presently infiltrating the exposure equipment market is sure to become a significant wave. "As business owners start to recognize the operational efficiency and cost-effectiveness of this technology, they'll adopt it. It's eventually going to come down to a business decision, not a technical one."

Orr makes a similar point. "In the end, printers are going to gravitate to what works best, to what's going to make their operation run most smoothly, most profitably. When it comes to screen exposure, right now, we're in the beginning phases of a transition. We've been in similar situations lots of times, over the years. That's why it's critical, right now, to have the ability to accommodate the incumbent technology and anticipate the evolving present." ■

Further information:
IKONICS Corporation, Duluth, Minnesota, USA
tel: +1 218 628 2217
email: info@ikonics.com
web: www.ikonics.com

Hollanders masters on textile

ColorBooster 250

ColorBooster XL

ColorBooster DS

the art of printing textile

providing a balanced set of machines, software and supplies

sales@hollanders-ps.nl | +31(0)407110711 | www.hollanders-ps.nl

Hollanders masters on textile

THE THIRD DIMENSION IS MORE THAN JUST HYPE

Gert Cuypers sketches the possibilities available with 3D printing

3D printing is getting a great deal of media attention lately. This technology is also expected to have a great impact on our economy. Applications can now be found in the printing of clothing, medical implants, spare parts, food and much more. The possibilities are indeed endless. Of course, this does not mean that we will suddenly print everything ourselves. Technological evolutions, investment requirements, developments in the area of certifications, bio-compatibility and other variables will determine when we will in fact explore the complete potential of 3D printing.

With its Japanese roots, Roland DG has been manufacturing 3D modelling machines for more than 25 years now. After many years of development efforts, this globally active company is now also bringing its first 3D printer to market.

A COLLECTIVE NAME

3D printing is a collective name for techniques in which media are layered until they form a shape or an object. There are various 3D printing methods depending on the media being processed.

Three important principles underlie these techniques:

* The curing of liquid plastics using a light source (SLA, STL)
* The melting of solid substances and their deposition into a mould using a nozzle (FDM)
* The glueing together and/or stabilising of solid substances using an adhesive or heat (SLS, SLM, LOM)

This sample was produced with the Roland ARM-10 3D printer and shows how hollow and complex shapes can be created

An example printed with the Roland ARM-10 3D printer with the frame milled with the Roland SRM-20

A 3D printer always starts from a digital design which is translated into layers. The printer then stacks these layers on top of each other, one-by-one, until a tangible object is formed. The largest and most well-known area of application in which this technique is used rapid prototyping, where a physical model of a design is created.

GIGANTIC MARKET POTENTIAL

The greatest advantage of 3D printing is that the design can be directly transformed into a tangible object. This "on-demand manufacturing" method means little to no loss of media, limited inventories, a great degree of creative freedom and personalised applications.

Currently, 3D printers are already being used in the consumer and medical markets and in the aviation and automobile sectors. But this technology is also making an appearance in other sectors, such as machine building and electronics. Even though the degree of penetration today is relatively limited, 3D printing has immense market potential. The global market expectations for 3D printers are very positive. Within five years, this business should account for more than $6 billion. Long-term market research shows that the expectations are even higher.

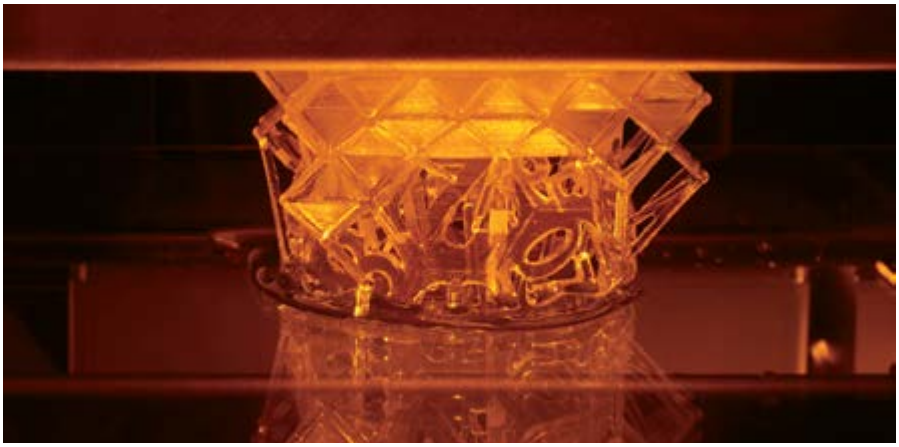
ENDLESS APPLICATIONS

It is impossible to list all of the 3D printing applications. This technique has so much potential that you could say that just about everything can be printed. If you can imagine it, you can create it. In spite of this, I would like to give you several specific examples that highlight the diversity of these areas of application.

In the medical sector, 3D printing is used to develop instruments and to make prostheses, hearing aids and implants. In the future, it may even be possible to print organs.

In the aviation and automobile industries, the technique is primarily used to make

Continued over



The new Roland ARM-10 3D printer producing an intricate application

Relax.

ChromaLime™ has you covered no matter the exposure.

ChromaLime™ pure photopolymer emulsion is optimized to work with all of the commercially available UV LED exposure equipment as well as traditional exposure units such as metal halide, fluorescent, mercury vapor, etc. ChromaLime emulsion meets the market where it's at and where it's going. Engineered by the pros, for the pros.

ChromaLime exposes fast and offers exceptional resolution and definition expected from a Chromaline product. The Lime color creates optimal translucency for a thorough exposure and easy registration. Call your Chromaline representative today for details or visit chromaline.com/LIME

CERTIFIED
CHROMALINE LABS™
UV L.E.D. UV Fluorescent
UV Metal Halide UV Mercury Vapor
UV Range: 350-420 nm

chromaline®
SCREEN PRINT PRODUCTS

Chromaline Screen Print Products
4832 Grand Avenue
Duluth, MN 55807

WEB: www.chromaline.com
PHONE: (218)628-2217 | **TOLL FREE:** (800)328-4261

The new Roland SRM-20 milling machine

Roland DG's new ARM-10 3D printer

prototypes, although examples of printed end products are becoming more and more common.

Today, 3D printers are also being used for consumer products. Examples of these are jewellery, interior accessories and, even, clothing. During the production of machine parts, 3D printing also offers an inexpensive alternative to traditional techniques. These are usually complex shapes which often must only be made in very limited quantities.

"MONOZUKURI" – THE FOUNDATION FOR PRODUCT DEVELOPMENT

People have created the world around us by giving shape to their dreams and ideas. At Roland DG, we are convinced that imagination and creativity are our most valuable strengths. Our goal is to provide everyone with the possibility to transform his or her ideas into objects. The joy of making things, which in Japan is called "monozukuri", is the focus. That is why we named our new series of machines monoFab, where mono refers to monozukuri and fab to desktop fabrication. Creating new things, right at your desk, with user friendly and reliable machines is our mission.

Product designer Hiroshi Yasutomi produced an active speaker prototype using the Roland monoFab series

With the monoFab family, Roland DG believes it is the only company in the world to launch a series of 3D machines that work according to subtractive as well as additive techniques. With the new SRM-20, objects are created by removing material (subtractive) and with the ARM-10 by adding material (additive). Thanks to the choice of these two working methods, Roland DG can always offer the best solution for the customer's application.

The ARM-10 is Roland's first-ever 3D printer and is the ideal machine for making prototypes for the testing of a design or a complex shape. With this machine, product developers, designers and engineers can develop tangible examples of their ideas in a quick and simple manner. Of course, keen hobbyists can also quickly learn the tricks of the trade. Since one of Roland DG's greatest priorities is ease-of-use, both the printer and the slicer software provided are extremely easy to use. In addition, the software contains a healing function which automatically filters minor defects from the print data.

The printer is equipped with a UV-LED lamp projection system and uses a liquid resin called Roland imageCure to build up the shapes layer by layer. The resin becomes semi-transparent as it cures, and post-processing (removal of support bridges and polishing) is very easy.

Moreover, the ARM-10 is a compact desktop machine with a working range of 130 x 70 x 70mm. It is a reliable 3D printer which is supported by an on-line and an off-line support system. Customers can rely on the global network of trained dealers and partners, and they receive a one-year warranty on their machines. They are also invited to participate in a practical training course covering the use of the software and the hardware.

NEW MILLING MACHINE

The same warranty and support applies to the SRM-20, the latest milling machine from Roland DG. This machine was developed on the foundation of more than 25 years of experience in the production of 3D machines. The main strengths of the SRM-20 are its excellent precision and the smooth finishing of the milled surfaces.

The SRM-20 mills all kinds of materials which are commonly used for prototyping and other techniques. Examples of compatible media are acrylic, ABS, wood and wax. It is the perfect machine for making extremely precise and perfectly finished functional prototypes of relatively simple shapes. The SRM-20 also stands out above the rest in stability and ease-of-use, which makes it the perfect investment for both professionals and hobbyists.

Depending on the application, either the additive or the subtractive system will be more suitable. Roland DG helps its customers to make the right choice and ensures that the customer always ends up with the best result. ■

Gert Cuypers is 3D Business Consultant at Roland DG

Further information:
Roland DG, Geel, Belgium
tel: +32 14 57 59 11
email: info@rolanddg.be
web: www.rolanddg.eu

SCREEN MAKING HAS NEVER BEEN SO EASY

RISO

Visit us at
SGIA EXPO 2014
Booth 4095

Computer to screen eliminating the need for chemicals, water and emulsions

- Saving time, space and labor
- A2 wide (16”x 24”) image size
- Accurate registration

NEW

Digital Screen Maker

GOCCOPRO QS200

New Quick Screen Making System Using Thermal Print-Head Technology

RISO KAGAKU CORPORATION www.riso.co.jp/goccopro/

OPENING THE DOORS FOR GREATER TEXTILE PRODUCTION OPPORTUNITIES

Jacco Aartsen Tuijn explains why this market sector needs a reliable, modular low-cost wide-format printer

Jacco Aartsen Tuijn

Market developments and changing requirements can, and should, affect how new printing machines are developed and engineered, and these are principles which are certainly adhered to in the design of textile production systems. But, as in many areas of industry, there is a percentage of users that needs the benefits of good quality manufacturing but lack the resources. These businesses want a good quality printer but don't have the budget or, at the outset, the throughput requirements for a high-end machine.

The ColorBooster 250's design and construction gives users the ability to select their own productivity levels

Thus, the need to produce a cost-effective print platform is driven by the desire of potential users who want to take advantage of the benefits of refined precision manufacturing practices but who do not have the financial justification or production requirement to invest in a highly sophisticated platform. Nonetheless, as many of these businesses are the textile print specialists of the future, buying into the right low-end start-up machine is vital to ensure that the confidence of first-timers is gained. The equipment they are relying on must give them a good, solid introduction into a very different way of printing soft signs, flags, banners and point-of-sale applications.

In the world of digital textile printing machines, there is a belief by many that any print engine can be converted and modified to print direct disperse and dye sublimation inks, but this is not strictly true. Particularly when printing direct to fabrics there are many different criteria that need to be taken into account and which address the specific behaviour of textiles and their handling during the production process.

THE IMPORTANCE OF A STRONG ROI

This means, when taking into account the needs of users wanting to enter the sector for digitally printed textiles, the right machine must be sensibly priced, logical and straightforward to operate, yet sturdy enough to last for many years. A low-end unit might have a very reasonable investment cost but the ROI of any platform should easily outlast the life of the system without it having to be written off and, at the same time, avoiding expensive repairs and refurbishments.

When Hollanders decided to address the market for its latest textile solution, it answered the growing demand for a system that provided the quality design and engineering of the company's existing printers but at a more modest investment price. This new engine needed to provide the same standards of output and efficiency in workflow at a width of 2.5m without compromising any of the features that have given the ColorBooster series its strong reputation within the digital printing industry.

The first commercial wide-format textile printer from Hollanders was the ColorBooster 230, renowned for its extreme reliability and low total cost of ownership. It might come as a surprise to learn that there are machines that are more than ten years being used all day, every day, producing results of the same high quality as the day they were installed.

A MODULAR, ROBUST APPROACH

Following its original 2.3m machine came the Hollanders 3.2m ColorBooster XL. This has now proved itself as the lynchpin for many businesses that rely on a dedicated textile printing machine; it can be used both for short runs and for higher volumes, with the advantage of unattended operation. Its modularity means it can be configured to suit the requirements of the end user, with regular upgrade paths that are easy to integrate.

Having established itself among soft sign, display and specialist print companies that concentrate on working with a variety of fabrics, the ColorBooster XL's tough construction and ease of operation has now been emulated in the 2.5m ColorBooster 250. Like its larger counterpart, this new machine is designed to work with dye sublimation transfer and disperse direct inks. It is a truly modular unit which can be upgraded at any time to incorporate additional features as and when demand requires, saving the user from having to invest all over again in a new system.

The ColorBooster 250 starts as a four-colour configuration that is suitable for soft sign applications and, even in this base version, the printer gives users the opportunity to offer a greener, lightweight and durable alternative for a vast range of display applications traditionally produced on roll-fed PVC and vinyl materials, using solvent-based, UV-curable and, more recently, latex ink formulations. For users who want to print direct to heavy-weight flooring fabrics, the ColorBooster 250 Carpet Edition simplifies production, and can be purchased as a dedicated unit complete with compatible materials to make this a dedicated, turnkey system.

The Hollanders ColorBooster 250 made its European debut at Fespa Digital 2014

SUITING CUSTOMERS' INDIVIDUAL REQUIREMENT

Because the ColorBooster 250's design and construction is such that it gives users the ability to select their own productivity levels, decisions for features can be made at the time of purchase or if and when their requirements change at a later date. Print-heads and colour sets can be extended to generate higher throughput speeds with a wider colour gamut, and these enhanced versions are designed specifically for textile print producers who need an all-encompassing solution. This upgradeability means that, unlike many competitive engines, the ColorBooster 250 can be modified as businesses grow their textile production. It is anticipated that a company starting up in this sector will increase throughput exponentially as more applications come on-line and end customers discover the benefits of digitally printed fabrics for many of their jobs which, hitherto, were output on conventional materials.

The intention has always been to simplify the route into digital textile printing without compromise and at a sensible price. This has necessitated designing and manufacturing a machine using the highest quality stainless steel chassis and durable components, with the best print-heads. Incorporating Hollanders' acclaimed media transport, precision movement and accurate variable ink droplet placement combine to guarantee high quality results. Yet the overall construction has resulted in a very compact foot-print, allowing easy access by operators to all parts of the system. This simplifies daily use and leads to problem-free maintenance.

OPTIONAL FEATURES

As a result, the ColorBooster 250 is designed to be a highly cost-effective solution, incorporating all the essential elements for flawless printing. Optional features can include on-board print-head cleaning and an anti ink mist solution, both of which are elements typically only found in more expensive systems.

The aim of Hollanders has always been to address the needs of sign-makers, display printers and other production houses that want to enter the arena for digital textiles but have been deterred so far by high investment costs and complex operating requirements. Initial interest in the ColorBooster 250 has been very positive and, since Fespa Digital 2014, orders have been coming in from a variety of different types of end customers. This proves that this printer is set to fulfil all the requirements needed for dye sublimation and disperse printing while removing the risk often encountered when buying a low priced machine which doesn't live up to its initial expectations. ■

Jacco Aartsen Tuijn is CEO of Hollanders Printing Systems

Further information:
Hollanders Printing Systems, Eindhoven, The Netherlands
tel: +31 40 7110711
email: r.bloemberg@hollanders-ps.nl
web: www.hollanders-ps.nl

DIRECT-TO-GARMENT CURING APPLICATIONS FOR PRODUCTION ENVIRONMENTS

Stephen Harpold and Gerri Rhein describe the parameters for an efficient work-flow

Technology for direct-to-garment printing is evolving at an accelerated rate. The original direct-to-garment machines were often too slow, struggled to print dark garments, or low quality of the print made these not to be considered production machinery. The direct-to-garment industry has progressed in each of the areas resulting in a widely used tool for one-off shirt designs as well as mid-sized production runs.

Largely looked at as a secondary procedure in direct-to-garment printing, curing technologies have been rapidly improving to keep up with direct-to-garment speeds. Currently the industry offers two different curing options, the traditional direct heat press and the production oriented conveyor oven. In order to select to proper curing process for your shop several factors should be considered.

These factors have been broken down into three major categories, these being desired capacity, overall print look and finish, and work-flow processes.

Desired capacity as defined as the number or garments needed/time period

Desired Capacity can be tricky when it comes to digital inks due to several different ink formulations found in direct-to-garment printers. Determining which type of ink is being used will help to properly size which curing method is best for your shop. The following formula will break down the curing process as a function of time using an average cure time. (See figure 1a for variables).

OVERALL PRINT LOOKS AND FINISH AS IT RELATES TO CURING ONLY

There are several different types of direct-to-garment print-heads as well as software and other methods for varying the look of a digitally printed shirt. In the curing processes the heat press versus the conveyor dryer can also vary the look of the final garment.

A heat press makes direct contact with the shirt using both heat and light pressure to drive out the carrier and bind the ink to the fibre of the shirts. A shirt being cured in this fashion is typically described as having a shiny flat image similar to images often seen from a traditional heat press application. The image can be made to look more matte if the operator chooses to use a parchment paper

Continued over

Ink Type	Shirt Color	Cure Time w/ Heat Press	Shirts Per Hour
Type 1	Light	120 seconds	30
	Dark	125 seconds	28

**Heat press cure times as listed by http://www.dtgamerica.com/New-To-Garment-Printing-FAQs.asp*

Ink Type	Shirt Color	Conveyor Width	Conveyor Length	Cure Speed	Shirts Per Hour
Type 1	Light	48”	11’	120 seconds	260
	Dark	48”	11’	240 seconds	130

** Conveyor oven cure times provided on Dragon Air by Brown Mfg.*
Times are based on an average using several different digital ink sources (www.brownmfgdigital.com)

Figure 1a

Figure 1b

Re-circulated air flow

In order for digital inks to cure, a dryer must first evaporate the carrier. In order to ensure even consistent heat, a digital dryer recirculates and reheats air to an exact value. The item in the chamber can only reach the heat of the air, thus allowing the garment to stay below a scorch point but above the necessary temperature to cure.

Filters, exhaust

The re-circulated air picks up lint and other foreign objects from the garments. The filter, similar to a lint trap, removes the foreign objects from the air stream. As the moisture evaporates from the shirt, the air becomes humid and will need to be exhausted to completely remove the air. In a gas oven it is also important to remove a percentage of the air due to poisonous combustion by products. The Dragon Air pictured above is completely electric and does not give off combustion products

Insulated air

The air temperature for digitally printed inks ranges from 270 to 356 degrees F. In order for maximum efficiency, a quality dryer is protected by a layer of insulation. This insulation gives the outside of the dryer a cool touch while maintaining a consistent temperature on the inside.

Control centre

1 Belt speed – this can range from two to more than 14 minutes
2 Memory – certain dryers are able to remember different settings with recall for simplicity
3 Graphing – the Dragon Air is capable of graphing the shirt profile while the shirt passes through the dryer. After determining the proper cure requirements, the profile can be saved to memory
4 IR bump – advanced dryers have a front section of intense IR. If programmed properly, the IR will bring the shirt up to temperature more quickly before releasing the shirt into an even air-flow pattern. Using an IR bump section will shorten the overall length of the dryer and maximise efficiency.

MacDermid Autotype

Your Dedicated Partner for Industrial Screen Printing

Our development chemists know that to formulate the best products you have to use the best raw materials. The same is equally true when selecting products for your printing process.

As the world's leading manufacturer of both hard coated formable films and screen making films, emulsions and chemicals, we design our products to work harder together, so you don't have to.

Our products bring benefits to printers around the globe in many applications from Automotive to Textiles, Circuitry to Ceramics and almost everything in between.

With over 140 years of experience you can be assured that MacDermid Autotype products will always bring out the best from your process and deliver you maximum production efficiency.

To find out why we're better together email us at: **salessupport@macdermidautotype**

Together we can make a difference

CPS
CPS - Chemical Products and Services

MacDermid
Autotype
A Platform Specialty Products company

W02-2014

www.cps.eu

www.macdermidautotype.com

instead of a Teflon sheet. In any instance when pressure is applied to a garment, the heavier the ink deposit the more the ink will tend to disperse and leave a micro-frayed edge. The result of pressure also causes the image to flatten out and lose a portion of its vibrancy.

A conveyor tunnel uses an air heat application. The air is heated indirectly and passed in an even pattern across the shirt. The hot air evaporates the carrier and binds the inks to fibres at a given temperature without making direct contact with the ink. It is very important to note that these dryers are very specific units designed for water-based or digitally printed shirts. (Figure 1b describes what makes these dryers different than a standard screen-print dryer.) The ink tends to stay more towards the top of the shirt and is described as a more traditional screen-printed finish and texture. The image remains much closer in appearance to how it looked on the direct-to-garment printer. See figure 1b.

Although the end result of each heat application is distinguishable, both applications should stand the test of time equally. The durability of the product is similar under both heat applications. However, in some instances, the digital ink being used was not intended to be heated by one of the two curing applications. It is important to contact the printer manufacturer to determine what the recommended curing system is for your ink. Most inks are capable of either application.

Workflow processes defined as the best use of labour in combination with machinery

Direct-to-garment machines are by nature very modular. A company can begin with one small machine and slowly link together machinery to create a large-scale production environment, or simply purchase production orientated machinery. Defining work-flow as a ROI seems to be the easiest way to compare how the curing process relates to direct-to-garment machines. The entry-level cost of a heat press is under $500. The entry level cost to a tunnel dryer is around $15,000. The justification of either product has more to do with desired work-flow and high cost of labour than initial start up costs.

Assumptions made after collecting data on both applications
Modular DTG approach with Heat Press
1. One Operator can effectivley run 2 dtg machines and 1 heat press
Modular DTG Approach with Tunnel Dryer
1. One operator can effectivly run and cure 4 DTG prints
Production DTG with Heat Press
1. One operator and run 130 units pr/hr
2. A second operator can cure 90 units per hour on 3 heat pressess
Production DTH with Tunnel Dryer
1. One Operator can print and dry 130 pcs per hour

In order to keep up with production a curing application must keep up with the printing process.
Modular Several Small Machines Connected:

Heat Press

Shirts pr/hr	Machines Needed	Heat Press	Employee Needed (2 DTG and 1 Heat Press)	Total Employees
20	1	1	1	
50	2	1	1	
150	6	3	3	
300	12	6	6	

Conveyor Oven		Employee Needed (4 Dtg)
20	1	1
50	2	1
150	6	1.5
300	12	3

Lage Production Machine Heat Press

Shirts pr/hr	Machines Needed	Print Employee Needed	Heat Press Needed	Heat Press EmIpoyee Needed (Three Heat pressess per employee)
20	1	1	1	same as printer
50	1	1	2	1
150	1	1	6	2
300	2	6	12	4

Large Production Machine Convyor Oven

Shirts pr/hr	Machines Needed	Employee Needed (130 pcs print/cure pr/hr)
20	1	1
50	1	1
130	1	1
300	2	2

Figure 1c

THE FUTURE

As illustrated by figure 1c it is apparent that the higher the production required, the more important a tunnel drying application becomes. Kornit and Aeoon are two well-known companies already pushing the boundaries of direct-to-garment production speeds. The Kornit Avalanche and the Aeoon boast speeds of more than 300 pieces/hour. (Verified by http://www.kornit-digital.com/files/23122012104527.pdf, http://www.aeoon.com)

Work-flow here demands the use of a production orientated curing system. It would take ten heat presses to operate one press. Assuming each operator can only operate two heat presses at a time it would take seven employees to reach the intended output of the production orientated machines. A single dryer and one employee are capable of the same production level. In the case of production machines the traditional conveyor line appears to be the only viable option.

The future is about speed and quality; both curing processes will continue to co-exist as they have in garment decorating since its inception. The production orientated shops will push the conveyor lines to the limits and the small one-off style shops will use the smaller footprint and lighter up-front cost of the heat press to compete. ■

Stephen Harpold is Head of Sales and Gerri Rhein is Head of Marketing at Brown Manufacturing

Further information:
Brown Manufacturing,
Grand Rapids, Michigan, USA
tel: +1 616 249 0200
email: Steve@Brownmfg.net
web: www.Brownmfgdigital.com

You will not be outperformed!

Introducing the new TEK® Series:

5 amazing Heat Transfer Materials, 5 unique Effects, One Common Denominator: STiX²™ adhesive

STAHLS' INTERNATIONAL

StahlsInternational.com

SGIA - Oct 2014 - booth #2547

FESPA China - Nov 2014 - booth #1403

THE RIGHT MACHINE FOR YOUR BUSINESS

Only DTG Digital offers the largest range of printing areas for finished garments or fashion panels. With over 8,000 installations worldwide - ***"We boost business"***

2014 PRODUCT RANGE


Viper2


M2 Industrial


M4 Industrial


M6 Industrial

DTG DIGITAL

www.dtgdigital.com

For your nearest dealer and to find out more.

FORWARD THINKING®

Better Printers • Better Inks • Better Color • Better Choice...

IS THERE REALLY A DIFFERENCE BETWEEN ORIGINAL AND THIRD-PARTY INK?

Ruth Zach outlines some reasons behind the development and manufacture of after-market products

Non-original equipment manufacturer (OEM) ink has many names: third-party, after-market, alternative or generic. Whatever the name you choose, or how it is referred to in your country, it always means the same thing, and that is an ink which competes with OEM ink and presents another option for print shop providers as an alternative to buying from the printer manufacturer.

Five to seven years ago, there were print shop providers that were not familiar with non-OEM inks and did not use them. Today there is no doubt that all are familiar or have been approached by a representative of an alternative ink provider. Common-sense might dictate that OEM ink is optimal for the printer, since it is made for a particular engine and therefore might optimise performance. However, experience shows that it is not necessarily so.

Here are some views about printer manufacturers and their ink:

1) Printer manufacturers primarily focus on manufacturing printers.
2) Printer manufacturers don't have the expertise or the infrastructure to dedicate both time and resources to ink and printer development.
3) In most cases, printer manufacturers commission ink development from well-established ink manufacturers worldwide who sell them under OEM contracts as original inks.

The Bordeaux family of products includes eco-solvent, UV-curable and water-based inks, plus coatings and laminates

The business model and nature of OEM ink manufacturers vary. Some ink manufacturers work strictly for OEMs and do not sell inks to other vendors, while other OEM ink manufacturers sell the exact same product to other customers under their brand name or private label. This is common practice across the board for UV-curable, solvent and dye sublimation inks. There are also cases in which the printer manufacturer enters a joint venture with the ink manufacturer. In this scenario, the ink manufacturer's identity is known and the printer manufacturer endorses the ink manufacturer.

Mix and match eco-solvent based inks for Mimaki and Epson SureColor printers

CAN YOU TELL THE DIFFERENCE?

No matter whether the ink manufacturer is tied to the printer manufacturer via licensed OEM ink manufacturing agreements, or if they sell third party ink for the printer, in both cases ink manufacturers invest similar resources in research and development of the ink. This investment includes testing, production and marketing costs involved in introducing new products. However, it is up to the end user to select a trusted third party ink manufacturer that provides a full guarantee for any damage caused by the ink to the print-head or to fading of the printed material and, as with any new product, to test the ink.

In the case of original inks, the end user normally purchases original ink from the same place he purchased his printer and is not always aware of the wheeling and dealing behind the ink. This brings us back to the original question – is there really a difference between original ink and third party ink?

In order to answer this fairly, we must break down the question.

The answer varies depending on ink type, printer and manufacturers. Third party ink companies focus solely on ink. They invest in the research and development of many types of inks intended for various printers. The most common wide-format digital ink-jet inks are true solvent, solvent, which includes eco, mild and low solvent, UV-curable/UV-curable LED, water based inks which include latex, and dye sublimation used in textile applications.

The best selling ink in the wide-format industry is for solvent-based printers. Eco solvent-based chemistry replaced the potentially hazardous true or hard solvent ink. Made from environmentally tolerable solvents, the eco, mild and low solvent-based inks were born. The changes in the ink were triggered by environmental considerations.

OPINIONS ABOUT THIRD-PARTY INK MANUFACTURERS

True solvent-based inks are a cheap, easily developed formula which requires little research. In the case of this ink the quality of OEM and the third party inks are similar. The only guideline for the end-user should be the price because, in spite of each company's promises, one would not be likely find a difference between the various brands.

However, eco and mild solvent-based variants are the main solvent inks used today. The stages of development and complexity result in significant differences in quality and the first of these chemistries that were introduced were OEM inks compatible with eco and mild solvent-based printers.

Due to their revolutionary composition and production process few third party manufacturers followed with a compatible product because this product posed a challenge for third-party ink manufacturers in terms of high capital investment in research and production. Not many third-party ink manufacturers have enough breath to bring this to market.

There are only a handful of companies that have the tenacity to undergo the development, production and intensive testing to offer OEM compatible inks. Included in these independent ink manufacturers, Bordeaux Digital believes it is among those that are leading the way.

These independent ink specialists usually manufacture in smaller batches compared with OEMs, with better quality assurance. They can also cater to specific customer needs such as with special packaging and, even, tailor-made inks for specific applications. OEM ink manufacturers cannot always offer this versatility. OEM inks can have quality issues such as a batch which required a recall or even a famous case of a leading Japanese printer manufacturer that had to recall a complete line of UV-curable inks, leading customers to seek third-party alternatives.

NECESSITY FOR LONG-TERM RESEARCH

The smaller unknown companies don't usually invest in long-term research and development but sell lower quality inks that do not meet the requirements for eco and mild solvents. Purchasing ink cheaply or from an unknown source can shorten the life of the print-head, cause clogging, or accelerate the depreciation of the printer.

The competition in the industry forces printer and ink manufacturers to offer machines and consumables which are intended for specific applications. Already today OEMs offer eco and mild solvent-based printers such as for high-speed photographic quality printing achieving extreme colour gamut with eight colour slots including orange and green. Some creditable third-party ink manufacturers offer OEM quality fully plug-and-print products that match OEM in quality, colour and enable transparent conversion without prior or post preparation.

The printer-to-ink specific standard is also effective for UV-curable and UV-curable LED printers for which non-OEM ink manufacturers have a ready solution, including compatible chips as a chip bypass solution for overcoming the printer barriers. Bordeaux Digital offers specific inks that incorporate a compatible chip or a chip bypass solution which defuses the obstacles met by end-users during installation.

Independent ink manufacturers also initiate development of inks that are not associated with specific printers but offer added value to the market. Ink manufacturing companies have the infrastructure and suitable research and development to support these activities similar to other companies with the same capabilities. An example of such a product is the development of Bordeaux Digital's latex based inks for piezo print-heads, although this should not be confused with HP's product which is intended only for its own thermal wide scan print-heads which are that company's proprietary technology.

CONCLUSION

This review should eliminate most of the hesitations involved with third party inks. There are several trusted wide-format ink manufacturers, including OEM and third-party that offer similar quality products. If you are seriously considering moving to third-party ink, make sure you choose your ink vendor carefully in order to ensure a high quality product. As a rule of thumb try to avoid unfamiliar brands and choose as a preference brands that have been in the business for at least ten years. Don't be intimidated when asking questions and demand an ink trial kit prior to your decision since consumables are likely to be the most costly expense after the printers. Once you make the decision to switch, it is very likely you will save between 40 and 70% on ink costs, depending on the printer, media and application. ■

Ruth Zach is Marketing Co-ordinator at Bordeaux

Further information:
Bordeaux Inc, Santa Clara, California, USA
tel: +972 8 932 1800
email: Ruth@c-m-y-k.com
web: www.c-m-y-k.com

WHY DIRECT-TO-GARMENT PRINTING IS A GOOD MOVE

Oliver Luedtke breaks down the benefits that can be gained from moving into this lucrative segment

Oliver Luedtke

The Kornit Avalanche Hexa brings a 30% colour increase with the addition of red and green to the traditional CMYK gamut

Nowadays, many print service providers are looking for new sources of revenue and margin. The constant overcapacity and price battles, as well as the trends towards smaller print runs and faster turnarounds, have made their traditional markets a difficult place to be. The same is true for many garment decorators and vendors of promotional products – so it is rewarding to know that digital direct-to-garment printing seems one of the rare niches with potential for good business.

Proving this is true is a straightforward task. The global market for printing direct to made-up garments and related items equals 100s of millions of square meters per year, yet the share of digital is a mere 5% to 7%. Considering trends towards personalisation, smaller production quantities and environmental consciousness, the odds are very positive that a service-oriented entrepreneur can become successful in this business as long as a few ground rules are considered.

Here's your cooking recipe for a successful start in digital direct-to garment printing:

MAKE SURE THAT YOU PICK THE RIGHT SIZE OF EQUIPMENT FOR YOUR BUSINESS

When investing in a direct-to-garment printer, you need to be sure that the machine's production capacity is right for you. If the machine sits idle most of the day, it won't work for your numbers, and it will consume more ink than necessary. However, if you manage to keep the machine busy, it will have an amazingly fast ROI and will help you to escape the margin battle that you face with most commodity print products.

A T-shirt printing system can range from a £2,000 box, based on a remodelled wide-format printer, up to a high-productivity system like the Kornit Avalanche for £210,000. What is the difference that justifies a 100 times higher price for the industrial system?

First, it is all about capacity. A DIY system will easily take two minutes to print a shirt. The ink comes from the same kind of small cartridges that you use in your inkjet printer at home, and you need to mount the shirts onto a printing pallet with tender loving care. You probably won't manage to produce more than 10 to 15 shirts an hour that way.

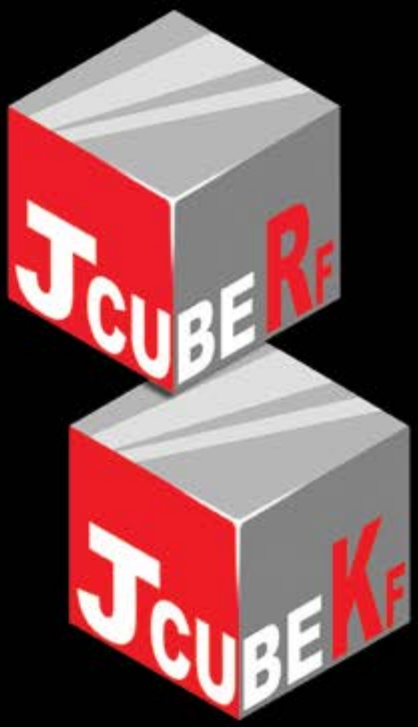
Continued over

Kornit's Paradigm is a digital add-on solution for screen-printing equipment

J-TECK3

true digital

J- CUBE



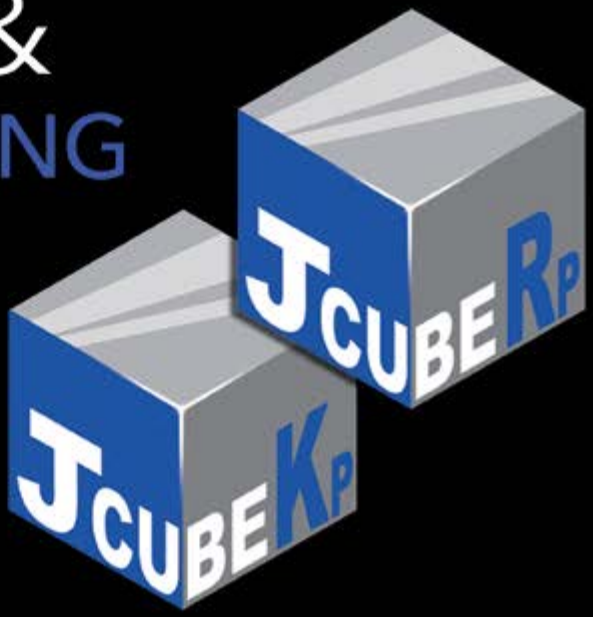
R for Ricoh

K for Kyocera

SUBLIMATION

&

DIRECT PRINTING



J-Teck 3 srl. Via per Montorfano, 68/70 -22032- Albese con Cassano (Co) - Italy Tel. +39 031 428102 - www.j-teck3.com

With non-stop work-flow, dual pallets and 1.5 litre ink system, the Kornit Storm II offers full automation

In addition, many of the lower end solutions require shirts that have been pre-treated and dried before they are put into the printer. An industrial system like the Kornit Avalanche 1000 sports an internal pre-treatment system, can print up to 300 shirts an hour with a double pallet system and 1.5 litre ink containers. Between those two extremes, there will be garment printing systems for every possible productivity level. Kornit alone offers four different direct-to-garment printers at these different productivity levels. If you plan on producing 50 shirts per day or more, you will do yourself a favour if you engage a vendor or reseller that has some experience with ROI calculation and assessing an organisation's business needs.

KNOW YOUR (NEW) TRADE

A direct-to garment printing system makes a great investment for any print service provider because most of the know-how already exists. RIPs, workflows, data management, print head maintenance, white ink printing – if you already have a digital printer, you know all that.

However, garments as a substrate can be a bit tricky. There are so many different types of fibres, so many different ways to turn them into yarn, and so many different ways of turning the yarn into a garment. Enzymes and additives are often used to create the desired soft hand feel. Plus, most raw garments are shipped overseas so they will need be treated with preserving agents. This all multiplies up into a vast array of different materials and qualities on the market, so picking the right garment type and brand should be a focus area if you want to get into that business. You need to build up expertise in this area.

For garment decorators and makers of promotional products it will be the other way round – you might have lots of expertise in textile products but you may need more know-how in RIPs and file formats.

Make sure you have both bases covered – applications, software, file formats on one hand and garments on the other hand.

DON'T UNDERESTIMATE THE WORKFLOW

Imagine a customer that orders 20 soccer shirts for his company team, with a different player name and number on every shirt. You can only turn this into a profitable job if you have an efficient way to create the 20 different print files based on one template. If you start to build each file manually in Photoshop or Illustrator, you will be lost. Modern workflow software

Like other Kornit systems, the compact, robust Breeze features the company's NeoPigment process for printing direct to multiple fabric types.

will make these kind of VDP (variable data printing) operations easy, as well as replacing colours and transparencies. It will connect to a clip-art library, generate a WYSIWYG preview of your shirt, keep track of your inventory and do much more.

Investing a sensible budget for reasonable workflow software can save you many operator hours in the long run. Additionally, running an online order facility with an integrated shirt design module can play an important role in conquering the end user market that usually gives you far better prices and margins than a B2B business.

A PIECE OF FASHION AND STYLE

By the way, you shouldn't consider a printed shirt as just a printed shirt. In reality, it is a piece of fashion and an expression of individual style. When it comes to attracting new customers, attractive designs are as important as a good print quality. Try to make a connection with textile designers that can work up some unique pieces of fashion for you. Watch the market carefully – what kind of shirts are selling well in your country? Check places like the big online retailers in order to establish present day trends. And, take some time to 'play' with the machine and bring out the best effects and printing results. This is what makes the difference between being able to charge 20 pence for a print and selling a tasteful piece of fashion for £30. ■

Oliver Luedtke is Marketing Manager EMEA, Kornit Digital Europe

Further information:
Kornit Digital Europe GmbH, Ratingen, Germany
tel: +49 2012 53580-11
email: oliver.luedtke@kornit.com
web: www.kornit-digital.com

CHALLENGING THE INK OPTIONS IN PERFORMANCE FABRICS' PRINTING

Edward Branigan outlines the alternatives to PVC-based formulations

Plastisol printing inks have a long history in the textile printing world. First developed in the late 1950s they have, for decades, been ubiquitous in the garment decoration industry. They are versatile and can be used to create a broad array of effects and looks on many types of fabrics and materials. Unlike water-based inks they do not dry in the screen or when left exposed to the elements. This very characteristic is what made plastisol inks one of the drivers of the explosion of textile printing that has taken place in the decades since their development.

What makes plastisol so unique is polyvinyl chloride. PVC is one of the most widely produced plastics in the world. It can be found everywhere, in the pipes that bring water into homes, floor coverings, automobile interiors and many other areas. PVC can be made soft and pliable by adding phthalate plasticisers and this is what made them uniquely applicable for textile inks. The ink stays wet in the bucket but, once it is exposed to heat, it will begin to harden until is becomes completely cured or fused. For most textile plastisol inks the heat threshold is 160 degrees C (320 degrees F). Once the ink film reaches this heat level the plasticiser begins to fuse with the PVC resin until they become 100% solid.

Major questions have arisen in the first decade of this century regarding the impact of both phthalate plasticisers and PVC on both the environment and on human health. A whole separate discussion could be held on the merits or demerits of each side of the argument; but suffice it to say that at this point in time phthalate plasticisers have been for the most part banned from use in ink manufacturing both in the EU and the US.

MIMICKING THE PROPERTIES OF PHTHALATES

All of the major ink manufacturers have gone to great lengths to find alternative raw materials to use that would mimic the properties of phthalates and still satisfy the regulatory agencies. This was, for the most part, achieved but now it seems that PVC itself is being targeted in a similar manner. The indications are that PVC use in inks will soon be restricted. Already some of the major sports apparel and shoe manufacturers have placed restrictions on the use of PVC inks on their garment embellishments.

The question then is what are the alternatives for printers and garment decorators to use instead? Ink manufacturers have been exploring non-PVC ink alternatives for some time now. While it is not as straightforward as some would wish, there are other avenues to choose from.

A high solids water-based print

A high solids water-based print, courtesy of XIII Design – XIIIdesign.com

The first and most obvious choice is water-based inks. Water based ink systems are by definition PVC and phthalate free. There are some limitations to be taken into consideration before choosing water-based, though.

One of the main concerns about water-based inks are screen retention times. As the name suggests, all of these ink systems contain water. The amount can vary from 30 to 40% to 70 to 80%. More traditional systems will have greater concentrations of water while some of the newer ones will have the lower amount. In most cases the water is not trapped and will evaporate into the air whether it's from the ink in the screen or the ink in the bucket. The evaporation becomes accelerated in areas that have higher heat and lower humidity. This can be a difficult problem to manage for those who are not experienced but it's not impossible. Buckets should be kept sealed and stored in the coolest part of the work-shop. When printing, keep an eye on the screens at all times. If a stoppage is necessary, clean the image area until ready to resume printing.

LESS WATER AND MORE SOLID CONTENT

Some major advances have been made in water-based ink technology in recent years making the above mentioned problems easier to deal with. Some of these newer systems have less water in them with the addition of emulsifiers that can keep the water trapped in there for much longer. This translates into

Continued over

An acrylic plastisol print

MURAKAMI

Manufacturer of Innovative Technologies
for Screen Printing Processes and Materials

"Expose the Quality"

MURAKAMI
www.murakami.co.jp
www.murakamiscreen.com

One Company

Serving the Global Screen Printing Market

EMULSION CAPILLARY FILM PRECISION STENCILS SCREEN MESH EQUIPMENT

Photovoltaic • Printed Circuits • Textiles/Garments • Large Format Graphics
Ceramics • Nameplates • POP Displays • Signage • Textiles/Roll to Roll
Bottle Decorating • Posters • Glassware • Automotive Industry
Touch Screen Panels • Membrane Switches • High Density Prints
CTS Emulsions • Screen Making Equipment and Devices

JAPAN - USA - CHINA - SINGAPORE - KOREA - TAIWAN - EUROPE

A close up of non-PVC high density

Non-PVC texturing plastisol with foil, flock, metallic shimmer and high solids water-based ink

much longer screen retention times, making production easier. Having less water and more solid content also means that ink colours are more opaque which in turn makes printing on dark colours a reality. With the older systems, printing on darks was not possible (because the inks were so transparent) without the use of discharge.

Some of these newer water based systems set up and print just like a plastisol.

One of the major differences though is cure time. Water-based inks cure just like plastisols with one difference. Both will cross-link once the heat requirement is met but, in the case of water-based, all of the water needs to be evaporated out of the ink before cross-linking can occur. This means longer cure times, at least 50% longer and, in some cases, twice as long. It will vary by brand and water content. There is a definite increase in energy cost that needs to be taken into consideration.

The second most popular alternative is acrylic plastisols. In this case the PVC resin is replaced by acrylic resins. The goal in the development of these inks systems is to mimic PVC plastisol inks in their application methods. Use the same art separations, mesh counts, machine set up and print sequences. Attaining this goal would make it seamless for printers to switch from PVC to acrylic but this is not as easy as it sounds.

While there are many acrylic plastisol inks on the market right now there have been, and still are, some hiccups. The technology is relatively new and there may well be more developments on the way. Some of the issues that need to be dealt with are inter-coat adhesion, build-up, or reduced pot life of the inks.

These problems can be found with the ink colour systems themselves and, in some cases, one of the issues can be reduced only to have one of the others exacerbated. It is here that printers will notice that some of these acrylic ink systems require multiple flashes or come in two-part systems. The textile ink companies all currently have acrylic plastisol systems in development or out in the market. At some point the hope is that raw materials will be either developed or will be discovered that will be non-PVC but will have the characteristics of PVC.

One area that is showing promise is with acrylic plastisol special effect inks. We now have the ability to apply foil and flock using non-PVC adhesives, to print high density, metallic shimmers as well as to make textured prints, all using non-PVC plastisol inks. These do not have the inter-coat or build-up issues that the regular colours do as with all special effects inks, the PVC kind included will always be flashed or printed last.

A close-up of non-PVC textured plastisol with foil application

BENEFITS AND CHALLENGES

As with water-based inks the acrylic inks do require a longer cure time. Cross-linking or fusion does occur but it takes up to 50% longer than a conventional PVC plastisol will. One benefit of the acrylic inks is that they do not dry in the screen like water-based inks so they are much more production friendly in this respect. They can also be printed on both light and dark shirts without modification.

Probably the biggest challenge for either ink system is in the performance fabrics' printing area. This is ironic in that it is the sports apparel merchandising companies that are one of the driving forces in restriction of PVC. Key issues are adhesion of the ink to the fabric and blocking dye migration. Some of these newer types of garment materials are synthetic and/or very sensitive to heat. As we have seen both water-based and acrylic plastisols require the same heat as PVC to cure and also take longer. This poses big challenges for printers using these inks. By far the biggest challenge is the dye migration issue.

Dye migration or bleeding occurs on polyester fabrics. When they reach a high enough heat the dye molecule in the fabric become sublimated. If there is any ink printed on the garment, the dye will get pulled up into the ink and change its colour. A typical example is a white ink on a red garment turning pink. The way to combat this issue is to use a bleed blocking additive or, as the case with PVC plastisol, develop a lower curing ink. But the acrylics and water-based inks need more heat not less. So the race is on right now to solve this problem. Creativity is being required of both ink companies and printers to solve this problem. What would never have been contemplated, like a water-based bleed blocking ink, is now being developed.

We are in a period of transition right now, especially in the USA, and the outcome of which ink system will dominate is still open. ■

Edward Branigan is Print Product Applications Manager at International Coatings

Further information:

International Coatings, Cerritos, California, USA
tel: +1 562 926 1010 x 360
email: Ebranigan@iccink.com
web: www.iccink.com

your preferred partner

Kiian delivers ink solutions that allow highest quality digital printing using dye-sub, disperse and pigment formulations. Available for a wide range of print heads and all popular applications such as sportswear, swimwear, retail, snow gear, fashion, banner, flags, 3D shapes and more. With offices in Europe, China and the USA, Kiian has a global reach with local support. Kiian is your preferred partner.

KIIAN DIGITAL

SHAPED PULSE PROFILES IN PHOTONIC SINTERING FOR PRINTED ELECTRONICS

Saad Ahmed observes the challenges faced by direct printing of circuits with conventional printing processes

One of the challenges in producing commercial printed electronics products has been the effective sintering of inks on substrates that can be damaged by high temperatures. Photonic sintering, which uses high-energy light pulses, has solved this challenge in some applications, but many other applications still pose difficulties. A new "dual pulse" approach to photonic sintering, utilising two pulse profiles operating as a single pulse, may hold the key to addressing these more challenging applications.

Photonic sintering is a process where high energy pulses of light are used to melt together small particles of material, enabling the direct printing of electronic circuits using conventional printing processes such as ink-jet printing, the screen process or gravure. When used with conductive inks that are able to sinter at relatively low temperatures due to particle size, photonic sintering is able to transform printed lines into solid conductive traces.

Photonic sintering delivers high intensity pulses of light which are in the order of a few milliseconds, that results in a minimal temperature rise in low-temperature substrates. Low temperature ovens that are traditionally used for sintering often take too long to achieve similar results because increasing the temperature to accelerate the sintering process typically leads to damage of the substrate. Photonic sintering promises to be a key enabling technology for high throughput printed electronic systems that utilise low temperature substrates.

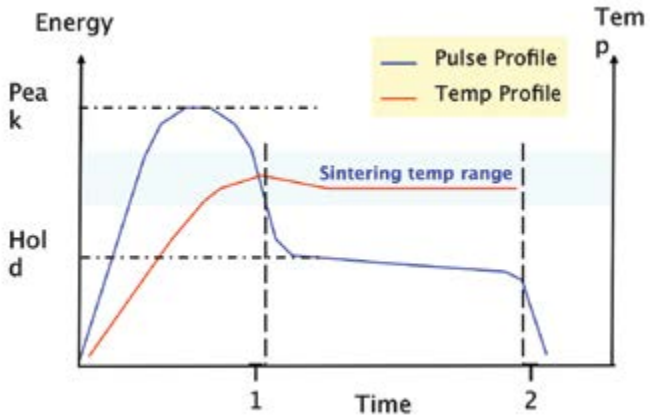


Figure 1: a dual pulse profile system where the peak, hold amplitude and durations of are independently controlled. The red plot shows the intended thermal characteristics on sample.

EMERGING CHALLENGES

In its simplest form, photonic sintering uses light to impart thermal energy onto ink with a controlled pulse or a chain of pulses that brings the ink up to the sintering temperature. In printed electronics applications, there are numerous functional parameters that need to be considered including resistivity, adhesion, transparency, and flexibility. In a photonic pulsed system, the pulse amplitude, width, and frequency are adjustable parameters that are used to define the optical energy delivered. The majority of commercially available photonic sintering tools offer these adjustments, and these are adequate for some applications. However, numerous types of inks, substrates, printing processes, and functional characteristics often require tighter control of the photonic energy.

For example, thick conductive layers, like those printed using screen-printing techniques, pose an additional challenge in dealing with depth of cure. In this case, it is not sufficient to reach the sintering temperature; that temperature must also be maintained to allow the heat to penetrate into the thick ink layer and sinter more deeply into the material. If the temperature is not maintained, un-sintered ink remains under the top layer, which leads to wasted ink, higher resistivity, and weaker adhesion.

Continued over

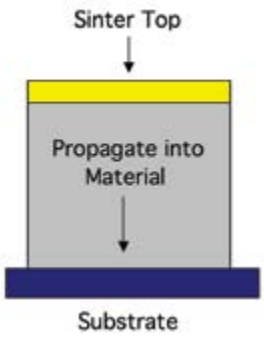


Figure 2: for thick films the peak section of the pulse is used to initiate sintering of the top surface and the hold section of the pulse used to allow sintering propagation into the material.

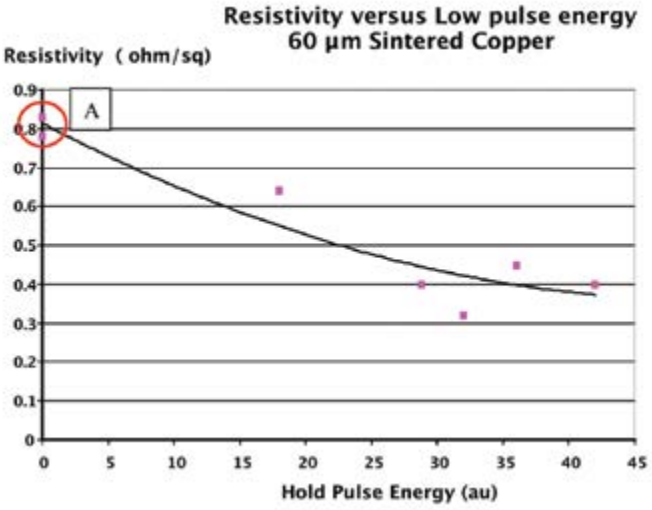


Figure 3: a process for sintering thick layer copper ink was optimised with adjustment of the peak pulse only with no energy in the hold region (Points A). A 50% improvement in resistivity is shown as more energy is applied to the hold region.

icreate PoS

www.mimaki.eu/pos

JFX200-2513

UJV500-160

JV300-160

imagine ••• Mimaki delivers

SG SIGN & GRAPHICS

The world-class range of machines in Mimaki's impressive line-up gives you the power to create amazing retail point-of-sale items, including window graphics, posters and internal signage to make any business stand out from the crowd.

The results are limited only by your imagination.

Let's create ... TOGETHER

Mimaki

info@mimakieurope.com @MimakiEurope

www.mimakieurope.com

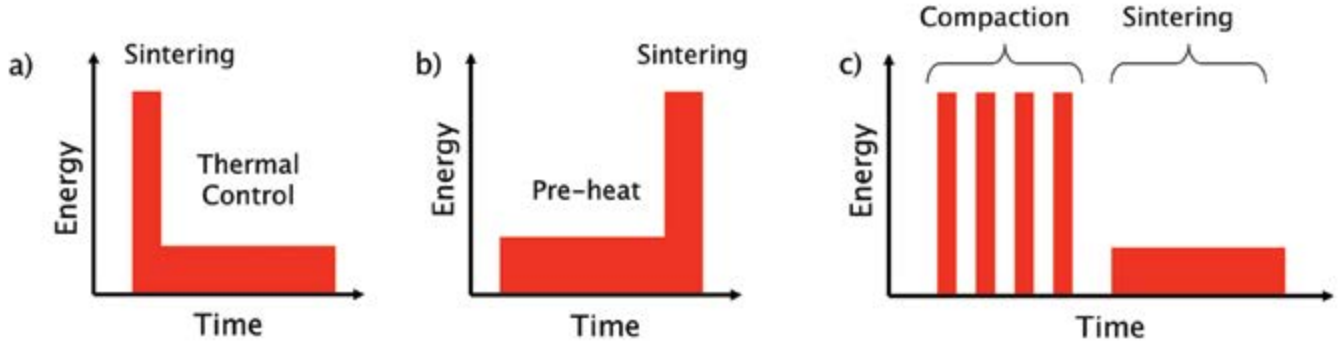


Figure 4: a) sintering and then thermal management for better depth of cure b) Showing how dual pulse profile can be used to preheat material prior to sintering and c) burst of pulses for improved compaction prior to sintering.

THE DUAL PULSE APPROACH

The dual pulse process was developed at Xenon Corporation to address this particular issue. By using an arrangement of power supplies and energy storage pulse networks, it is possible to deliver a unique pulse profile combining two independently controlled pulse features implemented in a single pulse. This allows the user to define a peak energy component, which brings the ink to the sintering temperature, and a hold energy component, which maintains the temperature for some time. The amplitude and duration of the peak and hold profiles can be independently controlled, providing optimum process flexibility while maintaining simple user control.

Having two independently controlled pulse profiles allows a single pulse to accomplish multiple tasks. Usually photo-sinterable conductive inks are complex in nature. This is particularly true for copper, which requires techniques to either prevent oxidisation or remove solvents and carriers in the ink. Furthermore, there may be binders or agents to improve adhesion or tune the ink for a given printing technique. The complexities of the ink mean that a number of different processes are required to sinter it. As an example, hot air driers or IR (infra-red) lamps are used to pre-heat the ink to remove solvents. The temperature required is below that for sintering to allow for better evaporation. Alternatively, the substrate can be heated to just below sintering temperature to improve adhesion. In a dual pulse system, the lower-power hold profile can be programmed to occur before the peak profile, which effectively pre-heats the ink prior to sintering. Where hot air or IR lamps require additional equipment and process time, a dual pulse process combines the preheating and sintering steps into a single pulse lasting only milliseconds.

There are a number of photo-sinterable inks that require multiple pulses for optimal results. For example, certain silver inks respond well to integrated energy over multiple pulses where using a single high-energy pulse could damage the substrate. Generating an arbitrary number of pulses with different voltage peaks could achieve the task of compaction prior to sintering. Although two separate pulsed light systems configured to address each task can achieve the same effect, a dual pulse system provides the optical solution in a single system.

Figure 5 The S-2300 System developed by Xenon for R&D with dual pulse capability

CONCLUSION

The use of pulsed light for photonic sintering is still a fledgling technology with a diverse range of inks, printing processes and applications. There is currently a huge thrust by governmental, academic, and industrial organisations to develop process solutions that lend themselves to high-speed roll-to-roll printed electronics. Indeed, photonic sintering is up to the challenge and already has seen production-level deployment. Due to the diverse range of ink types, substrates, printing methods, and functional requirements, a tool that provides flexibility in the way that it can control and deliver light is essential to address many applications. The dual pulse process, combined with the proper advanced control capabilities to utilise it effectively, offers a practical solution that opens up new opportunities for printed electronics. ■

Dr Saad Ahmed is Director of Engineering at Xenon Corporation

Further information:
Xenon Corporation, Wilmington, Massachusetts, USA
tel: +1 978 661 9033
email: LAPanico@xenoncorp.com
web: www.xenoncorp.com

DefiNITELY.

EFI VUTEk GS3250LX Pro
LED UV-CURING PRINTER

The first production-level LED printer goes Pro. Our EFI™ VUTEk® GS3250LX Pro—with grayscale and "cool cure" technology—lets you produce higher-image-quality jobs faster and more efficiently. All at reduced cost while printing on recycled, thinner, and less expensive substrates. No VOCs. Less consumables and waste. Reduced energy consumption. No warping or head strikes. Give your customers a greener printing solution as you make more green of your own.

efi

Scan or visit vutek.efi.com/DefinitelyLED61 to learn how. Or call 0808-101-3484.

MACHINE VISION FOR INK DEVELOPMENT

Paul Best describes the importance of employing the right measurements and tests to achieve successful results

The development of a new ink-jet ink requires a significant investment of both time and money. For especially innovative inks, including functional inks, this investment may become considerable indeed. Several performance factors must simultaneously be considered, including jetability, disbursement of pigments or dyes in the carrier fluid, and various aspects of substrate interaction, in designing a successful ink.

As in any process of innovation, reliable measurement at every step is essential. If specific causes of poor print performance cannot be identified, identifying a solution becomes far more difficult. The difficulty of identifying causes of overall poor performance can be decreased drastically by using intermediate measurements to identify and isolate the causes of desirable and undesirable behaviours.

Machine vision now provides invaluable tools at several steps in the process of ink development, to check performance, and identify specific causes of misbehaviour. Herein, we'll take a look at some of these tools.

DROP WATCHING AND MEASUREMENT

Apart from suspension of the colouring agent in a carrier fluid, jetability may be the most fundamental property of any ink. Indeed, even before the development of colouring agents, a new carrier fluid can first be tested for jetability.

Of course, proper analysis of jetability goes far beyond the simple question of whether ink is dispensed by the head. Poorly jetable ink formulations may dispense but with large satellites or erratic drop trajectories which would ultimately lead to very poor print quality.

If surface tension is too low, wetting can become a serious problem as well, primarily impacting sustainability. Finally, if the drop volume or velocity is significantly outside of the acceptable range, the ink will not perform according to expectations in a printer.

The JetXpert drop watching system is stated to be by far the industry leader technologically, and also the most widely used.

There are several key attributes worth considering when choosing a drop watching system:

1. Single drop imaging. Many drop watching systems have underpowered light sources. To compensate, they sum or average several frames prior to display or analysis. If successive drops vary at all, this leads to a blurry image with no value for analysis, or for checking drop-to-drop consistency, and sometimes little value even for visualisation.
2. Measurement capabilities. While visualisation is helpful, accurate measurement including volume, trajectory, and velocity, is key to the creation of objective performance standards for new inks, and comparison between various waveforms and formulations.
3. Automated analysis. It's impractical for an operator to be present at the system to run many hours of sustainability testing, to move between hundreds of individual nozzles on the head, and collect accurate date for each nozzle, or to repeatedly test an ink over a large range of frequencies. A system which allows automation can save many hours of engineering time.

TESTING PRINT QUALITY

Once the ink has been shown to be sustainably jetable, with acceptable measured attributes, it's time for print testing. Print testing introduces the complication of substrate interaction. It can be done quickly with a hybrid dropwatching/print system, like the JetXpert print station, or on a standalone printer.

Continued over

Figure 1: JetXpert system for dropwatching and analysis

Figure 2: Dimatix S-Class, captured with JetXpert

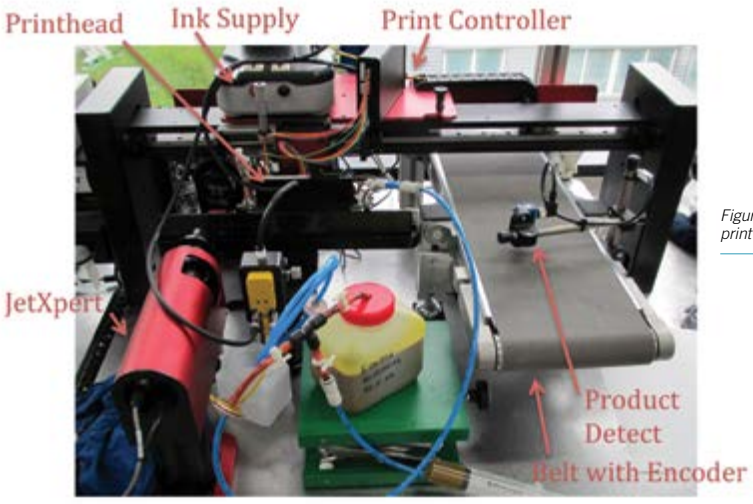


Figure 3: the JetXpert print station

It's a good idea to use a target which allows accurate and objective measurements of print quality, so that various printing techniques and inks can be meaningfully compared, and performance can be tracked over time. "It looks good to me" is not an objective, nor quantifiable analysis.

Full analysis using a standard ink-jet target is included in any ImageXpert system, but measurements unique to your particular application can be accommodated as well. One advantage of ImageXpert software is that it is highly customisable and, with a small amount of training, you can build your own new measurements.

A variety of methods is available for capturing images, including scanner, overhead camera, linescan, and full motion (which may include X-Rite and/or laser), all of which can be controlled via the ImageXpert software. Each has its own advantages, and is appropriate for certain applications.

Along with initial print quality, the robustness of a print may also be tested, by subjecting the print to wear or abuse, and then using machine vision to precisely measure the amount of lost ink, and quantify the image degradation.

Figure 4: an ImageXpert camera system, with manual motion

SUMMARY

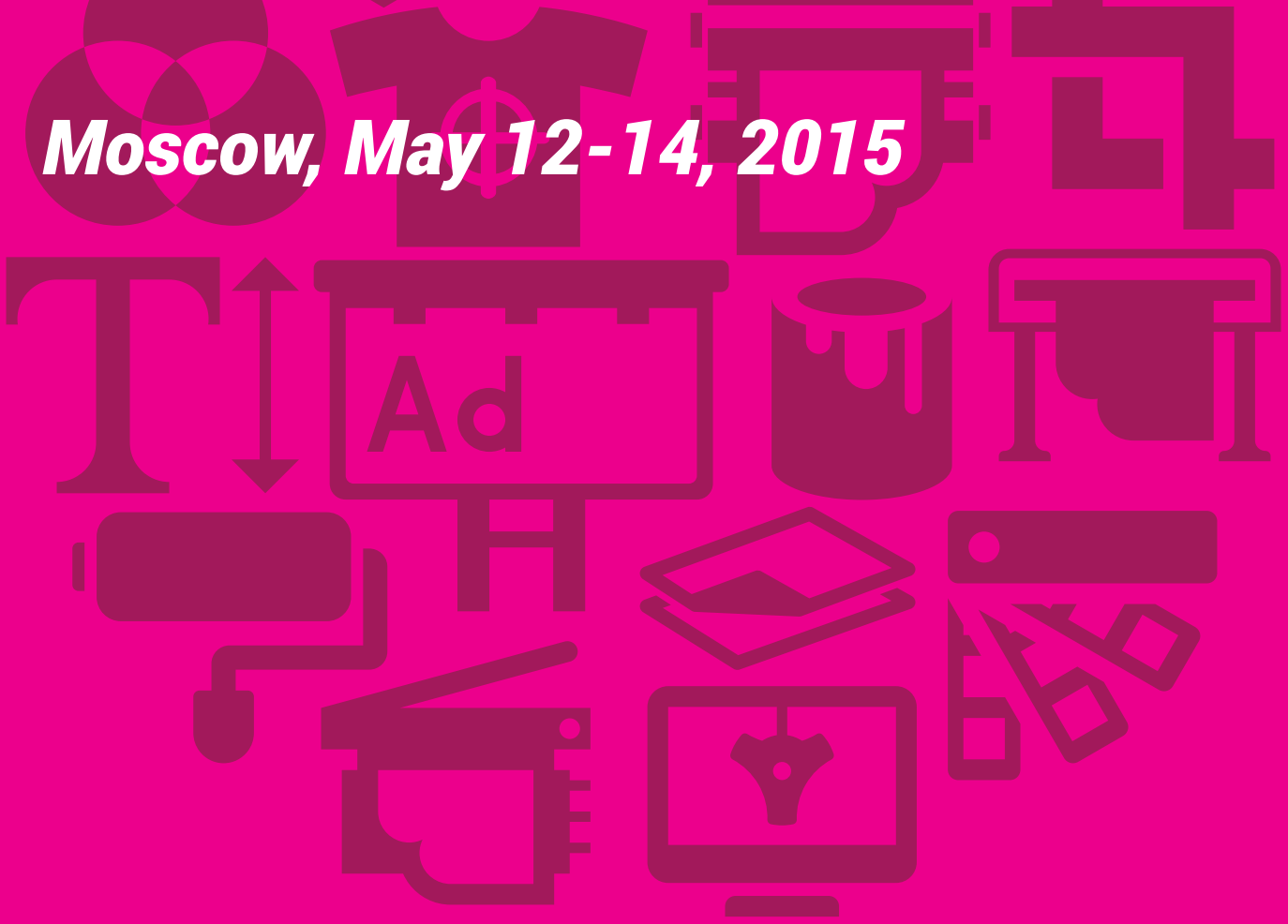
There are several characteristics of any new ink which may impact performance at various levels, and many hurdles to be cleared before a new ink may be brought to market. A well-conceived and thorough battery of measurements and tests can mean the difference between rapid success, and guessing in the dark – causing costly delays.

Machine vision is an important component of any such set of measurements, and has become truly essential for competitive modern ink development. It's vital for managers and engineers to consider what new measurements are available which may speed your research and development process, or improve and modernise quality control. ■

Paul Best is Applications Engineer at ImageXpert

Further information:

ImageXpert Inc, Nashua, New Hampshire, USA
tel: +1 603 598 2500
email: info@imagexpert.com
web: www.imagexpert.com



Moscow, May 12-14, 2015

PrintExpo 2015

"PrintExpo 2015" will be the only exhibition in Russia that brings together companies representing all areas of the printing industry.

The Union of Architects of Russia presents the first international exhibition "PrintExpo 2015", a significant new event for everybody who works in the printing business.
The relevance of the theme of the exhibition can hardly be overestimated. Raising living standards creates new demands on the quality of products and services and expands their application. Possibilities of modern technologies, variety and quality of materials open up new horizons for the development of print industry, with products used in almost all spheres of human life. It is advertising in the city,modern high-quality printing and the various printing applications on textiles, wood, metal, plastics and 3D printing.

Printing on glass will be widely represented at the international exhibition "InterGlass 2015", which will be held concurrently with the exhibition "PrintExpo 2015." Simultaneous staging of the two exhibitions will not only contribute to the expansion of subjects, but also give the opportunity to find new markets, attract new customers and increase the commercial impact of the exhibition. Another trend theme "PrintExpo 2015" - 3D printing, in which the capabilities and applications are expanding from year to year.

Organizer
Union of architects of Russia

123001 Moscow, Russia
Granatny pereulok, 7, office 46
Central House of architect

+7 495 690-69-92
+7 495 691-86-60
+7 495 697-69-11

info@print-expo.com
www.print-expo.com

You can get more info at

www.**Print-Expo**.com

PROVING THE CAPABILITIES OF LATEX INK FOR QUALITY AND SUSTAINABILITY

Paul Lindström puts one manufacturer's formulation to the test

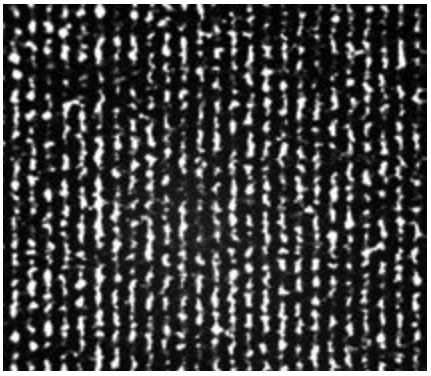
Mimaki has a wide range of large format printers, and among the latest models introduced onto the market is the JV400-160LX, which uses water-based latex ink. The curing temperature is relatively low, which not only keeps power consumption at a minimum, but also allows printing on heat sensitive substrates.

Mimaki was founded in Japan in 1975 and has, over time, gained a reputation not only in Asia but also all over the world. For the JV400LX a couple of technological developments can be highlighted as examples of the creativity of the engineers at Mimaki. The JV400-160 LX can print white and, while previous technologies using latex ink had problems with sedimentation of the white pigments, Mimaki has introduced a circulation pump in the JV400-series to avoid this problem. Another example is the gentle and even heating of the substrate and ink layer in a three-step fashion. First the substrate is pre-heated, then there is heating applied at the actual printing stage, and finally there is heating applied after printing, as well as the use of a fan to dry the printed media. In this way heat can be applied at an as low a temperature as possible, down to around 60 degrees C, while being evenly applied over time and over the surface.

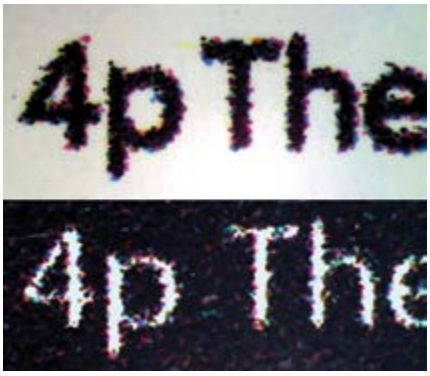
The number 160 in the name of this model of course stands for the maximum print width (in centimetre), which is, to be precise, actually 1620mm. The Mimaki JV400-160LX has two array print-heads with four rows of 320 nozzles each. These print-heads can be configured in three ways. In four-colour mode both print-heads are used for CMYK only. In five-colour mode cyan and magenta are doubled up, as well as white, while yellow and black (K) each have one channel. In seven-colour mode only white is doubled, and orange and green are added to CMYK to enable Hexachrome-like printing, to expand the colour gamut. The print-heads offer variable dot size down to four picolitre droplet size. This doesn't transfer directly to addressable resolution, but in high quality print mode this will be equivalent to 1200 x 900dpi.

The Mimaki JV400-160 is a roll-to-roll wide format printer, and has a maximum print speed of 18 square m/hour in high speed mode.

Continued over



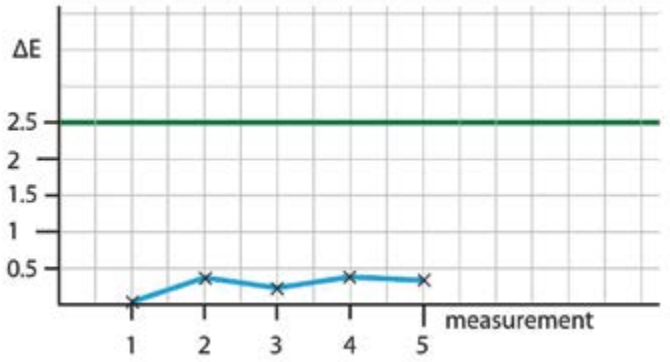
In the resolution test, the Mimaki JV400-160LX showed identifiable line pairs up to the equivalent of 300 dpi, in the horizontal direction, and up to 200 dpi in the vertical direction



The JV400-160LX could reproduce 4 point text well as in this image seen using a digital microscope at about 500x enlargement

The Mimaki JV400-160LX is a roll-to-roll wide-format printer that uses latex ink

When measuring in all five samples of solid Cyan across the width of a 70x100 cm poster, the uniformity of the ink density was very good



TECHNICAL SPECIFICATIONS: SUMMARY

Vendor	Model	Inkset	Max media size (mm)	Max resolution (dpi)	Print speed
Mimaki	JV400-160LX	CMYK+W (LX100)	1620	1200	18 square m/hour
		CMYK+O+G (LX101)			

UV LED Curing: The Time is Now.

Expand your Capabilities.

Phoseon™ TECHNOLOGY

The Leader in UV LED Curing

Superior Performance. Integrated Control

Contact us today: ***www.phoseon.com/Specialist-Printing/***

ABOUT THE INKS

Mimaki has released a new series of ink called LX101, which includes orange and green as an addition to the standard CMYK. This new ink offers glossier and more vivid colours than the previous ink, LX100, and the LX101 black ink has a higher density than that of the LX100 black.

Both the LX100 and LX101 inks are manufactured for use on a wide range of substrates, including fabric, vinyl, self-adhesive foil and film, as well as stretch materials and, of course, paper. The water-based latex inks have no odour and, since curing occurs instantly, they don't contain or emit any VOCs in the process. The inks are also particularly suitable for flexible applications, like vehicle wrapping.

EXTENDED COLOUR GAMUT

When using the Mimaki JV400-160LX in its seven-colour mode and using the LX101 inks, the achieved gamut surpasses by far the colour gamut of both standard flexo printing and litho offset on coated paper. The colour gamut achieved in our test is around 500,000 colours. According to the ISO 12647-6 standard, flexo printing reaches around 380,000 colours on coated paper and, for offset printing according to the ISO 12647-2 standard, the gamut is about 400,000 colours, also on coated paper.

CUSTOMER SATISFACTION

Morgan Signs in Cardiff, UK, a long-term user of Mimaki printers, is one of the first users of the JV400-160LX. Rod Hill, MS Group's Operations Director, explains why his company selected the JV400-160LX, as suggested by the UK distributor Hybrid Services: "The Mimaki latex printer has very low running costs and we are able to select from a huge range of materials. The output quality is head and shoulders above the competition".

Craig Lovegrove, Managing Director for PopIn Vehicle Graphics, part of and based in the same premises as the rest of the Morgan Signs operations, explains why the JV400-160LX is particularly well suited for this kind of work: "We had to offer faster turnaround times, so removing the need to out-gas prints as when using solvent inks, latex ink was top of the list. We looked at latex options, and although alternatives initially seemed better at face value, once we dug a little deeper, the Mimaki printer had a number of compelling factors that made it an easy decision in the end".

The MS Group is certified according to the environmental standard ISO 14001, and the Mimaki JV400 latex printer fits well into Morgan Signs's environmental policy.

HOW THE TESTS WERE DONE

Our test required participants to provide output samples from test files supplied by Digital Dots. For the colour gamut test, we use a standard IT-8 CMYK profiling chart. For the resolution test, we use a specially designed chart with line pairs at a wide range of spacings. The participants printed these under optimum conditions onto two types of substrates – glossy vinyl and uncoated paper.

For visual evaluation of general image quality and smooth reproduction of tonal graduations, we also asked for an output of a 70 x 100cm poster. This poster was also used to evaluate the uniformity of ink density across the whole width of the substrate.

We take five measurements of full tone cyan and then use SpectroShop software to compare the colour deviation between the first sample and the other four. As a threshold we decided on 2.5 ΔE, the same value suggested in the ISO 12647-2 standard for printing solid spot colours.

We measure colour gamut by creating a standard CMYK ICC profile from the IT-8 characterisation chart data, allowing 400% TAC and using UCR for black generation, in order not to limit the gamut by the profile itself. This was done using an X-Rite i1 Pro spectrophotometer and professional profiling software. The profile was then analysed with Chromix ColorThink Pro to yield a figure for the total number of discrete colours contained within the gamut. We define discrete colours as separated by a delta-E value of 1, using the CIELab colour space as reference.

To measure resolution we viewed the prints of the line pairs' chart under a digital microscope. We wanted to determine the point at which the lines could no longer be differentiated as distinct pairs. We call this the resolving power of the printing system,

and this is often different than the stated addressable resolution, as per the technical specification. The resolving power is a combination of the native resolution of the print-heads, droplet size and mechanical precision when moving the print-heads and/or media while printing. As a complement to the line pair chart we also print text, both positive black on white and inverted white on black, in a small font (down to 4 point).

THE RESULTS IN NUMBERS

Mimaki submitted test samples produced using the seven-colour ink setup with the JV400-160LX using the LX101 inks in high quality mode (1200 x 900dpi) on Avery vinyl. Our gamut test indicated a total of around 500,000 colours (which exceeds the approximately 400,000 colours when printing offset inks on coated stock). For the uncoated substrate, printed on Core Silk 200 gsm stock, the gamut was measured to be 320,000 colours, significantly less than on glossy substrate. But this is expected, since prints on uncoated stock normally produce a less vivid and colourful result. It's still much higher than for offset on uncoated stock, which is about 170,000 colours. The reason why the latex inks produce a higher gamut on uncoated stock than offset is most likely the thicker and more opaque ink layer.

In the resolution test, which again was printed on the Avery vinyl and with the same resolution settings as the colour gamut chart, distinct line pairs could be seen at up to 300dpi in the horizontal direction and at up to 200dpi in the vertical one. The small text was clearly reproduced down to 4 point, both the positive text and inverted text with white on black background.

Regarding uniformity, the Mimaki JV400-160LX showed a maximum deviation across the page of 0.4 ΔE (and an average of only 0.2 ΔE), which is very, very good. A colour deviation below ΔE 1 is impossible for the human vision to detect, so the results for the JV400 have to be said to be excellent in terms of uniformity.

CONCLUSIONS

Mimaki seems to have managed to combine both high quality with modest running costs, with reasonable speed but also good environmental credentials. The new inks seem to work well on a wide range of substrates and, for applications like the ones Morgan Signs have, the company has made a great positive impact in the performance of the system. ■

Paul Lindström is a Technical Editor, Journalist and Consultant

Further information:
Mimaki Europe BV, Diemen, The Netherlands
tel: +31 20 462 76 40
email: info@mimakieurope.com
web: www.mimakieurope.com

IS TEXTILE PRINTING THE NEXT DIGITAL REVOLUTION?

Tim Phillips explains the benefits of adopting new technology

Digital technology is starting to gain critical mass in apparel textiles, bringing major benefits to manufacturers. Across a wider range of textile applications there are still many untapped areas of benefit, meaning that the full potential of this technology in textiles is far from being exploited fully.

Digital printing using ink-jet technology is being adopted increasingly across the textile industry. The technology offers significant benefits, especially in the introduction of new designs where a new design can be introduced into a mill in a matter of hours instead of days or even weeks with conventional technology. This has been especially beneficial for apparel brands, allowing them to offer a constantly updating portfolio of products rather than the old model of two seasons per year. Increasingly manufacturers are also seeing the benefit of producing vibrant, detailed designs that are difficult to achieve with conventional technology.

We expect modern trends across industries to favour smart, agile manufacture using digital technology over conventional manufacture. Digital manufacturing enables the rapid introduction of new products and moves the emphasis of competition away from price and towards responsiveness, convenience and individualisation. This trend demands flexible manufacture close to the point of consumption, potentially reversing the current migration of mass manufacture to remote low cost economies (Figure 1).

So how will this trend impact the textiles industry, what will the benefits be and what is required in order to make this happen?

EMBRACING DIGITAL TECHNOLOGY

In an earlier article in this magazine (Issue 2 / 2014: page 42) we looked at the adoption stages of key digital applications. Four key factors were identified that impede the adoption of digital technology if not addressed by the supply chain both from an operational and marketing perspective.

The first factor is market pull: if the benefits of digital technology in a particular market are compelling then adoption is encouraged as long as other factors do not impede it, but without strong market pull adoption may not be as fast as suppliers would like. Adoption will also be slowed if the performance required by the market cannot be delivered using current technology. Economics are the third potential inhibitor: global macroeconomics, industry-specific economics or individual company cash constraints may hold back adoption. Finally, failure to communicate the benefits of digital adoption might be an inhibiting factor if this leads to incomplete understanding of these benefits by industry players.

TECHNOLOGY BARRIERS

The key factors required by a market for digital print are typically productivity (which includes production speed and also system availability in production), quality (including resolution, detail reproduction and colour performance) and print durability (fastness to light, washing, etc). Ease of use can easily hold back adoption if not addressed by system manufacturers, and this has particular relevance for the software interface. Digital printing systems are highly complex in comparison with traditional printing, and users by definition have far less experience with their use.

A particular factor in the case of textiles is the need to print designs onto a range of fabric types, which all call for different dye or pigment chemistry, pre- and post-print treatments in order to give the required colour and fastness performance. The “holy grail” of an ink chemistry that gives excellent colour and “handle” performance on a wide variety of fabrics with a minimum of further processing is yet to be achieved, but colorant and ink developers are both working towards this goal.

Ultimately the importance of designing digital textile printing as a complete solution, rather than an ink and printer individually, is not to be underestimated. To do otherwise puts seamless adoption at risk, as problems with the application in the textile mill inevitably act to negate the promised benefits.

TRANSFORMATIONAL BENEFITS

For most textile applications, the initial driving market force towards digital adoption has been the ease and speed of new design introduction, but we have found that, while this change is dramatic, there are other benefits from digital technology that are only now being realised as having a significant impact. A key advantage of digital apparel textile printing is the ability to print finely detailed designs with vibrant colours. An early win for digital textiles was in high end silk scarves, where the high initial cost of the technology was bearable in exchange for the breath-taking designs that could be produced. High quality digital solutions are able to reproduce a level of detail not possible with traditional techniques, and this

Digital technology enables vibrant detailed designs for apparel fabrics

Polyester fabrics are extensively used for soft signage

There is a paradigm shift in manufacturing with digital technology

is increasingly being used as a differentiator by brands in mainstream apparel (Figure 2).

A much-discussed benefit of digital textile printing is in sustainability and, while this is often not the primary driver for adoption, the impact can be very significant. Textile mills are extensive users of water for washing and steaming fabrics, and power to dry this water from the textiles; reduction of usage can lead to major savings in factory running costs which, in a low margin industry, can make all the difference.

APPAREL IS ONLY THE START

So where else can these benefits be exploited? The home furnishing market is also ripe for the design liberation that digital technology can bring. While product lifecycles are generally much longer than in clothing, there is a trend towards more individualisation in people's lives, which leads to a demand for ever more fragmented design space: something that ultimately can only be met with digital. Soft signage where graphics are printed onto polyester fabrics rather than paper or vinyl for advertising and point-of-sale use is a growing market, especially as vinyl is becoming unacceptable environmentally (Figure 3). This is driving much greater usage of disperse dye based direct printing and transfer printing inks which we expect to continue.

The technological possibilities expand even further when the combination of decoration with addition of functionality using digital technology is considered. Applications make use of the ability of ink-jet printing to deposit metered quantities of functional materials precisely where needed. This is making new product possibilities a reality in technical textiles but also back into apparel, where the ability to deposit materials like anti-bacterial (for odour reduction), reinforcement (such that a garment can have different feel in different areas) and hydrophobic (selective water-proofing while maintaining feel next to the skin) have boundless potential.

THE NEXT DIGITAL REVOLUTION?

The signs are clear that apparel textile production will be rapidly moving to digital over the next three years, with a slower, but still significant take-up from the other adjacent markets. We expect to see this adoption accelerate as benefits are realised in other markets, and where the required technology is developed. ■

Tim Phillips is Marketing Manager at Xennia Technology

Further information:
Xennia Technology Ltd, Letchworth, UK
tel: +44 1462 705220
email: tphillips@xennia.com
web: www.xennia.com

INVESTMENT IN INNOVATION

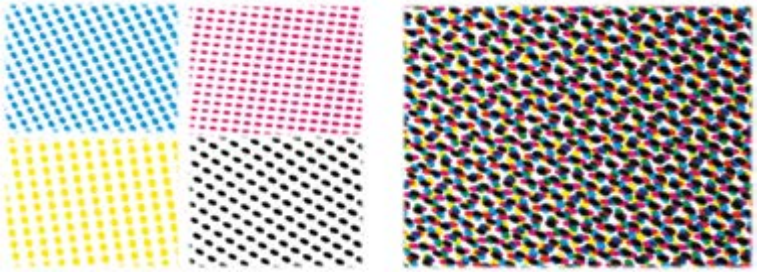
Specialist software enables fine FM raster sets for major European screen-printer

To control its SignTronic screen exposure equipment in its pre-press department, Signum Siebdruck is now using ColorGATE's Productionserver 8 CTS Edition RIP software. According to Dieter Jernej, CEO of the Austrian-based screen-printer, and one of Europe's largest, all the companies working in today's market environment are facing an enormous price pressure.

"For this reason, we have for quite some time already been looking for a possibility to generate very fine FM raster suitable for screen-printing in our pre-press sector, in order to be able to expose them on our SignTronic Stencil Masters," states Jernej. "Up to now there was no possibility to make full use of the high resolution of our Stencil Masters, as no really high-quality FM raster sets designed for screen-printing were available on the market."

In all cases where the customers demand a high resolution for their order, Jernej says it is essential to employ digital printing, and this leads inevitably to considerably higher production costs. Most of the company's customers tend to require a high resolution – but at the same time they expect to pay the moderate price of screen-printing. In short, this brings about a situation where the dog chases its own tail.

As a result, Signum Siebdruck decided in favour of the innovative RIP solution offered by ColorGATE. Since 1997 the company has been developing specialist RIP products and printer driver technology for the commercial and screen process markets, encompassing digital printing, pre-press and the industrial segment. Its core product is Productionserver, a modular RIP and colour management solution is used by thousands of digital imaging end users world-wide.



High flexibility is one of the key benefits of this AM screening

The screening utilises a super-cell technology to match top quality requirements

FM stochastic screening provides excellent properties that avoid moiré effects completely

This hybrid screen combines line accuracy with homogeneity

FOCUS ON THE LATEST TECHNIQUES

This company counts among the biggest graphic screen-printers in Europe. Since its foundation in 1975, Signum Siebdruck systematically focuses on the latest techniques and standardisation in screen-printing. In line with these principles, it has completed several fully automatic multi-colour UV screen-printing lines with a fully automatic pre-press system that comprises of SignTronic screen exposure equipment and a fully automatic screen washing and de-coating system.

As a result of its relentless optimisation and pursuit of innovation, Signum Siebdruck enjoys an excellent reputation among the big manufacturers of brand-name products and commercial chains. These include Puma, the REWE Group, among others, with its reputation that is also based on reliability, quality and efficiency.

Gerald Wegner, Technical Director of SignTronic AG, states: "For quite some time we have been looking for a RIP manufacturer offering high-quality FM rasterisation for our Stencil Master screen exposure equipment, in order to be able to use our high resolution of up to 2400 dpi really to its full capacity. At the beginning of 2012, when we carried out the first tests with ColorGATE, we were quite baffled by the raster quality. However, our technicians were excited about the high flexibility and ease of operation of the Productionserver software."

HIGH DEGREE OF FLEXIBILITY

In summer 2012, Signum started its own test phase with a six-man crew comprising ColorGATE, SignTronic and Signum staff

members handling the exposure and printing attempts. Thanks to the high degree of flexibility of the RIP solution, all the commonly used AM screen-printing, FM and hybrid rasters, with various lines/inch (lpi), dot sizes and dot shapes were achievable.

Herbert Gruber, Graphics Manager of Signum, confirms: "The possibilities of this complete solution are multiple and the results are just sensational. In addition, the combination of AM raster with one or a maximum of two FM channels represents an interesting alternative for the high-resolution FM raster that we favour."

Jernej adds: "After three days, we had finally worked out several ideal combinations (which of course remain our secret)."

The following observations were also made by Philipp Klinger, European Sales Manager of ColorGATE Digital Output Solutions GmbH: "Each screen-printer makes different demands that need to be fulfilled by the raster. A technical screen-printer manufacturing plastic foil keyboards needs a very fine raster. On the other hand, the graphic screen-printer – depending on the professionalism and character of his operation – is often pleased if he is capable of producing a 28" AM raster moiré- and break-free, in reproducible quality and in light shades. Our Productionserver 8 makes a valuable contribution towards an enhanced output and quality assurance. We can offer new dimensions for quality – AM screen-printing raster up to 150 lpi for all the commonly used dot shapes and angles, and FM raster with variable dot sizes as well as a freely definable hybrid raster."

In conclusion, Andreas Ferndriger, CEO of SignTronic AG, confirms a very satisfactory result: "One thing is for sure – thanks to a shifting of orders which, due to the high quality requirements, would formerly have been produced using the digital printing method, the investment expenses are in many cases more than amortised after just a few orders." ■

ColorGATE's Productionserver 8 CTS Edition RIP

Further information:
SignTronic AG, Widnau, Switzerland
tel: +41 71 727 19 00
email: info@signtronic.com
web: www.signtronic.com

ColorGATE GmbH, Hannover, Germany
tel: +49 511 94293-0
email: marcom@colorgate.com
web: www.colorgate.com

DRIVING FORWARD EUROPEAN TECHNOLOGICAL LEADERSHIP

David Zamith and Andreas Ferndriger observe the benefits of computer-to-screen and in-line automation

As a family business company in 2G, located in S. João da Madeira, Heliotextil is celebrating 50 years of activity, with around 100 collaborators. Occupying an area more than 10,000 square m, this is an exemplary industrial plant with its modernity, and concentrates on production of accessories for the textile sector. A follow up on a new technology investment plan has seen an increased production capacity for a diversified production of labels, transfers, tapes, elastic bands, products for packaging, personalised textiles and lanyards, based on screen-printing technology for increased activity in exports.

As is common for Heliotextil, this important investment underwent a first phase with the selection of the equipment, followed by industrial tests, ordering, until final installation. Special attention was given to screen pre-press, betting on the latest and state of art CtS (computer-to-screen) imaging technology from Swiss company SignTronic, from direct digital exposing on screen stencils through one STM-TEX in-line system, fully automated, with higher resolution and accompanied by an innovative image software system, resulting in a clear quality improvement with cost efficiency and faster production.

The G-Stretch 215A automatic stretching machine produces standardised screens

The STM-TEX Pro-10 CtS direct exposing in-line unit produces screens fully automatically

Automatic in-line washing with the G-Wash 172 XS unit washes dirty screens after printing (water based inks)

The G-Coat 415 is an automatic coating machine that produces high quality screens

FULLY AUTOMATED PROCESS STEPS

Alongside the CtS STM-TEX technology another investment was carried out, with a G-Wash 174XS system which is fully automated and in-line, for the washing, decoating, degreasing and drying screen process steps. This was supplied by Swiss specialist Grünig Interscreen, located in Schwarzenburg.

Heliotextil is another positive example in Portugal, showing that this segment is "well alive", and leading our country to European technological leadership, enhancing an entrepreneurial vision strategy affirmed by the company's CEO, Dr Miguel Pacheco. He states: "We are a technological industrial company, with guaranteed quality in production – focused on specialisation. Our human capital is our greatest asset."

Screen-printing technology is growing in industrial applications, at global level, anchored in new electronic and digital supports, in automatic flowcharts, in-line CtS that is totally filmless, allowing now a real cost analysis and a faster return on investment. This demonstrates an interesting point of balance and profitability of this technology compared with other printing methods – faster, with higher quality constancy and an economic technology.

MAXIMISING THE NEW INVESTMENT

In view of the high productivity of STM-TEX system, for Heliotextil, a new opportunity has become available through external screen-making preparation services. With the implementation of new automatic tensioning and emulsion coating systems, from Grünig-Interscreen, anchored with ColorGATE's innovative RIP software, there is the ability to maximise the use of this modern new screen-printing pre-press department. Reference is made to the new external digital screen making services, from drawing to creative design, image processing, through to the final preparation of high quality normalised stencils with direct digital exposing CtS.

Heliotextil is a Portuguese company betting successfully on the future of screen-printing technology. It has achieved its aims to date by investing in modern and innovative pre-press with its in-line computer-to-screen system. ■

David Zamith is Managing Director of Ruy de Lacerda & Companhia, and Andreas Ferndriger is CEO of SignTronic/Grünig-Interscreen

Further information:
Ruy de Lacerda & Companhia SA, Porto, Portugal
SignTronic AG, Widnau, Switzerland
Grünig-Interscreen AG, Schwarzenburg, Switzerland
tel: +41 79 300 85 01
email: a.ferndriger@signtronic.com
web: www.rdl.pt/www.signtronic.com/www.grunig.ch

THE PRACTICALITIES OF MANAGING SUBSTANCE CLASSIFICATION CHANGES

Elaine Campling explains the implications of harmonised labelling

Industry has been trying to manage several recent substance classification changes that have mainly resulted from more intensive evaluation, as part of processes relating to the REACH Regulation. Some of these substances have been subject to a harmonised classification and labelling.

A harmonised classification and labelling is legally binding for a substance, having been agreed by the European Chemical Agency (ECHA) risk assessment committee and endorsed by EU Member States, following consultation with interested parties. A competent authority, manufacturer, importer or downstream user of a substance may propose a harmonised classification and labelling to ECHA.

Article 36 of the CLP Regulation provides the criteria for substances that are subject to harmonised classification and labelling:

- Respiratory sensitiser, category 1;
- Germ cell mutagen, category 1A, 1B or 2;
- Carcinogen, category 1A, 1B or 2;
- Reproductive toxicant, category 1A, 1B or 2.

Proposals for harmonisation of classification and labelling for other hazard classes may be submitted and evaluated on a case to basis, when justification is provided to demonstrate the need for harmonised classification and labelling at community level.

The list of substances with harmonised classification and labelling are incorporated in Part 3 of Annex VI of the CLP Regulation and updated via Adaptations to Technical and Scientific Progress (ATPs) to the regulation. There is no duty to use the harmonised classification and labelling until it has gone through this process, which also necessarily includes transitional arrangement.

REVISED ENTRIES

The 6th ATP to the CLP Regulation incorporates several revised entries with harmonised classification and includes a reprotoxic category 1B classification (H360Df)[1] for tetrahydrofurfuryl (THF) alcohol (CAS # 97-99-4), which is present as an impurity in substances used within the printing ink industry, tetrahydrofurfuryl methacrylate and tetrahydrofurfuryl acrylate.

H360Df: May damage the unborn child. Suspected of damaging fertility.

The classification of these materials will change to category 1B reprotoxic with concentrations of the alcohol at 0.3% and above, which is already reported by a supplier of THF methacrylate and will likely follow for THF acrylate.

Classification changes usually result in revisions to safety data sheets (SDS) and labelling of products, but often also in R & D investigative work and reformulation, since more severe hazard classifications are often derived from REACH evaluation processes.

There is a degree of risk in reformulation, since alternative substances may also be subject to reclassification, following more intensive evaluation that is necessary with increased volume to market. Industry is still trying to cope with the classification change for n-vinyl caprolactam and THF acrylate was considered a possible replacement material for some applications, indicating the dynamic nature and uncertainty of the substance market in this respect. Formulators may therefore decide that risk evaluation and management is preferable to reformulation, while alternative materials are properly evaluated, both on hazard and technical performance.

DERIVED NO EFFECT LEVELS

On risk management, the REACH Regulation requires manufacturers to set derived no effect levels $(DNEL)_2$, as part of the chemical safety assessment that is required for substances supplied in quantities of 10 tonnes per annum. Exposures at or below the DNEL are considered to be controlled:

"The risk to humans can be considered to be controlled if the exposure levels estimated do not exceed the appropriate $DNEL."_3$

Substances' manufacturers are also required to provide an Exposure Scenario (ES) for these substances, to include the recommended risk management measures to comply with a DNEL (where one is set) and control exposure during the life cycle of use. The recommended operational conditions and risk management measures related to the use(s) must be put in place by users of the substance to control exposure and comply with the DNEL.

Formulators of mixtures must also communicate relevant information to their customers regarding DNELs and risk management measures in relation to the constituents of their products, unless the substance is present in the mixture below REACH thresholds (Article 14.2), or the identified exposure route(s) is not relevant to the use. The basic requirement is to simply pass on the ES for the substance(s) with the SDS for the mixture. Alternatively, it is possible to integrate all relevant information within the appropriate sections of the SDS, or to create an ES for the mixture based on the most important, risk-determining substances.

FORMULATION COMPLEXITY

However, many mixtures are complex formulations containing many ingredients. A typical solvent ink formulation (for example) will contain around 15 ingredients, some of which may be mixtures themselves and a number of the substances will be supplied with an ES. Moreover, an ES will be received from each supplier of the substance requiring one, in the case that the substance is purchased from multiple suppliers. If formulators follow the basic requirement of REACH to pass the ES down the supply chain, this is likely to result in their customers receiving unmanageable documents, which could be in excess of 500 pages per product. It is also difficult to see what benefit the receipt of several ES will provide for professional users such as printers. Many mixture formulators are therefore opting either to incorporate the information within the main body of the SDS, or to create an ES for the mixture.

There is a plethora of substances that have been subject to classification changes that do not need to go through the harmonisation process, but significantly impact on business operations. Several substances used in ultra-violet curing inks have been reclassified as aquatic toxicants which, when present in products above the concentration threshold, result in a Class 9 classification for transport. This presents difficulties for customers in onward transport, since they will now require dangerous goods transport systems and procedures.

However, there is some good news with a derogation by way of special provision to transport regulation, which will exempt small pack sizes of environmentally hazardous substances (including products) from most requirements of transport regulation. This will take effect from 1 January 2015, though early implementation is being sought.

Further differences in the classification and labelling of products will also ensue from application of the CLP classification criteria, which differs significantly from the previous system. ESMA members are on hand to provide help and support to their customers on classification and labelling. ■

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

ESMA
Driving Print Excellence

1 In accordance with the Classification, Labelling and Packaging Regulation (CLP), currently applicable to substances and which must be used to classify mixtures by mid-2015 at the latest. The new classification and labelling scheme is currently being implemented by several mixture manufacturers to meet the 2015 deadline and is therefore used as the classification criteria for the purposes of this document.
2 DNELs must be derived by REACH registrants for the most likely routes of exposure (inhalation, dermal and oral). A value must be established for each relevant population e.g. workers, consumers. Several DNEL values may therefore be established for the same substance.
3 'Guidance on information requirements and chemical safety assessment. Chapter R.8: Characterisation of dose [concentration]-response for human health' –European Chemicals Agency, http://echa.europa.eu/

Further information:
Fujifilm Specialty Ink Systems Ltd, Broadstairs, UK
tel: + 44 1843 872030
email: Elaine.campling@fujifilmsis.com
web: www.fujifilmsis.com/www.esma.com

AFRICA EXPO ESTABLISHES ITSELF AS A WORLD CLASS EXHIBITION

Popularity, quality and attendance score at Johannesburg event

The inaugural FESPA Africa, formerly Sign Africa, was held at Gallagher Convention Centre from 2 to 4 July 2014, and attracted 5,460 visitors from Africa, with an 11% increase of attendees from outside South Africa compared to Sign Africa 2013. The exhibition drew visitors from nearly 40 countries, with the top five represented outside South Africa being Botswana, Mozambique, Nigeria, Zambia and Zimbabwe.

Exhibitors noted an increase in attendee quality, and the statistics confirm this. More than 67% of visitors were owners and from senior management and at least half had final purchasing authority. "Exhibitors also reported on-site sales, quality leads and positive feedback both on the new venue, and overall feel of the event, which contributed to its success," states Dyelan Copeland, the event organiser.

Raymond Waldeck, Managing Director at Antalis South Africa supports this view: "The show was very dynamic, there was a great deal of energy, and many new technologies were shown. We made many sales at the expo and generated real leads. The quality of the visitors was very high and we interacted with business people from around the African continent, which shows the credibility of the FESPA brand."

EXPLORING BUSINESS OPPORTUNITIES

According to Patrick Lacy, CEO of Printing SA, FESPA Africa was the venue for converters and suppliers to meet and explore business opportunities. The Printing SA representatives who attended the FESPA Digital exhibition in Munich last May were greatly impressed with the wide range of technology on display and disappointed that so few South Africans were able to attend. The FESPA Africa exhibition corrected that.

The show was host to educational features for attendees to gain inspiration and learning, which were well received with continuous audiences. The Explore Technology Conference delivered 20 sessions covering industry trends, a daily debate and CorelDraw sessions. Attendees could also gain T-shirt printing tips from guru Charlie Taublieb with some hands-on experience to take away on a screen-printed T-shirt.

The Speedwrap Challenge, delivered by expo Platinum Sponsors Roland and Avery Dennison, was a vibrant feature where Vaughn Repsold from Kacoon Vehicle Branding won the competition, winning a trip to FESPA 2015 in Cologne to take part in the FESPA World Wrap Masters Final for the global title. Grosvenor Branding Solutions won the Rigid Paper Board Challenge, sponsored by Esko, Fujifilm and Re-board, which recognised excellence in point-of-purchase displays, in-store communication, and other imaginative displays.

Lorraine Harrow, Marketing Manager at FESPA, comments: "It has been a great launch event. We have seen printers from across Africa and, speaking with them during the expo, has reinforced the reason why FESPA has come to the African continent; through our events we are able to provide regional printers with access to a world class exhibition where they can explore a wide display of innovative technology and listen to educational content to inspire them and their business."

STRENGTHENING THE BRAND

"We are pleased with the first edition of FESPA Africa and have learned so much in our first year," Exhibition Manager, Michael Ryan, continues. "Exhibitors have given us their feedback and the results are encouraging for next year's show. Our unique reinvestment programme and unrivalled knowledge of our industry gives us the resources to further strengthen our brand throughout the African continent, attracting even more visitors to FESPA Africa next year."

Mike Horsten, General Marketing Manager, Mimaki EMEA agrees with this statement: "I'm very happy about the FESPA and Africa Print partnership. I think it's a great step for the African continent to have its own FESPA which addresses the continent's unique challenges and needs. For Mimaki, it's really important to be present at FESPA and

Continued over

FESPA Africa drew visitors from nearly 40 countries

The Speedwrap Challenge was a popular contest

Gallus Rotascreen: give your products that sensual touch

The recipe for greater, faster success: Gallus Rotascreen. With rotary screen printing, your labels become truly eye catching, point of sale decision tools. Add to this the option of combining screen with flexo, letterpress and offset and you really do open up whole new dimensions for your customers' products in the simplest way possible, because Gallus rotary screen can easily be integrated into all new or existing machine systems. From film to finished stencil you are ready to print in under 30 minutes!

gallus

Success and security for the labelprinter

Gallus Ferd. Rüesch AG
Harzbüchelstrasse 34
CH-9016 St.Gallen
Phone +41 71 242 86 86
Fax +41 71 242 89 89
www.gallus.ch

A partner of Heidelberg

Extris
Como 1998

NO FRILLS. FABRIC.

EXTRIS, your Italian Manufacturer of Screen-Printing Fabric

www.extris.eu

that is why we were at the expo in full force. We believe in what FESPA does in terms of investing profits from the show into local communities and education for the printing and signage industry."

"The FESPA Africa exhibition gave us an excellent opportunity to showcase our products and capabilities to the digital market in Africa," adds Tony Cox, Business manager, Sun Chemical. "We were very pleased with the numbers of high quality visitors who visited our stand and the number of valuable new contacts we made."

"The show was fantastic! The leads are already paying off and we sold out during the show," says Chayce Strydom, Marketing and Support, Modico Africa, while Neal Oliver, IPEX Machinery, confirms: "We thank the FESPA Africa team for their brilliant organisation of the event. It was a huge success."

Major highlights at the event included new products from both Platinum Sponsors. Roland unveiled the VersaExpress RF-640, which prints up to 48.5 square m/hour, approximately twice as fast as the previous model, and is intended for banner production. From signs and banners to vehicle graphics and wraps of all kinds, the RF-640 delivers exceptional results throughout the longest production runs. Avery Dennison exhibited its Supreme Wrapping Film with new finishes, including a satin finish in black, white, carmine red, bubblegum pink and new blue chrome.

Additionally, Graphix Supply World showcased the latest Fujifilm Acuity F Series and the brand new Mimaki JV300- 130/160, which offers customers greater speed, quality and flexibility and its compact design and affordable price make it an extremely attractive option. Midcomp launched the latest HP Latex 300 series comprising the HP Latex 360, HP Latex 330 and HP Latex 310, all of which are intended to help sign shops, quick printers and small to medium PSPs to expand into wide-format printing capabilities, offer new application areas and build a healthier production environment. ■

The next FESPA Africa will take place from 22 to 24 July 2015 at Gallagher Convention Centre, Johannesburg.

Further information:
web: www.fespaafrica.com

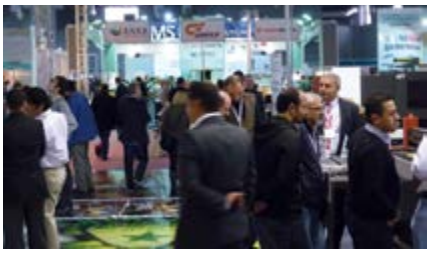
ISTANBUL EVENT PREPARATIONS ACCELERATE

Major manufacturers confirm attendance at Eurasia region expo

FESPA Eurasia 2014, which is being held at the CNR Expo in Istanbul, from 4 to 7 December, will provide the print community with four action-packed days to see the latest product innovations in wide-format digital printing, screen-printing, textile decoration and signage. This event was launched last year at the same location, in partnership with ARED with almost 7,000 unique visitors attending from around 100 countries. More than a quarter of the visitors came from international countries such as Bulgaria, Iran, Greece, Russia and Ukraine.

"We are working very hard to deliver an even more compelling exhibition for the region in Istanbul this year, and with the strong support of ARED – our member association in Turkey – the event is shaping up well and securing key confirmations every week," states Michael Ryan, Group Exhibition Manager at FESPA. "The success of last year's event has given us a great platform to work from and, with investment decisions generally made in January and February, the December dates for FESPA Eurasia 2014 ensure we are perfectly placed for the sector. We have also listened to our exhibitors and added an extra day to the show, allowing both exhibitors and visitors more time to conduct business meetings and finalise sales during FESPA Eurasia 2014."

The universal popularity of vehicle wrapping manifested itself in Istanbul


This year's FESPA Eurasia has added an extra day following visitor demand

FESPA's Regional Sales Manager, Betül Binici, adds: "International brands such as Agfa, Mutoh, Reggiani, Konica Minolta, MS, Kornit and Roland and major Turkish suppliers who operate in the region such as Optimum Digital, SDS, Pigment, Sayar, Arasteks, BTC, and AIT have already confirmed their strong participation at FESPA Eurasia 2014. 75% of the stands have already been sold; this quick allocation indicates the confidence in the FESPA brand.

"Manufacturers want to join the success of FESPA's fifty years of experience in organising events all across the world and their ability to deliver focused, professional and loyal international visitors," Binici concludes, also highlighting how FESPA's Profit for Purpose business model means it will be reinvesting surplus revenues from the event back into the print community, both through ARED and educational content at the show. ■

Further information:
web: www.fespaeurasia.com

AFIP

ADVANCED FUNCTIONAL & INDUSTRIAL PRINTING 2015

4-5 MARCH 2015

DÜSSELDORF, GERMANY

If you are a printer involved in automotive, film insert moulding, name plate, fascia, printed electronics, circuit, label, membrane switch or solar cell applications...

and want to stay ahead with the with best practices and latest technology for advanced functional and industrial printing...

AFIP 2013 attendee feedback indicated that:

97%
said the standard of the conference programme was 'good to very good'.

93%
said the conference programme and meetings in the table-top exhibition area would be useful to their business.

Register your interest now at www.afip2015.org

Organised by ESMA in cooperation with Chameleon Business Media

ESMA
Driving Print Excellence

Official journal

SPECIALIST printing worldwide

STRONG SALES REPORTED FOR SECOND INDUSTRIAL EVENT

Positive launch sees expectations raised for Munich in 2015

The organisers of InPrint, FM Brooks, have reported higher than anticipated rebooking for the 2015 show due to take place in Munich from 10 to 12 November 2015, as they capitalise on the impact of this year's launch event. Around 80% of the 2014 exhibition space has already been confirmed, with leading exhibitors and major brands already signing contracts for space.

Confirmed InPrint 2015 exhibitors include Agfa, Bergstein, Caldera, Colorgate, Cruse, CyconJet, digidirect, DP Solutions, Dr Hönle, Druckprozess, Durst, ESC, Folex, Fujfilm, Hans Frintrup, Hymmen, ImageXpert, INX Digital, Kuei, LumeJet, Machines Dubuit, Marabu, Mimaki, Nazdar, Notion, Pall, Phoseon, Pröll, PVF-Vertriebs GmbH, Roos, Salon Iris, Sun Jet, Sun Chemical, Thieme, Tritron, TTP Meteor, UV Integration Technology, Xennia and Zünd.

InPrint Show organisers conducted research of 350 visitors and exhibitors on-site in Hannover, and this revealed key insights into where demand is taking technology into the future. The show itself was seen as a glimpse into the future of print technology, where it is being developed, deployed and integrated into new production lines. This extensive research project was undertaken, powered by Bürkert, to ascertain the key drivers of growth for industrial print technology.

GROWTH DRIVERS

Growth for industrial print is powered by general consumer demand for products, coupled with the trend towards mass customisation of production. Industrial print is currently valued at $100 billion according to IT Strategies and has a growth of $20 billion expected in less than ten years, largely driven by digital development. However this growth is not affected negatively by the increase of on-line retail and the general shift of marketing budgets towards online media.

The accepted definition of industrial print is that it represents part of the process of manufacturing, and it doesn't always involve the use of ink. Industrial print plays a role in either the function or the decoration of a product. Typical applications include the interior of an iPad or iPhone through to wood décor, ceramic tiles, carpet and car dashboards.

Print technology shown at InPrint 2014 included screen- and pad printing, digital, ink-jet and 3D printing. The focus was on cutting edge technology that is innovative, precise, robust and durable. The event was a success because it attracted a focused and high quality group of people who visited with specific technical challenges and problems to solve. These people were on a strategic level (71%) and they came predominantly (53%) from the manufacturing sector with only (28%) from the print industry. Therefore, it made sense that the discussions exhibitors had at the show were very different to those occurring at a regular print trade show. Nearly 20% came from companies with more than 1,000 employees, for example. Projects were commissioned and business was achieved, but with a unique sector of industry, leading the organisers to conclude that the exhibition broke new ground.

Frazer Chesterman

Marcus Timson

DESIRE FOR CUSTOMISED SOLUTIONS

The InPrint show was not actually a 'heavy metal' event. Visitors attended for cutting-edge technology and for methods of integrating this into their production lines. Finished machinery, whilst still relevant, was therefore not the main focus. Attendance came from diverse industries including automotive, aeronautical, ceramics, engineering, electronics, medical, pharmaceutical, packaging and textile segments. What united all visitors was the need to search for innovative print technology coupled with technical expertise that provided solutions to new production problems. This ranged from printing directly onto curved surfaces and cylinders and into, and within, electronic devices to surface imaging onto wood, metal, glass, textiles and plastics.

The driver for most people's attendance to InPrint was to discover new technology in order to generate new revenue. Mass customisation is driving huge change within the industrial print sector, where technology can meet a more localised need for production and a more customised and sometimes personalised approach to manufacturing. Digital production provides options not possible with analogue technologies – this means short set up time and low stock inventory, allied to super-quick design to production time and personalised potential for production. This is where local manufacturing can have an advantage over production that might take place in another continent. Time to market is increased rapidly. This re-shores production to Europe as digital technology enables manufacturers to respond more quickly to competitive market pressures.

A BLEND OF TECHNOLOGIES

The graphic sector is considered to have transformed production from analogue to digital printing output, and this displaced screen-printing as the main process. For industrial print, radical displacement is much more unlikely to occur. For a start, the demands for production are more complex. Screen-printing is robust and high quality as well as being incredibly efficient and fast, and it doesn't make sense for digital to attempt to

replace it. The digital opportunity for industrial print is to provide performance that is new and in most cases complements the analogue technology, and some developing machinery is even a blend of both technologies. This enables the end manufacturer to realise new possibilities without compromising on quality.

Using these criteria, InPrint WAS successful because it has achieved both a unique and high level attendance of visitors. 6,995 visitors attended and more than 50% of the audience came from the manufacturing sector, with 28% coming from the printing industry. And as a result, 19% of visitors represented companies with in excess of 1,000 employees, which is not typical of a print exhibition, whilst 54% of visitors held senior board level or management positions within their businesses.

"In nearly 20 years in the exhibition industry I have never experienced such a phenomenal level of rebooking after a launch show. The team managed to get the timing right and the marketing campaign worked very effectively at attracting exactly the right people from both the manufacturing and print industries," states Frazer Chesterman, Co-Director of InPrint. "It is clear that functional and decorative print needs its own focused show, and not just given 'side-show' status at more general print technology events where the attendance is not as relevant."

Europe is a leader in development and integration of technology for industrial print production. Key centres include the UK, Switzerland, Benelux, Italy and Germany. This isn't to suggest that the rest of the world doesn't adopt new technologies, but it does demonstrate that due to the competitive structure of the European marketplace, innovation is driving change to meet demand for competitive advantage.

THE GROWTH OF INDUSTRIAL PRINT

All of the respondents to the research believe that industrial print is growing; this endorses both the concept of the show and the focus that manufacturers have in technological development. The future for this sector is positive for any business involved in development, integration and manufacture of industrial print. There is no doubt there is a hunger for improvement and innovation.

Ambassador Tom Cloots, Director of Marketing, Industrial Inkjet at Agfa Graphics, one of the founding partners of InPrint, explains: "Given the unique visitor profiles and the high quality of the discussions we had during the first show, we were more than happy to commit to participating this early in the process again. We see the industrial sector as an area for innovation and future growth, and we look forward to the opportunity to present ourselves as a partner to integrate print in manufacturing to even more potential customers from diverse lines of business."

"At InPrint 2014, exhibitors reported having high quality strategic discussions with senior decision makers and many are already generating exciting new business, which is why so many have had the confidence to rebook their space this far in advance," concludes Marcus Timson, Co-Director. "According to our research, Munich came out as the top international location and we expect InPrint to grow and develop into a truly significant global event, providing visitors with the most focused access to the future of innovative print technology for industrial manufacturing.

The organisers, FM Brooks, believe that InPrint's results clearly endorse that industrial print is an incredibly fertile area of development for both speciality 'smart' screen-printing and digital methodology. In many cases these technologies will work in tandem, providing extra value and performance advantages. With the InPrint Show around 80% booked already for 2015, with more than 14 months to, it's anticipated that there will be an even better show next year. ■

Further information:
web: www.inprintshow.com

ALL BETS ARE ON LAS VEGAS FOR A FULL HOUSE

The "greatest show on earth" aims to hit the imaging industry jackpot

According to its organisers, every year at the "greatest speciality imaging show on earth", the SGIA community proves it can image almost anything. This year will be no different as preparations are well under way for the 2014 SGIA Expo that returns to Las Vegas from 22 to 24 October. In addition, SGIA is now accepting entries for the Golden Image and Product of the Year Award competitions.

This year's event incorporates "education at the expo" with attendees able to learn from industry experts in classic sessions. This gives them the opportunity to try their hand at a range of new processes in exclusive zones on the show floor with, in addition, the chance to explore the complex nature of printed electronics.

The class expo sessions, which are run at SGIA's highly acclaimed professional level, offer a diverse mix of topics designed to meet the business needs of visitors. It is easy either to customise an educational line-up or to select from one of SGIA's educational tracks that has been designed for the imaging community.

Also featured this year, on the morning of 24 October, Stephen Shapiro is leading a presentation entitled "Innovate where you differentiate". This keynote breakfast concentrates on discussions about strategies for success, the importance of defining challenges more clearly, and the power to ask better questions.

ALLIANCE WITH FLEXTECH

On 21 and 22 October, SGIA and the FlexTech Alliance have partnered to host the 2014 Printed Electronics Symposium at the expo. This event gives attendees the opportunity to discuss new and innovative applications directly with suppliers and industry experts. They can also benefit from critical networking opportunities with industry peers from around the world and experience two days of educational sessions focused on a wide range of topics, including flexible and printed electronics.

In true Las Vegas style, exhibitors at the sold-out show have already placed their bets as there is no available space left, say the organisers. But, although the expo might be fully booked, the SGIA does allow companies to co-locate for a small fee, thus broadening the opportunity for businesses wanting to participate.

CHOICE OF COMPETITIONS

The first of two contests, the Golden Image Competition celebrates the industry's standard of excellence, recognising those companies who rise to meet that level. Judges make their selections based on the core of their technical skills, experience, and knowledge in the appropriate categories. Contenders will be evaluated on specific criteria that include image definition, job complexity, registration and overall impression.

Screen-printing remains well represented at SGIA Expo

Winners gain international acclaim and each submission may earn one of four awards, led by the highly-coveted Award of Excellence (Gold), that recognises the highest achievement possible in a given category. This is followed by the Award of Distinction (Silver) for exemplary quality, the Award of Merit (Bronze) for outstanding performance and, finally, a certificate of Honorable Mention for commendable performance.

"This is a great opportunity for companies to compete against the best in the speciality imaging community and display their work to thousands of expo attendees," enthuses Johnny Shell, SGIA's vice president of technical services.

PRODUCT OF THE YEAR

The second competition is for Product of the Year and recognises the latest equipment and supplies currently on the market, advancing the speciality imaging industry. Only expo exhibitors who are SGIA members can enter their innovations, and all products must be currently available on the market in 2014. Submissions will be judged by a select group of experts based on perceived value to the speciality imaging community. The most innovative products for the imaging community will be awarded Product of the Year honours, and there are four categories that encompass media for digital ink-jet (seven sub-categories), inks, finishing (three sub-categories) and the Output Device Test Print Shoot Out.


Some of the 22,000 visitors that attended the SGIA Expo 2012 in Las Vegas

Judging for both competitions will take place in the Golden Image gallery on Tuesday, 21 October, the day before the 2014 SGIA Expo, and all entries will remain on display throughout the show. Interested parties can register for their free SGIA Expo pass, and then submit their best work for the Product of the Year and Golden Image Competitions.

"Speciality imaging's biggest players will pack the Las Vegas Convention Center in October," says SGIA's President and CEO, Michael Robertson. "Attendees can expect to see everything from the newest wide-format equipment to the latest technologies for garment decoration, installation, digital signage and more." ■

Further information:
web: www.sgia.org

A UNIQUE MEDIUM WITH THE POWER TO ENGAGE

Lascelle Barrow reveals his views on championing print in a multi-channel world

Lascelle Barrow, President of FESPA

It's natural when you reach a landmark anniversary also to consider what the future may bring. With more than 50 successful years behind us, FESPA has never been more focused on the future – of our organisation, of our events, and of our community.

The last decade has been a thrilling roller-coaster ride for FESPA, with some truly amazing achievements. The digital revolution has made this a period of dramatic change for printers, and I think we must all accept that change is reality, and that change is happening faster than ever before.

The way that we communicate, and the way in which we are communicated to, has changed so radically that, realistically, we are living through a "communication revolution" – not a slow evolution but an explosion of new ways for brands to engage with us wherever we are. This affects all of us in our personal and business lives, all day and every day. These communications' channels are described as "analogue" and "digital" to differentiate them essentially as "old" and "new" technologies. To succeed in the future, the FESPA community needs to understand that it bridges the old and new, that it has the opportunity to combine them as a powerful and integrated communication channels for brands, and to educate customers to the benefit of this blended approach.

FESPA
profit for purpose

Fespa's message of profit for purpose

OPPORTUNITY TO DISRUPT

Looking ahead, there is still a huge amount of opportunity for printers as a result of the advances that continue to be made in the field of digital printing. Digital can develop and change how graphics are produced and used. Undoubtedly, faster, better quality and more cost-effective digital presses will allow the technology to grow. I think that a better understanding of how brands might use the potential offered by digital is the greatest growth opportunity.

Brands understand more and more about us, what we do, how we think and what we think. Digital printing offers a perfect opportunity to selectively change communications to best suit the mood, mission and mindset we all have as we make purchasing decisions.

As printers and print buyers, we can all become quite caught up in the "better", "faster", "cheaper" mantra which clouds the true opportunity – to create much larger and more impactful graphics, embracing new materials which truly disrupt the marketing landscape.

A CHANGING ROLE FOR PRINT

Print's role is changing day by day, influenced by some enormous social changes, many of which revolve around the increasing ubiquity of mobile and Internet-based communication. The retail environment is a clear example. With the growing trend towards on-line shopping, traditional retail is under pressure to change and deliver something different, a more immersive experience. This may affect the number and types of retail outlet that major brands operate in the future.

It will almost certainly impact the role of point-of-sale print. In-store communication may have a different role to play in the future, and it's a given that it will embrace multiple communication channels, allowing shoppers to engage with in-store communication using mobile devices. Here's a huge opportunity for forward-thinking service providers – to advise marketers on how best to deliver "new", "multi-channel" communications using all the technologies at our disposal to create a truly all-encompassing, integrated message that adds something to the consumer experience.

PRINT IS EFFECTIVE

The part print plays in this communications' mix is evolving rapidly, not only in point-of-sale. The internet and use of electronic communications opens a debate around print in many areas, from direct mail, to transactional print, to reports and accounts and so on. Buyers of print will continue to scrutinise print as a medium, and evaluate whether it is the most cost-effective means for them to communicate with their customers. That word "effective" is crucial. The digital alternative will often look cheaper, but well-targeted print is proven to deliver great ROI, and to resonate more strongly and emotionally with the customer than some of the electronic alternatives. As printers, we need to understand print's USPs and champion them strongly – and it's part of FESPA's mission to help our community do just that.

Print is special. It can be seen and understood without any device, gadget, screen or interaction. You can see, feel, smell and treasure print as an object of desire. It's a unique medium with the power to engage people everywhere and at any time. I believe very firmly that print complements more selective digital channels rather than competes with them, and the potential of digital print to individualise and personalise reinforces these benefits.

In the future, the printer's key skill will be the nous to adapt their offering to what the customer of tomorrow requires. Happily, printers have been known for their adaptability over the centuries, so I've no doubt that our members – with our support – will rise to the challenge. ■

This article originally appeared as a blog at www.fespa.com

Lascelle Barrow is President of FESPA

Further information:
FESPA, Reigate, Surrey, UK
tel: +44 1737 240788
email: info@fespa.com
web: www.fespa.com

pid
Printed interior decoration

26-27 NOVEMBER 2014 DÜSSELDORF, GERMANY

Challenging the Creative Designer World!

If you are involved in printing on special substrates such as wood, glass, ceramics, textiles...

Or you want stay ahead with the best practices and latest technology for decoration printing...

- Conference with 16 speakers and 4 keynote speakers + large tabletop exhibition!
- Book your place at the exhibition!

Interior Designer Competition

Special Printed Interior Designer competition for students, universities and schools.

Apply for the competition NOW!

Project competition for Printers!

Show your involvement in realized projects with Printed Interior Decoration!

For more information visit www.printedinteriordecoration.org

Organised by ESMA in cooperation with Chameleon Business Media

ESMA
Driving Print Excellence

Media partner

SPECIALIST printing worldwide

Media partner

LARGE FORMAT
GROSSBILDDRUCK • SIGNMAKING • PRÄSENTATION

REGISTER NOW!

Tel: +32 16 894353 Email: info@esma.com

www.printedinteriordecoration.org

FOCUSING ON TRENDS AND OUTLOOKS IN A CHALLENGING YEAR

David S Koebcke provides an update on North American activities

David S Koebcke

At NASMA, our mission remains to provide a forum where senior executives and owners of North American Specialty Manufacturers serving the printing industries can meet to discuss current trends, outlooks for the future, business topics of concern and interact with top printing executives in North America.

We kicked off 2014 with 30 participants attending our spring meeting hosted by Nazdar/Thrall Enterprises in Chicago, Illinois. As a first order of business the members enthusiastically thanked Mike Fox, CEO of Nazdar, for his two years of leadership as chairman as he passed the responsibilities over to David Koebcke, President at Sefar Inc.

As is customary, our members shared a brief personal and professional update. Overall the business tone was cautiously optimistic. Here is a summary of the member's outlook on key topics:

- Overall sales in 2014 are expected to exceed or be equal to 2013 levels
- Marketing spending will mostly be up over the prior year
- Capital expenditures are mixed, yet expected to be higher than the prior year
- Overall headcounts are rising over prior year

SHARING CHALLENGES AND SUCCESSES

During the round table discussions, the members had a chance to share the challenges and successes they are having when it comes to managing the seemingly ever changing regulatory compliance and healthcare topics that face everyone in our industry.

Hearing from experts in our industry is a personal favourite among our members. In this meeting, we were treated to an excellent printer's perspective presentation from Mark Auth, President at Vomela Specialty Companies. Vomela Specialty Company and its affiliates are one of the largest US producers of digital, screen-printed and offset graphic products and solutions including point-of-purchase displays, murals, banners, in-store displays, outdoor signage, vehicle and fleet graphics in North America. Mark shared his enthusiasm and professional insights from his 22 plus years of being part of building this large industry-leading national printing organisation. His time with the members was a highlight of the meeting.

Although 2014 is a challenging year for the NASMA members, it is one where we foresee an improving business environment. ■

David S Koebcke is President of Sefar Inc and Chairman of North American Specialty Manufacturers Association

Further information:
Sefar Inc, Buffalo, New York, USA
tel: +1 800 995 0531
email: sales@sefar.us
web: www.sefar.us

CONSUMER ELECTRONICS HAVE COME A LONG WAY...

... and so has screen printing

Ultra Fine Detail

- Cleanly, consistently resolve lines down to 20 microns
- Sharpest stencil edges in the industry

Enhanced Durability

- Engineered with Chemical and physical properties to promote durability in use with abrasive, conductive inks.

Alpha: the finest screen printing emulsion in the world–literally.

ALPHA
BY CHROMALINE®

For Microphotography and Information
Contact your Chromaline Representative
or chromaline.com/alpha
(218) 628-2217 (phone)
sales@chromaline.com

EXPANDING OPPORTUNITY IN THE INDUSTRIAL PRINTING SECTOR

Dan Marx observes the potential for growth away from the graphics' arena

Dan Marx

While today's graphics segment is undoubtedly robust, SGIA views the industrial sector as the next great area for profound industry growth. Industrial dwarfs the graphics segment in terms of sheer volume, imaging onto products as diverse as circuit boards and snowboards, medical tools and airplane components. It is a segment where our technologies are used to image vast quantities of products on a grand scale, serving distinct vertical markets in highly specialised ways – and the imaging processes used are often seen as but a single step in a broader manufacturing process. In some cases, the inks, the equipment and the methods are unique – even proprietary.

What joins today's industrial printing sector into a singular segment, however, is the core of the speciality graphics industry – screen- and digital printing – and the myriad finishing processes and multitude of materials that make print such an important part of many products. Screen-printing technology remains strong in the industrial sector, as evidenced by brisk equipment sales and strong levels of ink usage. The capabilities that differentiate screen-printing from other processes come to the fore – high durability, high opacity, high production and the ability to print onto almost any surface – and have kept screen-printing strong. Increasingly, digital processes are changing this sector, allowing new opportunities and directions, making short runs, mass customisation and zero-inventory approaches possible. In some cases, it is bringing manufacturing closer to home – the possibilities are awe-inspiring.

GROWTH OPPORTUNITIES

Printing companies – even some that have, for years, served only the needs of the graphic community – are increasingly looking to areas of the industrial sector as growth opportunities. Much of the ink-jet innovation for the graphics' segment has slowed, bringing improvements that are more incremental than ground-breaking, and most of today's ink-jet head and equipment manufacturers have put their research efforts toward realising the promise of the industrial imaging sector. The good part for all of us, whether we print for the industrial sector or not, is that this innovation trickles downstream, increasing the speed, durability and usability of all ink-jet systems.

As an international organisation serving the needs of the speciality imaging community, SGIA is expanding its support of industrial printing through a series of initiatives including increased industrial-focused content, targeted educational programming addressing industrial topics, and an expanded presence for industrial printing technologies at the annual SGIA Expo, North America's largest specialty imaging event. Further, we are pleased to announce our first-ever Industrial Printing Symposium, which will take place in conjunction with the 2015 SGIA Expo (Atlanta, 4 to 6 November). This eye-opening conference will present the "state-of-the-art" for industrial imaging technologies, vertical markets and industry opportunities, and will feature an international mix of presenters and panellists.

New technologies and new approaches foster innovation, and innovation brings opportunity. This is, indeed, an inspiring time for the industrial printing sector. We invite you to join us on this journey, and to consider the possibilities for your company's specialtiy graphics expansion. ■

Dan Marx is Vice President – Markets & Technologies, Specialty Graphic Imaging Association, SGIA

SGIA
Specialty Graphic Imaging Association

Further information:
Specialty Graphic Imaging Association, Fairfax, Virginia, USA
tel: +1 703 385 1335
email: sgia@sgia.org
web: www.sgia.org

DUAL-CURE CAPILLARY FILM - CDF® VISION™

CDF® VISION™

DIAZO DUAL-CURE CAPILLARY FILM ENHANCES CROSS-LINKING

CDF Vision is a diazo dual-cure capillary film system. Its special formulation controls mesh penetration and enhances photo-polymerization, resulting in sharp printing shoulders and mechanical durability. Particulate-size control reduces granularity effects for optimal resolution and definition. Texturing agents impart a micro-structural pattern to the bottom of the stencil, minimizing hydrostatic attraction to the printing stock under conditions of high humidity, and electrostatic attraction under low humidity conditions. **CDF Vision** is compatible with UVs, vinyls, and virtually all solvent-based inks. Depending on the thickness selected, it is suited to such printing applications as: electronics circuit traces and membrane switches, halftones, CDs and DVDs, ceramic decals, posters, and containers and bottles. Availability: **CDF Vision-15, -18, -20, -25, -30, -35.**

- **Excellent imaging properties**
  - – Superb acutance (printed edge definition) and resolution
- **Solvent resistant**
  - – Compatible with aggressive inks and solvents
  - – Reclaims easily without staining screen fabric
- **High-contrast color**
  - – Easy stencil inspection and see-through registration
- **Easy to Use**
  - – Minimal training required
  - – "Pre-coated" stencils = perfect stencils—every time
  - – Consistent exposure time
  - – Consistent stencil thickness = control of ink deposits—and ink costs
  - – Wet processing reduces drying time and pinholes; speeds production
- **Fast exposure and processing**
  - – Fast stencil turnaround
  - – Significantly less labor and production time
  - – Wide exposure latitude

Formats: Available in rolls or custom-cut sheets (no mess, no waste!)

ULANO CORPORATION is recognized as a world-class leader in the screen printing and graphics arts industry.

Ulano Corporation, 110 Third Avenue, Brooklyn, NY 11217, U.S.A. Tel: +718 237-4700
Ulano Int'l Representative Office, Rütistrasse 17, CH-8952 Shlieren-Zurich, Switzerland. Tel: +41 44 755 44 77
Singapore Correspondence Address, 16 New Industrial Rd.#05-07, Singapore 536204. Tel: +65 6451 7505
www.ulano.com

Adaptable solutions

Screen-making chemicals, industrial & flock adhesives and resists for surface finishing **by KIWO®**

KIWO providing innovative application solutions – even custom-made for you!

Let us help you to optimise your in-house production processes.

Please get in touch today.

Top quality photoemulsions
and stencil-making chemicals for every screen-printing job

Liquid protective film
against mechanical stress; easily removable; water-resistant

Etching and plating resist
screenprintable; heat-curable

Screenprintable protective film
e.g. sputtering, mirroring; removable; water-resistant

Sandblast resistant photo-lacquer
UV reactive; water-based

Flock adhesives
for direct flocking of shaped and flat surfaces

Screenprintable adhesives
solvent, water, or UV-based, for graphic or industrial application

KIWO®
products · concepts · solutions

KIWO · KISSEL + WOLF GmbH · In den Ziegelwiesen 6 · 69168 Wiesloch · Germany
Phone +49 6222 578-0 · Fax +49 6222 578-100 · info@kiwo.de

www.kiwo.de