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WELCOME

Welcome to the latest issue of *Specialist Printing Worldwide*, the industry's leading international reference source.

If you don't usually receive your own personal copy and find the educational content in the following pages useful, the only way to receive all issues in the next 12 months is to subscribe now at www.specialistprinting.com

Specialist Printing Worldwide is very much part of the screen and digital printing communities, thanks in no small part to the support from our sponsoring trade associations around the world. In addition to the usual high-quality technical articles in this issue, we mark the 25th anniversary of our founding sponsor, ESMA, with a special supplement.

It only seems like yesterday when I was General Secretary of the European Screen Printing Manufacturers Association (ESMA) and was arranging the amicable breakaway in 2002 from being managed through the FESPA offices to being a fully standalone organisation. Not long after that, ESMA agreed at their General Assembly to open their doors to digital printing manufacturers and changed their name to European 'Specialist' Printing Manufacturers Association (still using the acronym ESMA). I can well remember the negative response when I first suggested that we use the word 'specialist' printing to wrap together screen, digital and pad printing. Members were concerned that nobody would know what it meant but now it has become the accepted international word for our industry segment. I think we can say that ESMA has now truly come of age, with a much expanded membership and a full time CEO and back-up staff that help shape the direction of the industry from a dedicated office in Belgium.

Organising educational conferences is also now very much part of ESMA's remit and we will jointly stage the highly successful GlassPrint event again on 25-26 November 2015, alongside the new Direct Container Print event to be held concurrently. Register your interest at www.glassprint.org to be kept up-to-date.

Bryan Collings, Publishing Director, Specialist Printing Worldwide
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FASTER MIGHT NOT MEAN CHEAPER

In the growing concentration towards the integration of digital print into the industrial and functional sector, it is perhaps easy to overlook the directions that the graphic arts segment has been heading in the past year. Interestingly it has almost become an arena of two halves with, on the one side a strengthening challenge to the offset and screen-printing areas and, on the other, the desire to bring entry-level and modestly priced options to market to extend the capabilities of print service providers.

Manufacturers don't really face the same dichotomy and, if they've got the technology, then there is no reason why it cannot be configured to allow new users and those wanting, say, a back-up machine to buy a low-cost machine. At the same time, the major players are certainly wanting to push ahead with what they believe to be valid opponents of analogue printing methods. But who actually works out the true cost of every job that's being produced and confirms its value and how can this be made more efficient? The answers lie in becoming more accountable so that the right machine is used for the right order so that good margins can be generated and maintained and, where appropriate, increased.

Taking each print requirement piece by piece, the overall intention is to produce end products that are primarily profitable. With little to no job margin, the time and effort put into an order which results in a poor return are unlikely to generate much enthusiasm for future applications of the same type.

While run lengths aren't the be all and end all of deciding whether or not a job should be produced on a digital machine or conventionally using analogue methods, volume still plays a factor. Typically, an ink-jet application once it's been through the pre-press stage will cost much the same per sheet whether there are one or 1,000 prints being generated; conversely, with screen-printing or offset litho, the labour still lies in preparing an order for print but, once on press, the higher the number being throughput the cheaper the process becomes.

This is one of the contradictions faced by print companies today as they need to decide whether or not to adopt digital production for their higher volume applications. The business owner with one or two low to medium sized ink-jet engines has his fate sealed with these, but that is no bad thing; such a user would factor in square metre costs along with ink used and estimate the amount of ink and material – and time – are all to be included in the final invoice. For larger operations that have access both to digital and analogue machines the problem becomes a thornier one and, unless there is an obvious component such as variable data printing, time and human effort can be wasted on comparison models when trying to assess which production option to use.

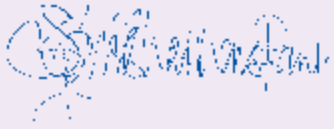
Analysis of how well a printing machine pays for itself is a valuable lesson in the dynamics of digital methodologies as well as in the economics. But, because standardisation can be removed from print runs with the additions of customisation, the ease of quoting the right figure from an existing ball-park set of parameters can be complex. Speed might appear on the surface to be the key criteria to being more profitable and taking on more work. But a faster machine might need more frequent job changes and, thus, a greater level of human intervention than a unit which can be left to potter away at its own rate while the operator carries on doing something else.

There are some print service providers who would quite merrily buy machines across several digital ink technologies as long as they can all be driven from the same front end. But knitting together entire operating environments has still not manifested itself into an interface that everyone is optimising to the best of their capabilities. The solution lies in efficiency of workflow, from start to finish.

The integration of digital front ends (DFEs) with preflighting, colour management, good input and output profiling, plus cutting paths and nesting criteria if required have helped to make people more efficient. And bringing these elements together with the right accountability and management products to achieve higher levels of automation overall should lead to the smoother running of businesses of all sizes.

Companies large and small, with one machine or a fleet of the latest technologies, are usually responsible for their own balance sheets, whether their efforts are rewarded via digital or analogue production, or a mixture of the two. In true productivity terms there is no golden catalyst to being able to estimate with exact accuracy the real overall costs of many jobs. The fastest printing machine might produce more work but the low-end slow engine that's limited in speed could turn out to be more profitable when allied with alternative processes.

Profitability in digital print lies in workflow efficiency



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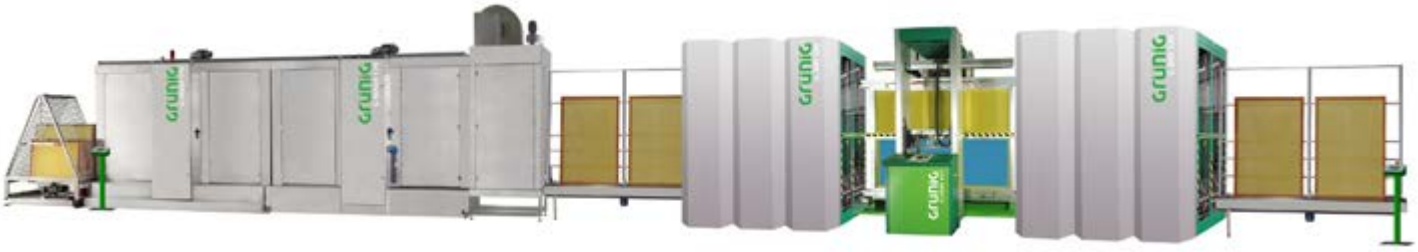

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BUY CHEAPLY AND PAY DEARLY

Chuck Nall describes why commitment and sensible investment reap dividends in the long term

There is a Spanish adage translated that says: "If you buy cheaply, you pay dearly." The screen room is usually the dirtiest place in any screen-printing operation. Because it is usually the dirtiest, management has trouble staffing, training and retaining staff; it is not surprising that no one wants to work in that environment. If someone shows any promise they will most likely be promoted to another part of the operation, away from the mess of the screen room. The usual management response to this area is a very short-term solution. Management then decides the best way to control cost is not through training or review of training procedures but simply to buy the least expensive emulsion removers and ink removers. The Spanish adage becomes reality.

Some progressively minded business owners might decide that automation will solve the cleanliness issues. At significant capital expenditure this might well be true and, in some cases, a fully automated screen cleaner and emulsion remover machine could easily exceed several hundred thousand Euros. Again, many companies will not know their true need and under-purchase a machine to save on capital expenditure. Under-purchase occurs when a machine is bought that cannot keep up with screen demand required. Then manual cleaning and emulsion removal returns to the screen room, alongside the expensive new machine, and along with the mess that was going to be eliminated. Again the adage remains true.

LACK OF COMMITMENT

Why does this happen again and again in country after country? It starts with a screen room that is simply dirty, and a dirty screen room occurs because of lack of commitment from management. Cleanliness comes from leadership. Know this area, know the people and you will know the problems that are unique to your company. By knowing the processes personnel can be trained and, with better training and supervision, leadership can be part of the culture. Supervision of the screen room is frequent and regularly done.

Understanding the processes in the screen room will clearly help management know the true costs of screen cleaning and emulsion removal. Without understanding the processes completely the trap of buying the cheapest chemicals simply on their unit cost is made. This mistake is made over and over again but it is preventable if the processes are fully understood. Why? The unit cost of chemicals alone are meaningless. Costs are understood in your actual processes.

Here's an example. If product 'A' will clean 50 screens (screens in your environment not from sales literature) per litre and costs €20 but product 'B' cleans 72 screens and costs €25, then the true cost is known. The product 'A' unit cost is €0.40 while product 'B' unit cost is €0.35. Now which product is cheaper?

However, if the procedures are not fully understood, buying only on unit cost will also negate any assignment of labour to the calculation. Labour is the missing component to proper assignment of unit cost. Again if product 'A' requires three hours to process 80 screens while product 'B' requires two hours to process 80 screens which product is cheaper? Without understanding the exact requirements of your exact screen room production the proper product cannot be purchased. It becomes easy to buy the products that have the lowest sale price. Over the year thousands of Euros will be lost by buying a cheaper product that requires more labour or more product.

IN-PLANT PROCEDURES

If actual 'in-plant' procedures are not fully understood the adage is compounded when a company thinks that spending thousands of Euros for screen room automation will surely be made. As mentioned earlier, when a machine is purchased and it does not keep up with demand, a company will have no choice but to return to messy manual ink removal and emulsion removal. Automation properly configured (meaning it will do all the ink removal and emulsion removal your company requires) will certainly clean the area and make it a better environment for employees but it comes at a significant capital cost.

So, before any consideration of automation for solving the problem of a dirty and inefficient screen room, go back to the basics and look at the full per screen cost. An automatic cleaning line will certainly clean the area; but if the machine uses 50% more chemicals the unit cost will rise even before the cost of the machine is unitised. Now the costs have significantly risen only for the hope of a cleaner screen room.

When a company invests in the proper chemicals it is done because it understands its requirements completely, and uses chemicals that lower labour costs (always higher than chemistry costs) and produces greater screen units with less chemistry. Completely understanding procedures in your screen room will lower costs and increase screen throughput. This is vital information for making the correct screen room chemical selection or if automation is truly warranted. Many companies can increase throughput with better chemistry selections, thereby delaying the need for expensive capital equipment.

"If you buy cheaply, you pay dearly" was certainly not said from the floor of a messy screen room. But it is most appropriate when it comes to buying the proper ink removers and emulsion removers. ■

Chuck Nall is in Technical Sales at Easiway Systems

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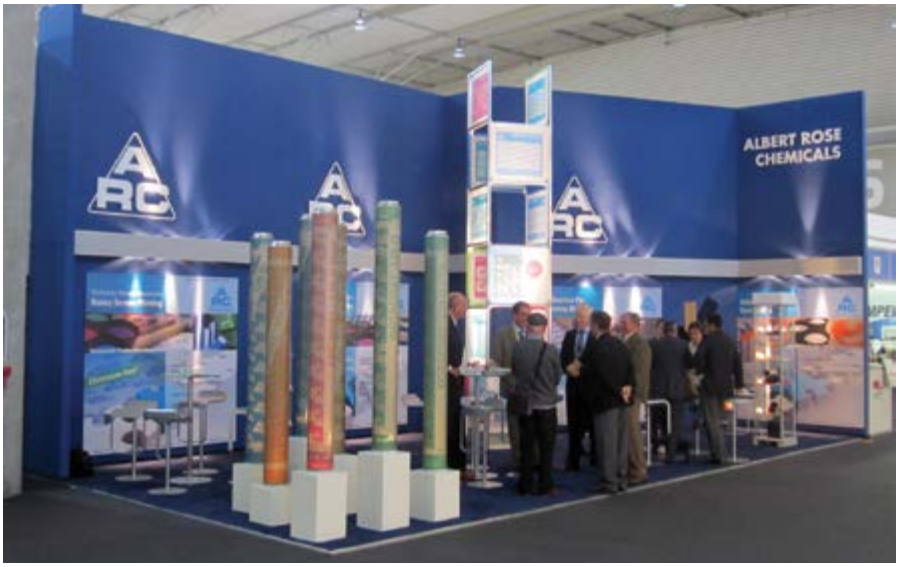
TECHNOLOGICAL CHANGE: CHROMIUM-FREE EMULSIONS

Josef Reck outlines new legislation that will restrict the use of chrome-based sensitisers for rotary screen photoemulsions

As a manufacturer of chemical products for textile printing screen production, ARC – Albert Rose Chemicals – is a key partner for textile printers and commission engravers world-wide. Since the early 1990s, ARC has operated as one of the business units of Kissel + Wolf GmbH, benefiting from the comprehensive facilities for research and development, application technology and production. All activities are based in Wiesloch, near Heidelberg, Germany.

Continuous improvement of the system chemistry for textile screen engraving has always been a basic precept for ARC. Constant development and product improvement to promote environmental protection, occupational safety and user-friendliness have enabled the laboratory staff of ARC to develop modern, chrome-free photoemulsions and lacquers for engraving rotary printing screens.

Rotary screen-printing machines can be run at very high speeds. This means that, compared with flat printing screens, a rotary screen has to have much higher resistance and durability. It is not uncommon for a rotary screen to print several thousand kilometres in various colour-ways. Thus, the composition of a rotary emulsion is very complex. The addition of a chromium-sensitiser to rotary emulsions previously served both to enable light reactivity as well as to act as an adhesion promoter on the nickel surface of the screen. After adequate polymerisation, the screen's durability and print resistance was improved even further.



At ITMA 2015 ARC will show its chrome-free rotary emulsions and lacquers.

A TOXIC SUBSTANCE

Chromium (VI) or dichromate, however, is now classified as a very toxic substance and is both mutagenic and carcinogenic. Oral ingestion may already be fatal in very small amounts. Chromium (VI) is highly corrosive and, if brought into contact with the skin and mucous membranes, can cause severe burns. In addition, it is dangerous to the environment and extremely hazardous for water.

It is therefore not surprising that chromium (VI) was classified very early on in the REACH regulations as an SVHC (Substances of Very High Concern). REACH stands for Registration, Evaluation, Authorisation and Restriction of Chemicals. REACH was adopted by the European Union to improve the protection of human health and the environment from the risks that may arise due to chemicals and, at the same time, to increase the competitiveness of the chemical industry in the EU. Coming into force on 1 June 2007, this regulatory process is to ensure that the risks posed by SVHC are properly mastered and that questionable substances are progressively replaced by suitable alternatives.

Such is the case of chromium (VI). The outgoing risks cannot be fully controlled, so that suitable alternatives are necessary to replace this hazardous substance. For this reason, from September 2017, without prior authorisation, no more products can be manufactured which contain chromium (VI) or requiring this hazardous material for application and processing by a customer. This means that all companies that want to continue using chromium (VI), have to apply

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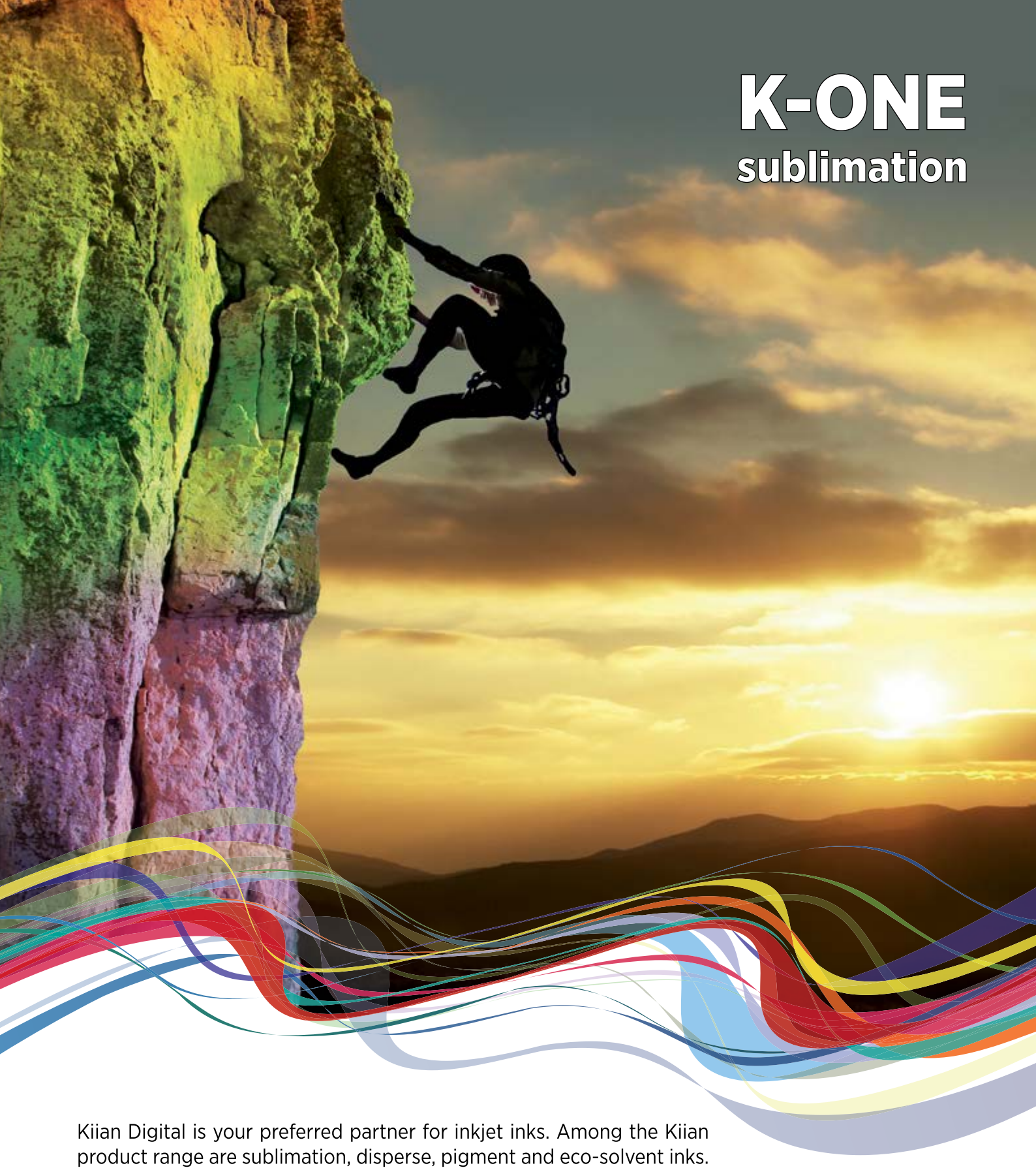
A rotary printing machine with several rotary screen-printing stations arrayed behind each other



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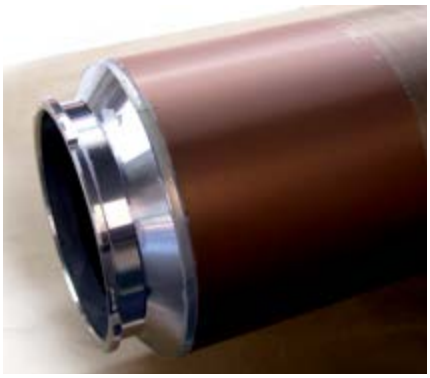
Nickel rotary screens

Machine coating of a rotary printing screen



A rotary screen fitted with an end-ring

for complex and costly authorisation; if a company wants to register a process, the official fees are in the range of €100,000. (Reference: Editorial mo 10/2014. mo, Magazin für Oberflächentechnik, issue 10/2014)

THE INTRODUCTION OF GHS

Furthermore, the United Nations is soon to introduce the Globally Harmonized System (GHS) – designated in full as the Globally Harmonised System of Classification and Labelling of Chemicals for classifying and labelling chemicals before they are brought into the market. This system is intended to form the basis of a global harmonisation in existing national systems. Existing differences in the regulations for the transport of dangerous goods and for the handling of hazardous materials are to be matched with the aim of facilitating global trading and to improve safety and environmental protection. Thus all products containing chromium (VI) will have to be labelled as highly toxic substances.

The challenge to find substitutes for chrome sensitisers has been met by Albert Rose Chemicals. Thanks to its dedication to continuous research and development, ARC can now present a full range of functional substitution products that make the addition of chromium (VI) and dichromate unnecessary to sensitise rotary emulsions. These replacement products have not only enabled the development of rotary emulsions, which have increased storage stability, but also feature all the advantages of a modern photoemulsion or laser lacquer for every coating, exposure and laser engraving process, which is used in the production of rotary printing screens for textile and wallpaper printing.

ENVIRONMENTALLY FRIENDLY

Particularly noteworthy are the diazo-sensitised emulsions that are environmentally friendly when compared to those containing chrome and which hardly pollute waste water, as well as the one-component SBQ emulsions. The abbreviation SBQ is derived from the product name 'stilbene quarternized' and specifically means that a water-soluble UV light-sensitive stilbene is chemically bonded with the polyvinyl alcohol (PVA) in the emulsion, so no second component, such as diazo compounds, are required to enable light sensitivity.

The following innovative, chrome-free ARC rotary emulsions and lacquers are particularly recommended:

- Diazo sensitized photo emulsions ARGAGEL 125 D Blue or ARCAGEL 130 D Red for conventional film exposure, wax or ink-jet
- Diazo sensitized photo emulsions ARCAGEL100 D-CTS Blue or A ARCAGEL 101 D Red for DLE or BlueRay exposure, but also for conventional film, wax or ink-jet exposure
- One-component, pre-sensitised SBQ emulsions ROTACOAT 325 Q Blue, or ROTACOAT 326 Q Red, ROTACOAT 330 Q-CTS for DLE or BlueRay exposure, but also for conventional film, wax or ink-jet exposure
- Chrome-free, one-component laser lacquers ARCALACK L-B1 or ARCALACK L-R1 for the engraving of highly resistant rotary screens with CO2 ablation lasers
- Highly-viscous, single-component laser lacquer ARCALACK 220 Red for the production of elastic thick film screens for haptic print results using a CO2 ablation laser

These products, which are now available, already meet all future requirements and legislation, in particular the coming REACH regulations on the application and substitution of chromium (VI) or dichromate. The time for a technology change is now. Need help? Please contact us for any technical advice and samples of these chrome-free products. ■

Josef Reck is Textile Applications Manager at Albert Rose Chemicals

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Further information:
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THE RIGHT TOOLS FOR THE JOB

Kieth Stevens explores the variables in squeegees and mesh

Kieth Stevens

My father is a master carpenter and I learned early on that, in order to do the best job possible, you not only need to have the skills and training, you also need to have the proper tools.

Over the years, I realised the truth of what he was saying, especially when I was off-road racing in the late nineties and had to rebuild my race car every three months to meet the deadline for the next competition. In order to be as efficient as possible I had to have the right tools at the ready so that I not only got the job done quickly but, also, I wouldn't damage the parts I was working on.

I now reference this simple revelation every time I conduct a screen-print seminar. In order to do the best job possible in screen-printing and – more importantly – be profitable, we need to understand the tools that we have at our disposal.

Screen-printers have many tools in their arsenal; however, most don't understand the relationship between how one affects another, or how prints can easily be improved using simple adjustments and, most importantly, how this relationship can affect your profitability.

There are many variables and facets that can make a print go from average to great, or for production speeds to go from sluggish to fast. Take, for example, two of the most common, yet important 'tools' in our arsenal – squeegees and mesh. Each of these affects how ink gets printed or laid down onto the substrate. Let's first talk about squeegees, one of the most misunderstood and under-utilised tools, in my opinion.

MUST-HAVE BASIC TOOL

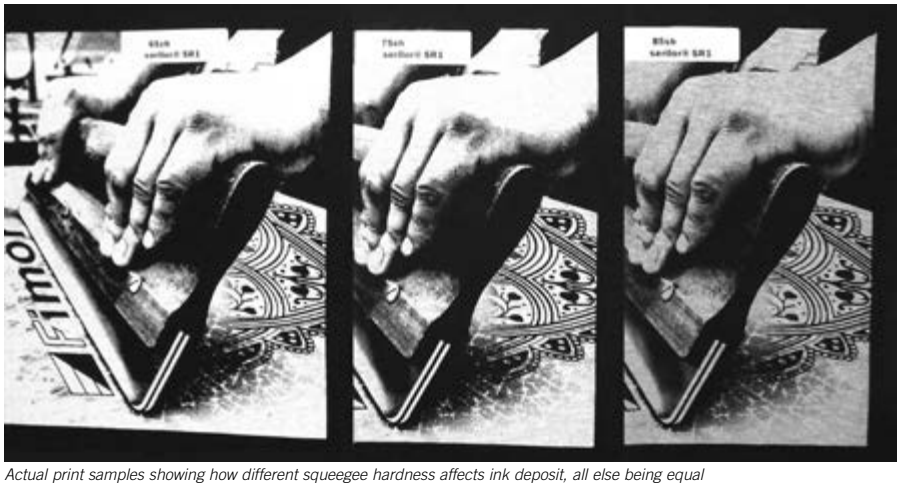
Squeegees are one of the must-have basic tools for a screen-printer and come in many hardness levels (durometer). Typically, squeegees start at a soft 55 durometer to a hard 80 durometer. To complicate matters, there are sandwich-type squeegee blades on the market that stack a soft and a hard blade or sandwich a hard blade between two soft blades. In addition, some blade edges are rounded, while others are square, and yet others are pointed.

With all the various choices available, it's easy for a screen-printer to get confused as to which type to use for what. Here is the basic rule – a soft squeegee lays down more ink than a hard squeegee.

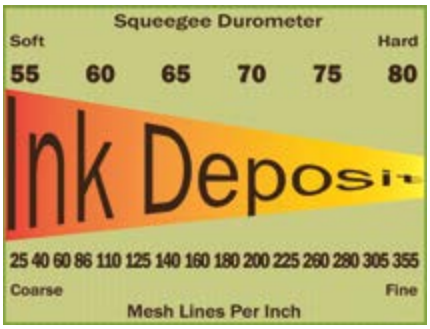
DUROMETER/HARDNESS

Let me explain a bit more about this:

- 50 to 60 durometer blades are considered 'soft' and will deposit more ink. Choose this durometer for heavily textured fabrics, such as fleeces or sweat-shirts, to lay down more ink (which may help with fibrillation) or for use with special effects inks, such as gels and puffs.



Actual print samples showing how different squeegee hardness affects ink deposit, all else being equal



This chart shows the relationship between squeegee hardness (durometer) and mesh lines (per inch) and ink deposit.

- A 60 to 75 durometer designation ranks 'medium' on the hardness scale. This hardness range is good for general printing.
- The hardest option is an 80 durometer blade. It will deposit less ink and is great for printing fine detail or four-colour process prints

COMPOSITE BLADES

As I mentioned above, some squeegees are composed of a 'sandwich' of different durometer blades. This type of squeegee blade consists of dual or triple blades of varying durometers sandwiched together, such as a 60/90 or a 70/90/70. The benefit to using this type is that the harder durometer gives the squeegee great support, yet has the softer edge for printing.

The disadvantage of the multi durometer (60/90) is that, since only the side with the soft edge is used for printing, over time the squeegee will curl to one direction. Hence the invention of the triple blade, where both sides of the blade can be used for printing and can, therefore, be balanced and kept straight.

Due to harsh cleaning chemicals and age, squeegees over time will become harder in durometer or even become brittle. So keep that in mind and, when you think it's time, go ahead and get a new blade. You may be surprised at the difference a new blade can make.

SQUEEGEE PROFILE

For textile screen printing, there are generally three different types of blade profiles – square, round and V-shaped.

- Square (straight edge) blades are most often used by screen-printers. They work well for standard or regular ink applications.
- Round (bull nose) squeegee blades deposit more ink. Use this type for special effects inks such as gel or puff.
- V-shaped (single- or double-bevel) blades are typically used for printing on irregular or cylindrical-shaped substrates

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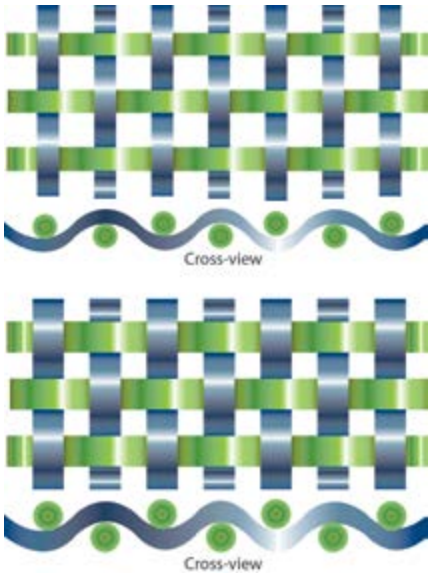

This image shows how thread thickness/diameter affects mesh opening, even for the same mesh count. The thinner the thread, the larger the opening, the more ink can flow through.

HANDLES

A squeegee consists of two parts – a blade and the holder for the blade. It seems like a simple design; however, the holder comes in various shapes and materials, and is designed for different functions.

- For manual screen-printing, for example, the holder essentially becomes the handle of the squeegee. Of importance to the printer is how the handle feels when holding the squeegee, especially after several hours of printing.
- Wood, aluminium or plastic are the most popular materials used for handles, and each has its following. Fans of the wooden handles like the organic feel and warmth of wood, whereas fans of the newer plastic or aluminium handles prefer them for their easy-to-clean properties. (Just a heads up: since wood is absorbent it soaks in much of the cleaning chemicals).

COLOURS

Squeegee manufacturers also colour their blades, but don't be deceived. The same red blade from one manufacturer does not necessarily sport the same features as the red blade from another maker. I've often heard screen-printers order "a red squeegee blade" or "a yellow squeegee, please" expecting the blade to be of the same durometer across different brands. In reality, brand A might use red to mark their 60 durometer blade whereas brand B uses red for their 90 durometer blade. So ask for squeegees by durometer value rather than colour.

MESH

Just as squeegee hardness affects ink deposit, so does mesh count. The lower the mesh count, the larger the ink deposit. But are there any other features differentiating one mesh type over another?

Old squeegees found with some old mesh frames. The dark red and green squeegee blades had become brittle and had broken apart.

THREAD COUNT

As most printers know, mesh controls the flow of ink once the squeegee passes over the image. The general rule of thumb is that the lower the mesh count is per inch (or cm), the larger the amount of ink flow.

However, there are some instances where it is possible to go higher in the amount of threads per inch/cm and get an even larger amount of flow. How is this so? Let's discuss the next aspect about mesh.

THREAD DIAMETER

Believe it or not, not all meshes at the same thread count function the same. This has to do with the actual thread diameter used to create the mesh. Obviously, the thicker the thread diameter, the higher the tension you can achieve when stretching the screen. The thicker thread is also less likely to cause the screen mesh to pop or break.

Breaking mesh is bad, right? Agreed – however, there are some options to consider. Some mesh is made with thinner thread diameter (same mesh count) and, if used with care, won't have to be stretched to such a high level as the thicker thread.

What is the advantage of using the thinner thread diameter? For the same mesh count, the thinner thread diameter allows for a greater percentage amount of open area within the mesh, thus resulting in higher image definition and increased ink flow.

So if the thread diameter is smaller, going to a higher mesh count is possible still to achieve a larger amount of ink flow and finer detail definition in the print.

Here is a simple guide that will help in choosing the right mesh counts for the right job:

Mesh count: 25, 40 – usage: coarse glitter inks

Mesh count: 60, 86 – usage: speciality inks, such as puff or high-density, fine shimmers, glitters or metallics

Mesh count: 110, 155 – usage: use where a large deposit of ink is needed, such as athletic numbers, printing white on black fabric, low-detail art or heavy white ink

Mesh count: 160, 180, 200 – usage: good for printing underbase white to create a softer overall feel, good medium-sized mesh count for medium-detailed artwork. The 200-count mesh can be a happy medium screen selection for when a 230 mesh is too fine and a 155 mesh is too coarse.

Squeegee blades with different durometers and showing some composite blades consisting of several durometers sandwiched together

Mesh count: 230, 280, 305 – usage: Low ink deposit, works well for half-tone printing, simulated process or CMYK process printing

Mesh count: 355 – usage: very low ink deposit, generally used by very experienced printers only. Often used for printing 65 line or higher half-tones for very detailed images

PUTTING IT ALL TOGETHER

So with all this said it is hard to explain the total relationship that occurs when the squeegee touches the ink and applies the ink to the shirt.

A soft squeegee pushing low viscosity ink (thin) through a coarse screen can apply too much ink. But use that soft squeegee to push a thick ink through a fine mesh and it can spell disaster.

Similarly, when a hard squeegee is used to push a thin ink using an open mesh or if the same hard squeegee is used to push thin ink with a lot of pressure through a fine mesh, both scenarios may result in less desirable printing outcomes.

Knowing how one tool or another can affect the outcome of the print, I am able to use the knowledge and adjust the variables to make a bad ink look better or a good ink look outstanding. I liken printing to an art form, where a good printer can use his tools to create the best possible print. Much of the finesse in screen-printing will only come with experience, but knowing the basics about the relationship of how different tools can affect different aspects of the print outcome is half the battle. ■

Kieth Stevens is Western Regional Sales Manager at International Coatings

Blade samples courtesy Fimor, Serilor brand. Print samples courtesy Fimor.

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W02-2015

THE TEXTILE FASHION RENAISSANCE IN PORTUGAL

David Forrester Zamith assesses the growth of computer-to-screen in the textile market

David Forrester Zamith, CEO of RdL

Facts and figures representing the Portuguese Textile & Clothing Association organisation demonstrate that Portugal today is one of the most important textile players in Europe. This goes against the reports of a 'near death' announcement with the European liberalisation of commerce imports from Asia, with the wager on technology, business-to-business, business-to-consumer, innovation, differentiation, own brands and the words 'made in Portugal' adding value for textiles as well as shoes.

Now proved is the importance that the textile and clothing industry still has within the Portuguese economy, providing around 11% of the GVA (Gross Value Added), 19% of the employment in the manufacturing industry and around 10% of the country's total exports. ATP is anchored in CITEVE, one of the best textile labs in the world and Oekotex certifier, the CENTI nanotechnology technical centre, Modotex textile training centres and UM-University of Minho for textiles, it includes machine manufacturers such as S Roque, a world-wide leading screen-printing business with T-shirt and fashion multi-colour carousel and ovals, with up to 16 colour printing lines. Today, Portugal has a real textile chain structure.

AN IMPORTANT AND MODERN STRUCTURE

Portugal has around 5,000 companies with 100,000 people working in all sub-sectors of the textile and clothing industry; a relatively small segment is dedicated to textile printing, home and fashion, from large format flat and rotary machines to T-shirt printing mainly for fashion. Some of these are vertical units, but the majority are small and medium companies, including family businesses, all well-known for their flexibility, quick response, expertise, innovation and equipped with modern technologies. Production revenues are €5,968 million while exports represent €4,283 million.

TEXTILE FASHION PRINTING AND T-SHIRTS

Important market brands today are opting for a trend of an average of ten colours, using more water based inks than plastisol, under REACH European norms and new quality exigencies like RSL (Restrictive Substances List). As a result there is a new focus that covers ecology, durability, design, touch,

Direct printing onto textile with computer-to-screen technology

Quaglia's Virus High Definition water based inks printed direct

Computer-to-screen textile transfer

washing, resistance and functionality.

Our experience recommends, that for fast, perfect and full implementation of CtS (computer-to-screen) technology, the support of a stencil-making and printing technology cluster is recommendable. Based on that, we would like to emphasise some of the important points shared and implemented by Ruy de Lacerda in the Portuguese market in 2014 with those cluster companies. Specific reference should be made to these specialists:

ColorGATE has developed a RIP software solution dedicated to CtS technology, on a learning curve from offset to digital printing technologies, with the advantages of its Super Cell Raster. This generates high accuracy of angles into a structured and guided format to work with PS8 Pro-CTS software. It also automates tone value correction including calibration and correct dot linearisation in a modern and friendly interface. Important ink savings can be achieved by using this new design that has been adapted to a CtS technology RIP.

Sefar – textile printing applications are one of the most technologically demanding due to numbers of colours, image register, reproducibility and substrate surface complexities. On a trend for more four-colour printing processes and photo-realistic images, assisted by using finer meshes and new water based nano inks, it is recommended to use

Continued over

Part of an STM-TEX fully automatic CtS industrial flowchart

high tenacity mesh like Sefar PME, with higher dimensional stability and durability.

KIWO – leading on R&D and CtS screen emulsion innovation with a set of standard chemistry, this UHP digital direct light exposing technology allows constant quality with fast exposing with perfect and repeatable hardening. Repeatable emulsion hardening on thin, thick or 3D coated is fundamental with its quality constancy mainly when confronted with full washing automation processes (developing or decoating).

Quaglia – these are high definition water based inks, with innovative solutions for four-colour process plus colour effects using 150 meshes. Higher dot lineatures result in considerable ink savings by reducing the ink deposit with consequent energy savings, showing a new textile fashion market trend. Quaglia Virus High Definition water based inks print direct with 150 mesh and 101.6 dpi.

HIGH END CTS TECHNOLOGY

SignTronic's STM CtS technology is designed for digital direct light exposing stencil making. Textile fashion printing that is piece by piece, not confectioned T-Shirts or garments, uses high definition CtS technology which needs an understanding in favour of a completely new industrial flowchart concept. Analogue film to digital filmless is a jump from 8 to 80 into a different technological league. As such, it's absolutely recommended to look on existing pre-press conditions, invest in a f ull normalisation from image handling/dot linearisation and calibration plus analyses/ stencil frame sizes. Additionally there is the stability for automatic stretching and automatic coating standardisation. Acclimatisation with correct temperature and humidity, dust free local to meshes and chemicals is also important to the CtS investment, which is a modular future concept or a 100% fully automatic concept.

At the recent 24th Screen Printing Technical Seminar, organised by RdL, there was a round table with four customers using STM-TEX 100% in full automation as CtS technology. This accommodated stencil loading, CtS exposing, developing, drying and stencil unloading, with all these points being shared openly with everyone present. This proved the high reliability of reproducibility with SignTronic AG STM technology such as fast response, cost efficiency and the turning of the production processes' bottleneck from stencil making to the imaging department. Also mentioned were the higher standards of reproducibility, fast and correct hardening and an alert to the importance of analysing the real stencil costs (analogue and digital) versus ROI (return on investment).

The 24th Screen Printing Technical Seminar hosted by RdL

ACCEPTING A NEW DIMENSION

The more standardisation on existing analogue pre-press, the easier the acceptance to a new dimension on digital stencil technology where there is no film, no film development, no montage, no film dimensional stability, no vacuum frame, no archive, no stencil retouching, etc. This can only bring plus points, with better image reproduction, tone value density from three to 98%, higher real resolution of 1270dpi, no retouches, and emulsion completely hardened – a 'technological must' to avoid surprises on stencil stability during printing or extra costs on handling and chemicals in washing steps. It is important to analyse that, with image handling (real graphic image knowledge), it's essential to bring to STM-TEX the higher quality that this CtS system likes to standardise and constantly reproduce.

From our local experience we can say that, from a considered high investment, the proven reality confirms what has been said before, and that is a great positive surprise on ROI with a new dimension of plus points. These are difficult to count as benefits for a final clean printing quality concept that was impossible to achieve beforehand or even today with digital printing. As said, it's a must to evaluate the real stencil costs with analogue stencil making.

PORTUGUESE INSTALLATIONS

During 2014 several new pre-press systems have been implemented in Portugal for the textile segment, from ink-jet film plotters to vertical manual handling wax ink-jet CtS and horizontal manual feeding ink-jet CtS. Five SignTronic 100% fully automatic STM-TEX systems have been installed in the country, three being for the textile fashion segment for direct printing onto textiles of up to 16 colours, one for textile transfers and the fifth for porcelain decoration decals. Additionally there was the first fully automatic STM-TEX installation on ceramic decals in 2012 and two more modular STM

STM-TEX users share their experiences of computer-to-screen

concepts installed in 2009, one for wide-format point-of-sale and point-of-purchase and the other for the world's largest STM dedicated to textile flags with an imaging size of 6,800 x 2,400mm.

CtS technology is a must for keeping screen-printing alive. We have assisted recently with some decisions about whether to stop using it or to change to digital printing. Those that retained screen-printing and invested in pre-press automation (CtS) are able today to follow market trends and exigencies with a clear wave to have in-house different printing technologies from system suppliers, in order to satisfy the customer. This is a logical trend for graphic arts printing to handle offset, digital and screen plus finishing, as for industrial and functional printing. Additionally, this report focuses on textile fashion alongside screen and digital as well as transfers or embroidery.

Today we can confirm that the production processes bottleneck has moved from the stencil-making to the imaging department.

Final quality, functionality, fast logistics and cost efficiency will all determine which in-house printing technology will be chosen to target market requirements or, even, where more than one technology to be used in tandem. This is based on optimising consumption, increasing productivity and reducing waste, with better energy use to environmental impact.

INVESTING CORRECTLY

With the correct investment in screen-printing pre-press, CtS and automation of screen-printing technology, highlighted is a renaissance on textile fashion in Portugal. This is anchored on a new industrial cluster for textile fashion and sports, clothes, shoes, jewellery and leather, all of which show that screen printing technology is alive and kicking!

Europe is looking for a new re-alignment on a new global world business set-up, filled with opportunities that these Portuguese industrial examples, mainly based on family businesses, are already aiming for. Using the most valuable technologies in-house has proven to be successful for leading European entrepreneurs that are betting on exports, either directly or indirectly, with differentiating quality, flexibility, fast response and cost efficiency.

On 20 December 2013, The United Nations (UN) General Assembly 68th Session proclaimed 2015 as the International Year of Light and Light-based Technologies (IYL 2015). SignTronic's STM CtS (computer-to-screen) with digital direct exposing stencil making is leading the way with Swiss light technology enhancing screen-printing high quality reproducibility.

RdL has been servicing the Portuguese textile industry for 65 years. ■

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THE INDUSTRIAL PRINT SEGMENT IS BOOMING

Marcus Timson evaluates the forces at play that are assisting this growth

The success and growth of InPrint has got me thinking about the macro trends that are perhaps creating the buoyancy of the industrial print market. Here, I outline some of the mega-trends that are creating fertile conditions for growth.

Manufacturing is enjoying a renaissance, particularly for advanced economies. Governments have realised that the service economy model is simply not a sustainable one. That is clear following the worst recession in living memory. In Europe, only the German economy has supported its manufacturing sector and the many Mittelstand businesses that make up the backbone of the manufacturing sector.

Consequently Germany did not suffer as much after the banking crisis and recession as the rest of Europe. Germany's robust economic performance proves that strong manufacturing and the creation of high quality products result in a sound and sustainable economy as exports make up a significant proportion of German output. The EU itself now has targets in place to increase the manufacturing sectors share of GDP from 15% currently to more than 20%, which is more in line with Germany's. This is clearly a positive fact for industrial print.

SMART MANUFACTURING

The German governments Industrie 4.0 is a great example of how that nation's governmental policy can encourage the building of a framework and environment for sustainable economic growth. The principle is simple. Manufacturing is changing towards a fulfilment model from a mass manufacturing model that is primarily focused on efficiency. Fulfilment in essence means manufacturing product for more specific needs. This change requires a third IT platform that will enable automation optimisation and just-in-time manufacturing that is as responsive as possible in order to constantly meet adjusting market demand. As the emphasis is on utilising smart technology, industrial print, an advanced technology, is set to benefit.

RE-SHORING

This isn't a quirky little trend trumpeted by politicians claiming credit for rising employment levels. The re-shoring of production back to advanced economies now makes financial sense as governmental policy to increase employees' salaries by 15% per year, making China a less compelling place for low cost manufacture.

Add to this fact the significant distance, and time it takes for production to reach markets and China's advantages as a manufacturing centre start to contract. It is impossible for the mass manufacturing, long distance model to compete with that which is closer to the end consumer because it is plainly not as responsive and therefore competitive. Does this mean a decline in manufacture in China? Not in the short run, such is the demand which remains high for many products. But I can't see how China based print production can meet this new demand for mass customised industrial printing in Europe.

Marcus Timson

The European Parliament Research Unit believes that the trend for re-shoring will continue, especially for industries where heavy machinery dominates, where technology is a vital tool in science, pharmaceutical and medical production and where safety and responsiveness to consumer change is important. This is virtually a script for the value particularly of industrial ink-jet printing.

LOCALISATION AND CONSUMERISATION

We shouldn't confuse localisation with re-shoring because the force for change comes from a different direction. This is more consumer pull as opposed to economic, technology and market push. Goods produced locally are more congruent with local customer taste, style and fashion. While there will always be a demand for brands that indicate status, most of which may have an image that is outside of the immediate area, these brands will adapt their supply chain to better suit their customer base. The scale of this change will be new as brands realise their competition will be newer, smaller companies that may

A typical busy aisle at InPrint 2014

seem more relevant. These companies will develop niche products in smaller amounts and are more nimble and responsive to the market whilst being adept at exploiting the power of new media.

Consumers prefer to buy products that are reinvested back into the local community. They like the visibility and the ethical element, as well as the style. Industrial print, whether speciality, screen, pad, digital or ink-jet is set to grow to meet this heightened demand.

THE SMART CONSUMER

It makes sense that, if you have smart manufacturing and smart technology, we will get a growth in the 'smart consumer'. Well informed, with the ability and desire to communicate either to enhance or improve a product or indeed to warn others of the negative aspects of any product, service or experience, the smart consumer cares about how a product is made. The quality of production increases in its importance and service and support are also highly valued. Local based industrial print production is able to meet this demand more effectively and quickly.

A product that is manufactured in a far-flung place could have travelled the world a couple of times before it arrives at our home. For the smart consumer, manufacturers have to account directly about how their products are made, not just to link in with legislation but to align with customer ethics. No longer will excuses be accepted due to poor production from the supply chain or indeed for poorly paid or maltreated workers. As manufacturing becomes more visible and more integrated with the community in which it serves, industrial printing becomes more important as a very visible and vital functional and decorative component of production.

OVERALL SPEED

This is the single characteristic that all manufacturing companies will agree is very important. This isn't just speed of production. It means speed from ideation to consumer. This trend is economic. It is a race and supply chains have to join it in order to stay relevant. The iPad generation wants things now, not six months later.

The IDC Future of Manufacturing White Paper which published in February 2014 highlights that, for manufacturers to take the next step towards a fulfilment model that isn't focused entirely on mass manufacturing and efficiency, the culture of teams and their leadership will need to change. The white paper cites a shift in people management towards self-forming teams in a flatter, flexible structure that allows for more individual decision-making and leadership. The top down hierarchy, whilst effective for command and control mass manufacturing, is ineffective for speed, responsiveness and innovation. Mass manufacturing, the model found in emerging economies, is a classic hierarchical system which is not designed for innovation. European and US culture are both rich in innovation containing organisations that are flatter and more able to innovate quickly.

Specialist Printing Worldwide is official international journal of InPrint and exclusive publisher of the show catalogue

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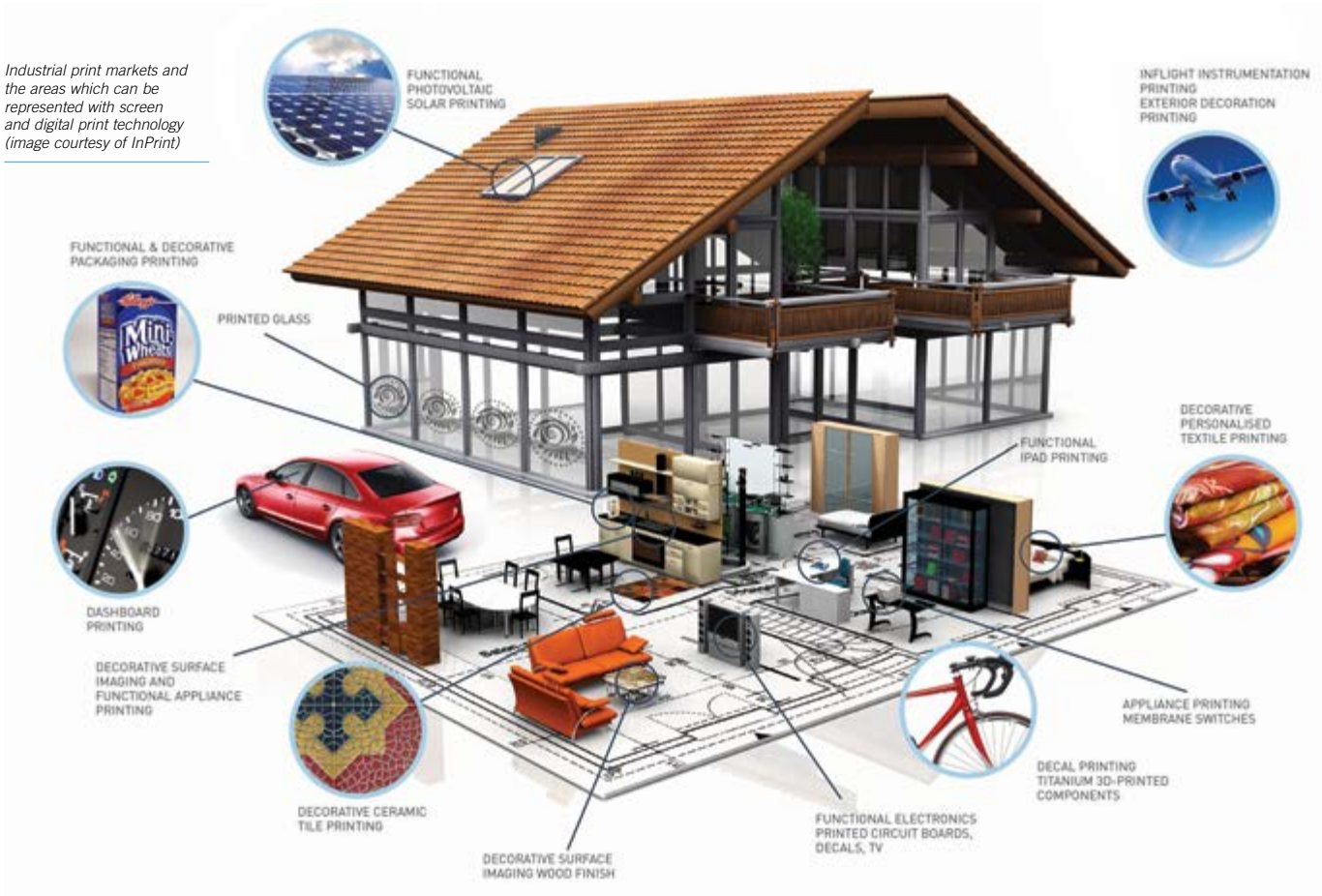
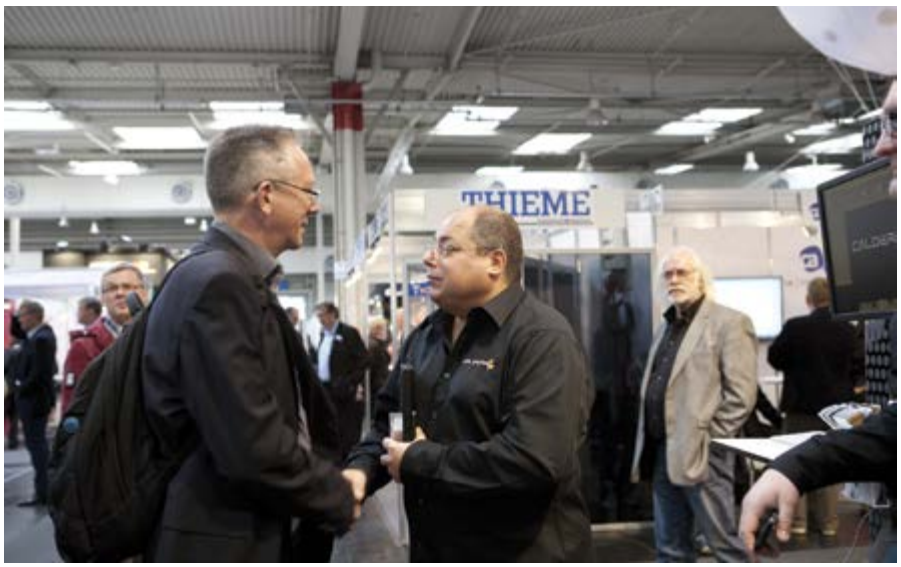


Industrial print markets and the areas which can be represented with screen and digital print technology (image courtesy of InPrint)

EUROPE LEADS WITH INDUSTRIAL PRINT

It is a fact Europe leads the way with industrial print integration. There are several reasons why this has occurred, some of which we have already outlined above. But the fundamental one, in my opinion, has to be economic. Europe suffered more than any other region in the world from the recession. This means that the European market has reached optimum consolidation and cannot get any more efficient. The large companies bought the smaller and what remains is a market-place that is very difficult for any new business to enter. Europe has always been fragmented and highly competitive. In Europe I think we have only one choice – to innovate, to be open-minded and to adopt new technologies. This creates an environment more conducive to advanced manufacturing technologies, of which industrial print is perfectly positioned.



Manufacturers met with interested visitors to discuss industrial print requirements

A TAILORED INDUSTRIAL EVENT

It is clear that the excellent progress made with InPrint 2015 and the growth potential for both the exhibition and the sector I truly believe stems from these mega-trends which will only continue to grow.

This year's exhibition, which also features a clutch of new exhibitors, has the most advanced technology in the world for functional and decorative print. With screen, speciality, digital, ink-jet and 3D print technologies being showcased, the industrial print segment is clearly a vitally important aspect of the creation of any production line in most industries – from pharmaceutical to packaging and from automobile to aeronautical.

More news and insight will follow in the future but if you have an opinion or would like to discuss this further do not hesitate to contact me, I would welcome the dialogue! ■

Marcus Timson is co-director of FM Brooks

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WHY MOVING INTO DIGITAL TEXTILE PRINTING NEEDS CAREFUL CONSIDERATION

Rowan Bloemberg discusses the most important criteria required when choosing a machine

Rowan Bloemberg is Marketing Manager at Hollanders Printing Systems

The idea of printing direct to textile using digital technology is not a new one but, although the past decade has seen different manufacturers evolve their own versions of ink-jet devices to cover this market sector, there has been a relatively slow take-up by potential users wanting to enter this production segment. Unlike other type of ink usage, and the handling of the associated materials and finishing processes, fabrics carry what can best be described as their own set of rules. If these are observed and adhered to, then good results should be easily achievable. But it cannot be denied that there is a learning curve for newcomers, as well as workflow adjustments that need to be considered before making the move into this sector.

The potential for soft signs and displays is huge, with textiles and inks able to supersede other technologies for a host of interior and exterior application, as well as furnishings and décor. Manufacturers of digital printing machines have been quick to acknowledge that the use of dye sublimation and disperse inks could replace many of the alternatives currently being employed to generate wide-format jobs and, as a result, the past decade has witnessed a variety of manufacturers and developers that have opted to bring equipment to the market.

For a purchaser of a direct-to-textile printer, however, the choice hasn't been simple or straightforward. Not only does a potential user need to decide on the basics such as print width in his new machine, he also needs to establish whether a two-step sublimation process is desirable or if a device that prints direct is going to be a more suitable option. Added to this dilemma is the question of fixation method. In today's market-place manufacturers promote heavily both processes, with inline drying competing strongly with the school of thought that claims separate fixation and washing units are more practical in the longer term.

INVESTMENT JUSTIFICATION

How does a potential new user decide which textile solution is going to be best for his specific company's needs? First of all there is the initial investment price and the justification that the amount paid, and the training undertaken, is going to show favourably on the balance sheet in terms of total cost of ownership. Also to be factored into this, of course, is the production throughput – but this should never simply be assessed on the speed of the device and claimed amount of material it can print on an hourly or daily basis. There are additional parameters which need to be factored in when assessing true throughput figures.

As such, end-to-end workflow is the only true method of estimating accurate productivity, and this starts from the moment the job is input, through processing the file, printing it and finishing it so that it is ready for delivery. Built into this is the efficiency and streamlining of the entire operation which includes not only the reliable behaviour and performance of the machine but, also, the involvement of manual intervention and supervision. This includes progressing the job and checking its various elements along the way, so the design and construction of the output device is of paramount importance. This plays a vital role in maintaining stability so that unattended operation is assured with the correct results being generated effortlessly and consistently.

EFFICIENT PRE-PRESS

A dedicated front-end developed and configured for optimising the production of textiles, either direct or via two-stage transfer printing, will ensure that all pre-press elements are handled effectively. This doesn't just handle basic data and files but should include relevant colour management and profiling, right through to the machine's settings and notifications relating to ink levels and other maintenance information.

The key for new users to digital textile printing is to ascertain how seriously they want to integrate this kind of production into their existing capabilities. By wanting to add this facility in the first place, research and investigation should clearly have been carried out to determine budget and throughput requirements. These will determine the type of machine that needs to be considered for purchase. The choice of manufacturer is crucial because, although there are many devices currently on the market, some of these come from new entrants to this sector that might not have the deep levels of experience with the ink chemistries, essential to develop and supply the technology. A low

Familiar parts of machines, such as print-heads, should be configured specifically for textile production

Logical design should make operation and monitoring quick and easy

cost device might be suitable for working with small volumes and occasional wide-format jobs that are suited to dye sublimation or disperse inks but, over time, if a company's textile business grows, this type of system won't meet long-term production requirements. Conversely, no business should be lured into making a very heavy investment into a high-end system if it is unlikely ever to pay its way in throughput terms.

THE MANUFACTURER'S LEGACY

Users investing in a textile printing machine are buying into the manufacturer's legacy and its experience of producing equipment for this particular market segment. Although there are familiar parts across machines, such as print-heads and rollers, there are many elements that developers of machines have designed specifically because they are able to handle optimally the typical fabrics that are used.

While some engines are based on an existing chassis from a third-party supplier, others are designed and developed from the ground up and are built to accommodate the specific needs of working with fabrics and their inks rather than being adapted from another type of ink-jet unit.

Those wanting to purchase the most cost-effective and efficient solution also need to consider seriously whether or not integrated finishing is really a more convenient and practical option than using independent fixation and washing units. While the price and footprint of a combined system might appeal initially, assessing true workflow and throughput capabilities usually shows that the modularity of using separate systems represents the better option across the longer term. In addition, control over total productivity and overall throughput rates is easier, and the printer's own configuration is not burdened with extra feed paths, rollers and mechanisms that need to accommodate heating as part of the production process.

Entering digital textile printing for the first time is a big step for any company, particularly as there is a learning curve to be accommodated that includes understanding the performance characteristics and behaviour of fabrics and inks, both of which carry different principles and criteria to other ink-jet chemistries. The drive for display and soft sign producers to consider greener technologies is continuing and, with advanced polyester fabrics and mixes now able to be used for a wide range of graphics and décor applications, this market segment is set for continued growth.

For investors in new equipment, a high level of forethought must be given to the proposed purchase including ease of use, reliability and quality of output. The most relevant advice for any business wanting to move into digital textile printing is to choose and work with a manufacturer that understands the technology and has a reputation for building machines that will last for many years. A good supplier will also provide the expertise in terms of back-up and technical support that are both essential to maintain the best return on investment and to ensure that the print solution chosen is the right one that will perform consistently from day one onwards, far into the future. ■

The Hollanders ColorBooster XL is a heavy-duty 3.2m textile printer

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EXPLORING THE OPPORTUNITIES OF DYE SUBLIMATION

Michel Van Vliet explains why there is more to textile printing than just soft signage

Sublimation printing has already proven its worth in different business segments. The technique is much used for the production of high-quality photo gifts and textile banners. Also for the personalisation of sportswear, many well-known businesses rely on this printing process. But, although sublimation printing allows for a versatile interpretation in many different business segments, it also has its limitations since it is only suited for polyester-based fabrics or objects with a polyester coating.

DIRECT AND TRANSFER TEXTILE PRINTING

Dye sublimation is a relatively simple process. The literal definition of sublimation is the transition of a substance from a solid phase to a vapour without passing through the liquid phase. A printer and a heat press are the only things you need to get started. Compared to textile printing processes with acid, reactive or pigment inks, the pre- and post-production processes of sublimation printing are therefore a lot less complicated and require lower investments from the customer.

Today you can divide the market in two segments of printing devices for dye sublimation printing, which both have their advantages and disadvantages.

The Texart RT-640 sublimation printer from Roland DG, equipped here with eight colours

TRANSFER PRINTERS

With a transfer printer, you print on special transfer paper. Afterwards you transfer the print onto the fabric or other substrate by means of a calender or heat press. This technique requires a relatively low hardware investment. Calenders, in general, have a much higher production speed than printers so, when you want to scale up your production, it is easier and in most cases

Transfer sublimation is not restricted to fabrics

Fashion apparel printed with the sublimation process

The eight-colour configuration of the Texart RT-640's ink system

less capital intensive to have separate printing and calendering equipment.

The advantage of this technique is the sharpness and density of the prints. Moreover, since you print on a paper and transfer it afterwards, this technique has a wider application range than direct-to-fabric printing. You are not limited to fabrics but can also transfer the prints on specially coated photo gifts, mouse pads, mugs, T-shirts, films and plate materials like aluminium.

DIRECT TO FABRIC PRINTERS

These printers are designed to print directly onto textiles by using sublimation inks, so there is no need for transfer paper. Most of these printers have an integrated calender.

The advantage is that the process is rather simple since the final product rolls out of the printer but, in general, the print quality is not as crisp and sharp as with transfer papers. Therefore, these kinds of devices are often used for soft signage applications like flags and banners.

THE EVOLUTION OF DIGITAL DYE SUBLIMATION

Dye sublimation printing came onto the market roughly ten years ago. It started with desktop and wide-format printers that were converted for special dye sublimation applications by innovative companies.

In the early days, the majority of companies in Europe using this technology were commercial screen-printers. The advantages for these companies were clear. With a growing market demand for personalisation and customisation, they needed to have a solution for short runs and one-offs. Traditional screen-printing was too expensive, since the preparation costs of a production run were not in relation to the length of the run and the generated turnover.

Moreover, the process of screen creation is highly labour intensive. It also creates waste water contaminated with chemicals, which needs cleaning. The regulations on waste water control has become very strict over the last 15 years and forced screen printers to install special equipment for treatment.

The numbers of colours is also limited with screen-printing, since you need to create a screen for every colour you want to use. Full colour printing of photographs, for example, thus creates challenges.

It is obvious that ink-jet printing was the technology to overcome these road blocks for producing short runs and speciality runs. When the design is ready, you simply press ‘print’ and the production will start.

ADVANTAGES AND ATTENTION POINTS OF DIGITAL PRINTING

Digital printing has clear advantages. It reduces or eliminates traditional preparation processes and optimises running costs. It makes just-in-time deliveries possible and enables quick responses to a demanding market place.

A digital short run can limit risks. You can, for example, test new designs in the market with digitally printed samples. Another advantage is the possibility for print-on-demand, so you only need to have a stock of unprinted fabric and paper. It is not necessary to keep a stock of printed materials that become obsolete over time. Moreover, you can use variable data and variable designs in the same production run and control the design and printing process from remote locations.

Still it is not as simple as it all may sound. Compared with normal ink-jet printing, a lot of knowledge about colour, work-flow and a controlled production environment is required to guarantee a predictable and stable result. Since the colour will depend on the used substrate, colour management is much more difficult to control compared to normal ink-jet printing where you see the printed colour directly on the substrate. With sublimation printing, heat and moisture influence the colour transfer, and as a result, the final colour.

Continued over

Sporting garments are ideal candidates for sublimation printing

Soft signage can be produced using the Texart RT-640

SUBLIMATION PRINTING OVER THE YEARS

Ten years ago, the prices of digital dye sublimation inks, sublimation papers, and the productivity of the wide-format printers were on a very different level compared with today. The mix of those three components made it only interesting for short and speciality runs, since the cost per copy was much higher than with screen printing. Prices for paper and inks decreased and at the same time the quality and stability of the inks and papers improved over the years. Wide-format printers underwent the same evolution. The price of the purpose-built ink-jet printers for dye sublimation decreased, but the productivity doubled or quadrupled compared to ten years ago.

As a result, many screen printers in Europe print the majority of their production digitally or even stop with screen-printing. At the same time, a new group of textile printing companies who never produced analogue has arisen.

The globalisation of our economy challenges European production companies to add value where companies in low-cost countries can't. The strength of low-cost economies in predominantly Asia and North Africa is mass production at low prices. Our strength in Europe is more directed to short-runs and mass-customised applications.

Roland DG is a well-known manufacturer of digital sublimation printers. We recently released the Texart RT-640. This is the first member of a new family of textile printers that we will bring to market in the near future.

The choice for a transfer sublimation printer was very logical for us. The loyal Roland customers are, generally speaking, smaller companies in the sign and display business. Having a user-friendly ready-made solution is of utmost importance for them. Often, our sublimation printer will be the first sublimation device that these people buy.

With the new RT-640, we offer an interesting solution for businesses involved in soft signage, photo gifts and interior decoration.

FOUR OR EIGHT COLOURS

Depending on the needs of the customer, we offer a four (CMYK) or eight colour (CMYK, light cyan, light magenta, orange and violet) configuration. The choice of four or eight colours does not only refer to the gamut, but also to how the colour is mixed. With eight different channels, an arbitrary colour can be printed optimally in view of print sharpness. Many light and pastel shades, skin tones and soft gradations are printed much more beautifully and sharply. This is important for the market of photo gift, fashion and interior design.

With eight colours, it is also possible to print very deep solid colours, which is important for back-lit displays and sportswear. The four-colour version in its turn is ideal for soft signage.

CHOICE OF RIP SOFTWARE

The client has the choice to work with the user-friendly Roland VersaWorks software or to go to a specific high-end ErgoSoft workflow. Both software packages are included with the printer. The choice for ErgoSoft as a partner was an obvious one as the company has extensive experience in the field of colour management and work-flow in the textile and dye sublimation segment.

However, the ErgoSoft Roland Edition is not the same as ErgoSoft Texprint 14. ErgoSoft Roland Edition is a version that focuses on ease of use of the software and is offered without charge. Features such as step-and-repeat and custom colour replacement are included. ■


Interior décor produced using the Texart RT-640 printer

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THE NEXT EIGHT PAGES COMMEMORATE ESMA'S 25TH ANNIVERSARY. TECHNICAL CONTENT RESUMES ON PAGE 28.

ESMA 25TH ANNIVERSARY

ESMA
Driving Print Excellence

From the publishers of
SPECIALIST printing worldwide

CONNECTING THE DOTS OF THE PRINTING INDUSTRY FOR 25 YEARS

As publisher of the ESMA-sponsored *Specialist Printing Worldwide* magazine and co-organiser and partner of ESMA's conferences, Chameleon Business Media is pleased to mark the association's 25th anniversary with this commemorative supplement. Here, ESMA CEO Peter Buttiens discusses ESMA's history, current set-up and future prospects

ESMA's CEO Peter Buttiens

ESMA was founded 25 years ago as an Association of European Manufacturers of screen printing equipment and supplies to provide the ultimate benefit of their customers. Are your goals the same now as they were then, and what have you accomplished so far?

Peter Buttiens: ESMA is today the leading association in Europe for industrial, functional and speciality print for screen and digital processes. ESMA started in the beginning as a pure screen-printing association and, at that time, one of the major goals was to ensure the future of screen-printing because of the rise of digital ink-jet technology in the large format area. It became clear that screen-printing could do so much more as graphical large format and many new developments were developed for industrial graphical solutions. This could be on different substrates, such as plastics or glass, but it was also for totally new market segments such as automotive, toys and home appliances. The market of IMD and FIM was one of these growth areas, as well as brand protection solutions.

In 2000 ESMA offered membership to companies manufacturing machinery and consumable supplies for the digital imaging process. How many members do you have today and what has changed since you opened for digital manufacturers?

PB: The market changed indeed; as expected digital ink-jet solutions were the rising print technology. Large format graphics quickly became the main stream market for digital. Opening the association didn't increase the membership immediately. In 2007, when I became the General Manager of ESMA, our association had been involved with the explosive growth of digital printing. By 2009, the association almost doubled in membership, growing close to 57 members. The start of the economic crisis by end of 2009 changed a number of members and stopped their membership. Recently, the association grew to a new record with a total of 62 members.

Who can become a member and what conditions must be fulfilled?

PB: There are two levels of membership. The first group are voting members which are the original supplier manufacturers. These can be machine manufacturers, pre – and post-processing, software, inks, supplies and much more for the print processes of screen and digital. They must have an office in Europe and they must fulfil our 'code of conduct' rules for the association. The second group are non-voting members and our technology partners. Technology partners must be involved with the printing technology, this could be development, support, distribution, sales, training, consultancy or users. The main interest comes from companies looking towards industrial, functional and speciality printing.

What are the unique benefits that ESMA offers to its members? What are the general benefits for manufacturers of printing equipment encouraging them to become a member of ESMA?

PB: ESMA has several important segments that can interest any company. We have an excellent cooperation with all major exhibitions in Europe and the rest of the world. With Messe Düsseldorf, we have a very special relationship due to being the PEPSO (Printed Electronics Products and Solutions) partner for seven different shows. This helps to integrate printed electronics and functional printing vertically in seven different industries. Due to expanding to fewer traditional shows for printing, we developed a plan for pavilions at these shows. Due to the success, this expanded also to printing shows. But of most importance is our knowledge hub, which we have been gathering with the members, academics and funded projects. Through these we have a lot of information which is important to develop new markets and segments for printing. The knowledge exchange can be at committee

Continued over

ESMA has organised educational conferences for fields such as computer-to-screen, glass printing, interior decoration, membrane switches, advanced functional and industrial printing

meetings, conferences, master classes, and training courses.

There are three supporting committees – first the Technical Exchange Committee (TEC) which handles conferences, markets, opportunities, best practice and, next, the Health, Safety and Environmental Protection which handles all chemical regulations within the printing industry in connection to REACH, CLP (Classification, Labelling and Packaging Regulation) GHS (Globally Harmonised System) and much more. Finally, there is the Marketing and Promotion committee that helps to support *Special Printing Worldwide* magazine, the development of the association, and works on global marketing and communication development of the association of its members.

One of your tasks is lobbying at Brussels for regulations and legislation, relevant to all processes, particularly in health, safety and environmental issues. Can you tell us some more about the regulations you want to be adopted?

PB: We have an excellent committee on Health, Safety and Environmental Proctection. Today, we look closely to all REACH, GHS, CLP and other regulations from the EU. The problem is the constant update of the exemption lists of chemicals.

Please share with us some of the figures on European screen printing market.

PB: Within the printed electronics sector, screen-printing is the leading production technology with 80% of the real printed parts. Within the direct container printing on glass and plastic, screen-printing takes the largest share. Screen was around 38% of the industry in 2008, with a drop of nearly 1 to 2% in the following years. By 2018 Screen will take up 32%, which is still higher than with ink-jet. For ink-jet the story is different, in 2008 the share was only 5% and has been rapidly growing since up to 20%; by 2018 it will reach 31%, which is close to the market share of digital.

How successful are your members in developing new market opportunities through advanced technology support?

PB: For the screen-printing members, they have done a complete make-over of their business from graphics to industrial in less than two decades. These printers and companies need to follow the market changes, the new requirements, new regulations and legislation.

ESMA has been organising conferences during recent years in different fields such as computer-to-screen, glass printing, membrane switches, advanced functional and industrial printing. ESMA brings together printing technology in different segments of the industry and promotes overall printing solutions.

Who attends your seminars and conferences?

PB: For each conference the main focus is to invite printers (the customers of the ESMA member manufacturers) but also their customers such as brand owners or corporate companies. It's important is to bring together all players in the supply chain.

In which ways will ink-jet technology have impact on major industries worldwide?

PB: With the breakthrough of single-pass printing at industrial level, ceramic tile printing is nowadays taken over by ink-jet printing. Meanwhile, the market has several suppliers and the big profits of machine installations and inks are already in the next segment of the BCG diagram. Several other segments are close to turning the industry up-side down. Labelling and packaging are front-runners; with the new digital single-pass printers, each label or package can be adapted on an individual level. Other more industrial markets are opening towards digital technology, such as container printing. Additional markets, such as textile and laminated floor products, are finding their way in the replacement of the traditional production solutions. However, these markets are not handled by the traditional printing shops.

Some printers consider digital alternatives as being a threat to traditional print. Do you think that those who won't adopt changes will eventually have to shut their businesses down?

PB: As mentioned before, screen-printers had to adopt to new segments but working more and more in the pure B2B segments they must see print both as a process and a product. The few that stayed within graphics have, most of the time, an alternative segment of applications for being profitable. Screen-printing had to adapt to survive the future of the market.

Can you tell us which will be the crucial trends in the printing industry during the next few years?

PB: The traditional printing shops will become less of a focus of the printing suppliers because this segment has reached its saturation level and is rather downsizing and becoming a replacement market. Because prices are already extremely low for traditional printed products, it is either the service or the specialisation of the printer. Also at the digital printing side, new equipment is capable of printing high volumes at good quality and reliability. The biggest profits for printing suppliers will be seen in bringing print into the new industrial segments where printing was done with other solutions or different print technologies. The flexibility to the whole operation will be the key.

The Internet also changed the printing business in a dramatic way, because the user or buyer can be closer to the production. The time to market is shorter, the marketing campaigns can change rapidly and the big key word will be mass individualisation of products. The Internet has changed marketing enormously; now there is as much budget used for on-line marketing as for off-line. Cross marketing platforms have become very important to be supported by companies. Printing will become also something more than traditional graphics printing, especially large format printing which will get more and more competition from digital signage. The industry needs to be creative to keep the printing involved with new kind of point-of-sale and point-of-purchase systems that combine both elements. ■

ESMA organise pavilions at major tradeshows to offer visitors a centre of competence and a wide variety of solutions.

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ESMA CHAIRMAN

2015 is a tremendous milestone for ESMA (European Specialist Manufacturers Association) celebrating 25 years of existence. Over these 25 years ESMA can look back proudly on its history and achievements. Starting with around ten founding members, ESMA is honoured to today have a membership more than six-fold its origin. This growth in membership reflects and simultaneously is a result of the progression the association has undergone since inception. The interplay of creating interest for the specialist printing market which in turn creates interest for members was probably the single greatest factor leading to the ESMA of today.

ESMA identified a need in the market to act as a conduit for best practice know-how transfer, particularly in the industrial market. The industrial market's use of printing (decoration, marking, functional enhancement) as an additional as opposed to core process is all the more in need of such know-how as complementary processes do not necessarily fall under the companies' spotlight and therefore educational program.

For example, a cosmetic brand will be an expert in fragrances maybe even the packaging itself but rarely in the process to decorate this packaging. An Optical Disc manufacturer (CD, DVD, BD) is well aware of laser technology, injection and metalisation of polycarbonate, but printing the image which informs the buyer which film they actually have in their hand is not always a core process. The list of industries utilising specialist printing is long and impressive: smart phones, speedometer assemblies, traffic signs, membrane switches, medicinal products, car windscreens, etc.

ESMA's members having both the expertise as well as the contact to these users have provided platforms to enable these "printers" to optimise their processes to best practice, i.e. GlassPrint, Advanced Functional and Industrial Printing, Ink Jet Conference, Printed Interior Decoration and Direct Container Print. With this educational offering targeted to companies where print is a process rather than a product, the membership has also expanded its scope. To ensure the suitable programme with the appropriate contents, input from consultants, universities, industrial printers (together known as ESMA technology partners) has been invaluable.

With a strong membership, a proud history, and a clear vision, ESMA is set to make print as a process more transparent, relevant, and professional within the global industrial world.

Jon Bultemeyer, Chairman of ESMA

Jon Bultemeyer – ESMA Chairman

ESMA CHAIRMAN-ELECT

In 2015 ESMA proudly celebrates 25 years of service to the printing industry. Founded as a non-profit association of screen printing machine and supplies manufacturers, ESMA has grown into a widely known and respected organisation representing not only screen, but also many other industrial printing processes such as pad and digital printing.

Oliver Kammann, ESMA Chairman-elect.

ESMA's primary goal is and always has been to provide excellent service, information, technology transfer and education not only to its members and their clients, but also to the industry in general. Through special committees, working on a range of issues such as technical standardisation, environmental and health and safety standards, the organisation has, for example, been a major influence on European legislation in the area of health and safety, working towards fair yet stringent regulations and standards for manufacturing of equipment and chemicals such as inks, silk screen mesh and solvents to the benefit of European manufacturers and of course, to clients and society using these products.

The unique nature of these different committees, staffed only by voluntary ESMA members' employees and harnessing their technical knowledge and organisational skills has also led to great advances in standardisation and best practices for screen and digital printing technologies and produced some of Europe's best known congresses and seminars on a wide range of industrial printing topics, such as GlassPrint, AFIP and The Inkjet Conference. In 2015, ESMA will expand this service to its members and the industry with a new conference on Direct Container Printing, a rapidly growing market segment within the packaging industry.

With a current membership of more than 60 European manufacturers and technology providers for screen and digital industrial printing applications, all leaders in their respective fields, ESMA is certain to deliver valuable content and information to the industrial printing community in the years to come, not only to European but also global audiences.

As the Chairman-elect for the next term, I feel very honoured and proud to continue the excellent work of my predecessors and I will endeavor, together with my fellow members, to drive the organisation forward so that ESMA may continue to provide excellence, leadership and professional services to the global industrial printing community.

Oliver Kammann, ESMA Chairman-elect

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UV CURING IN PRESSURE-SENSITIVE ADHESIVES

Gary McMaster observes how solvent-less solutions are shaping future graphics products

Ultraviolet (UV) curing offers many benefits compared to traditional solvent-based drying methods in a range of applications now including pressure-sensitive adhesives (PSAs). In this article I explore UV-curing technology from its origins in industrial coatings to how it improves today's adhesives, to the many possibilities it presents for the graphics industry going forward.

Today's high-performing pressure-sensitive adhesives (PSAs) have found many applications in the rapidly changing, fast-paced graphics industry. The good news for those with digital and screen-printing, mounting, laminating and cut-vinyl needs is that even better PSAs are already on the way.

With the potential to reduce production costs and improve product performance while having minimal environmental impact, ultraviolet (UV)-cured PSAs are coming soon to signs, wraps and murals near you.

MACtac, at the forefront of pressure-sensitive technologies for more than 50 years, shares how this little known process can benefit graphics products moving forward.

WHAT IS UV CURING?

UV curing uses ultraviolet light instead of heat or air to instantly cure adhesives, inks and coatings. Traditional solvent-based products, by comparison, take much longer to cure depending on the drying method.

Speed of production, better cure control and elimination of harmful emissions are all reasons the automotive, plastics, medical and electronics industries have already embraced UV-curing technology, first developed during the 1960s and refined in the decades since.

This process may also be referred to as UVA, UVB or UVC curing – the three types of radiation produced by a UV light source, classified by their wavelength. UVA equals the longest, UVB is intermediate and UVC is the shortest.

Globally, UV curing is a multi-billion dollar industry within the larger industrial coatings market and has seen steady growth in recent years as it becomes increasingly preferable to thermal drying processes due to the many logistical and eco-friendly advantages it offers.

THE SOLVENT-FREE SOLUTION

Solvent-based PSAs tend to contain acrylic polymers, polychloroprene, polyurethane, natural rubbers and/or styrene-butadiene rubbers (SBR). Bond strength is built as the solvent evaporates by heat- or air-drying, typically within minutes.

UV curing, conversely, takes only seconds or milliseconds to form a strong crosslink bond between polymer chains using a high intensity ultraviolet lamp. And, because there is no solvent to evaporate, there is virtually no loss of adhesive volume (material shrinkage) and no release of environmental pollutants (Volatile Organic Compounds or VOCs).

ADVANTAGES IN ADHESIVES

Line speed and productivity gains can be tremendous for UV-cured PSAs, cites RadTech International, the leading association for UV and electron beam (EB) curing, since most systems require less than a second of exposure. In many cases, higher volumes can mean manufacturing and shipping efficiencies for graphics producers looking to streamline operations and reduce costs. And, because UV-cured products are immediately ready for testing, quality control is improved, resulting in fewer rejected parts.

Unlike solvent-based systems, UV curing also provides total control of the cure temperature, making it the ideal method for coating heat or chemically sensitive substrates, or for any application where out-gassing must be prevented (as with some pharmaceutical labels or sealed plastics, for example).

And, because UV-cured adhesives do not dissolve, melt or otherwise weaken the two surfaces being joined, it is further possible to form a stronger bond between substrates than can be achieved with conventional curing methods.

Ultraviolet exposure is preferable for curing thicker adhesives, as well. When using solvents, the general rule is the thicker the coating, the longer the dry time. UV curing offers clear throughput advantages by comparison. For example, a 5mil solvent-based coating may run at line speeds of 20 feet per

The UV-cured adhesives allow for faster production, better cure control and less environmental impact in many printing applications.

UV light is used to instantly cures adhesives, inks and coatings – traditional heat or air drying methods can take much longer.

minute, whereas production may be increased as much as five times to 100 feet per minute using instantaneous UV curing instead.

An absence of VOCs also makes UV-cured PSAs the choice for graphics makers looking to bring more environmentally responsible products to market.

FROM SOLAR PANELS TO SIGNS

MACtac has developed UV-curable adhesives' systems for many years for applications ranging from silicone release liners to battery tester strips to roll labels. Recently the advantages of the solvent-less method have been realised in technical tapes, too, including solar bonding tapes for solar cell applications. Designed to withstand a range of environmental conditions where a high-performing bond is required, the tapes feature a special free-film adhesive, which, when UV cured, provides extreme heat resistance.

More recently, 100% solids' solutions (curing methods like UV and hot melt where no solvent or water is required) have found applicability in the graphics industry in screen-printing, UV offset printing, and laminates and mounting adhesives for signage and wide-format images. And, because out-gassing is not a concern, these methods can be preferable for producing non-PVC overlaminates, as well.

The UV method is preferable for curing chemically sensitive substrates, thicker adhesives and any adhesive where out-gassing would be a concern.

Moving forward, UV-cured PSAs can benefit many other graphics applications where a high-tack and high-peel adhesion and high-cohesive strength are essential for a faster, stronger bond to a variety of surfaces. Presently, the plasticisers used to improve the performance of vinyl products can cause some solvent-based adhesives to lose bonding strength – an adverse effect that could be remedied by UV-curing methods pending further testing and validation.

WHY NOW?

If you are wondering why UV curing is not more common in the graphics industry given the many benefits it provides, the answer lies in the substantial level of investment required by adhesives companies in infrastructure, human capital and knowledge. Today only a small number of manufacturers possesses the necessary equipment, technical mastery and formulating experience needed to offer solvent-less PSA solutions at commercially viable cost.

If you are seeking to distinguish your graphics products from competitors or are struggling with a difficult application, seek out these companies for expertly tailored UV-cured solutions that can give you an edge or the answer you've been looking for. ■

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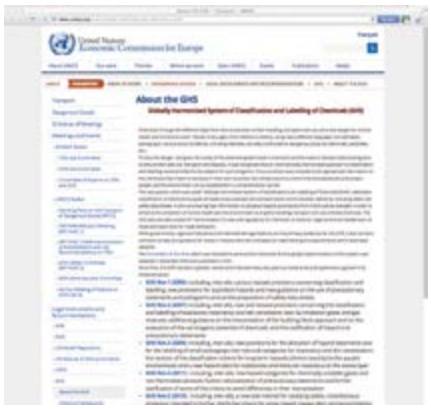
THE NEW CLASSIFICATION AND LABELLING DEADLINE IS FAST APPROACHING

Elaine Campling explains the ramifications of the new CLP regulation

Suppliers of mixtures, such as printing inks, now only have months to implement the new classification and labelling requirements of the CLP Regulation. The Classification, Labelling and Packaging of Substances and Mixtures (CLP) Regulation (1272/2008 (EC)) entered into force on the 20 January 2009 aligning EU legislation with the UN Globally Harmonised System for the Classification and Labelling of Chemicals (GHS).

GHS was developed because there were global differences in classification and hazard communication systems for chemicals in use and in transport. GHS therefore represents the goal of a single world-wide system for classification and hazard communication for the supply and use of chemicals.

The CLP Regulation repeals the Dangerous Substances Directive (DSD), 67/548/EEC and the Dangerous Preparations Directive (DPD), 1999/45/EC, which set out the classification and labelling rules for substances and mixtures respectively, prior to the introduction of CLP in Europe. The CLP regulation entered into force in Europe with transitionary measures. Suppliers of substances are now very familiar with the system, since they were required to comply with the requirements as early as December 2010. However, mixture manufacturers were given a longer transition period until 1 June 2015 to classify and label to the new system.



The United Nations website

A MODEL REGULATION

GHS does not have to be implemented by a particular region or country within any particular time frame. GHS is a model regulation that individual countries can adopt according to their own time frame and with their own transition periods. GHS implementation therefore varies globally, but many countries are in various stages of implementation, which can cause supply chain difficulties.

The United Nations website is a useful reference to check the global implementation status of GHS:

http://www.unece.org/trans/danger/publi/ghs/implementation_e.html

GHS was composed with 'building blocks', some or all of which can be adopted by individual countries or regions and this creates further supply chain issues. The building blocks are the hazard classes and hazard categories and, although in Europe, the CLP Regulation was developed to maintain the scope as close as possible to the requirements of the DSD and DPD, CLP includes some building blocks not featured previously and some notable differences in the criteria.

THREE ACUTE ORAL TOXICITY CATEGORIES

For example, under the DSD, there were three acute oral toxicity categories. There are five according to the GHS criteria, but the EU has adopted four of the categories (building blocks). Using the DSD, a substance with acute oral toxicity LD50 in the range 200-300 mg/kg would be classified as harmful, but toxic with the skull and crossbones pictogram, when classified to the CLP Regulation.

The CLP Regulation relies on 'expert judgement', which has been commended on the one hand, but criticised on the other. It allows for the possibility of classifying similar mixtures, using read across and application of 'bridging principles' – for example, dilution. Criticism comes from the possibility of different classifications for similar products from different suppliers, depending on the 'expert judgement' of the classifier, which is itself reliant on an evaluation of available data and information. All available information must be taken into consideration when classifying, which may pose 'judgment', information sourcing and data validity difficulties.

More than 20 pieces of European legislation are impacted by the CLP Regulation. These legislative instruments refer to hazard symbols, risk phrases and classification according to the criteria of the DSD and DPD and not pictograms, hazard statements and the new classification criteria of the CLP Regulation. This has necessitated revisions to the impacted legislation, such as the Seveso and Waste Directives and several pieces of Health and Safety at Work legislation such as the Safety Signs Directive.

EARLY IMPLEMENTATION DIFFICULTIES

Manufacturers of mixtures were permitted to implement CLP ahead of the 1 June 2015 deadline. However, early implementation was perceived as operationally difficult for many product suppliers. A good example of the reason for this relates to the supply of safety data sheets (SDS) that are generally legally required for hazardous mixtures. Hazardous substances must be identified in the SDS with hazard information such as classification. The overall classification of the mixture must also be provided. In the case of early implementation, this hazard information must be provided according to both the CLP Regulation and the DSD/DPD in SDSs. It is only required to be provided in accordance with the CLP Regulation from 1 June 2015.

Another reason for delaying implementation to nearer the deadline can be attributed to the appearance of more severely classified products, due to the differences between the classification systems of the DPD and the CLP Regulation. The acute oral toxicity example referred to earlier illustrates this and there are other examples, with lowering of concentration thresholds and more severe hazard pictograms, such as corrosive from irritant. In the case of two similar products, a competitor product may appear less severely classified and more attractive, where one is classified and labelled to the DPD and the other to CLP.

PICTOGRAM LABELLING AND PRINTING

An overriding difficulty for organisations relates to labelling and the pictograms themselves that are used visually to represent

hazard and which are bordered red. It was previously common for organisations to commission labels with several pre-printed orange boxes and overprint the required hazard symbols in black, leaving unused orange boxes empty. The ruling that empty pictograms are not permitted by the CLP Regulation has created unnecessary burden and operational difficulties for companies implementing CLP. Many organisations have reported difficulties in obtaining a colour printer to work with automatic filling and labelling lines and are therefore still reliant on label stock with pre-printed pictograms.

In the case of an automatic filling and labelling operation, where several product lines pass through the system with different classifications, requiring different pictograms to represent the hazard, the only legally permitted option is to obliterate completely (black out) unwanted pictograms. This results in messy, unattractive labels that companies are reluctant to supply on their highly valued products. Even if companies were willing to obliterate pictograms, several label changes would still be required due to the sheer variation in the hazard pictograms that are required in complex product ranges, such as printing inks. This remains a challenge for mixture manufacturers, many of whom will suffer operational difficulties and down-time, unless more robust print options become available in the remaining months leading up to the deadline for mixtures.

THE IMPACT OF DOWNSTREAM LEGISLATION

Just as many pieces of downstream legislation are impacted by the changed classification and labelling system, many internal company systems are also affected. For example, it is typical for an organisation with ISO certification to have several management systems procedures, work instructions and operational procedures that will refer to the DSD and DPD, which will need to be revised, along with company risk assessments and guidance. Anywhere a hazard label is currently displayed, or a risk phrase mentioned, will require revision or replacement with the new hazard pictograms and hazard statements.

Company safety data sheets will also need to be updated for supply to customers to reflect the new hazard communication system and this will be a big task for many organisations supplying several product lines. Software systems will need updating and in some cases, completely new software may be required, depending on the capabilities of current systems.

Although newly manufactured products will require CLP classification, labelling and safety data sheets to reflect this from 1 June 2015, there are transitional arrangements for mixtures that are already labelled and packaged and in the supply chain ('on the shelves') until 1 June 2017, permitting the continued supply of these products labelled to the DPD for two years, after which they must be re-labelled and new SDSs issued.

ESMA member companies are generally in the process of implementing CLP, although some have already moved to the new system. An information note on CLP has been produced by the ESMA HSEP Committee and is available on the ESMA website www.esma.com and also featured in an earlier issue of *Specialist Printing Worldwide* (Issue 3, 2013). ■

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

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THE ELIMINATION OF HARMFUL CHEMICALS IN PRINTED TEXTILES

Kobi Mann discusses why today's products must be safe for all end-users

Kobi Mann

Kornit Digital's Paradigm II digital add-on station complements screen-printing carousels and oval machines

Nothing touches human skin more than textiles. All day and night, our skin is in constant contact with fabrics – the clothes we wear, the bed linens we sleep on, the upholstery on the chairs and couches we sit on. When it comes to creating fabrics, aesthetics, comfort and durability have long been the major considerations.

However, in recent years, end-user health and safety issues have also come to the fore – starting with increasingly tough regulation of textiles used in babies' and children's apparel. Because babies so readily put anything into their mouths and their skin can be so sensitive, the focus on textiles used in their clothing was an obvious place to start. From there, attention and regulations soon spread to include textiles used in virtually any consumer application – apparel of all kinds, household linens, and interior design textiles.

In particular, when it comes to printed textiles, textile producers and apparel manufacturers need to be familiar with the relevant health and safety requirements, and understand how to ensure their products are compliant.

The dyes and chemical auxiliaries utilised in the printing of apparel and textiles require particularly close attention in the drive to keep products free of hazardous substances.

A CHALLENGE FOR THE ENTIRE SUPPLY CHAIN

The challenge is to ensure that harmful chemicals are eliminated from textile products in compliance with chemical restrictions around the world. By examining each stage of the supply chain, textile and clothing manufacturers can implement essential quality measures to safeguard their businesses. As they are also consumers, any efforts to improve the safety of their products will also ultimately help safeguard themselves and their families.

Ongoing globalisation of the textile industry has meant that knowledge about hazards in printed textiles has rapidly grown and spread around the world. With this, the East is quickly moving towards the West, resulting in the establishment of a solid qualification baseline for a 'healthy textile'.

THE ROLE OF COMPLIANCE ORGANISATIONS

In the past few years, several organisations and task forces have been established to control and monitor the use of hazardous materials in textiles. They focus on providing information related to the various regulations and laws around the world that restrict or prohibit specific chemicals and substances in finished home textiles and apparel. By establishing and publishing criteria relating to the use of various auxiliaries, these organisations effectively raise awareness of the many national regulations. Likewise, they often work to provide practical tools to help the environmental compliance professionals in textile, clothing and footwear companies to bring the entire supply chain into line.

These organisations often also provide laboratory services that test products for harmful substances, working against restricted substance lists and other criteria that have been incorporated into an industry-recognised standard.

The following are examples of such organisations, and some of the associated tools, policies and standards:

- The American Apparel & Footwear Association's (AAFA) Environmental Task Force – Published the Restricted Substances List (RSL)
- Global Organic Textile Standard International Working Group (GOTS) – Established the GOTS standard
- Oeko-Tex Association – Established the Okeo-Tex® 100 Standard

The Avalanche Hexa produces brilliant colour combinations for fashion, sport and promotional apparel

- United States Consumer Product Safety Commission – Enacted the Consumer Product Safety Improvement Act (CPSIA)
- SGS – Testing company that certifies products according to several recognized standards
- Intertek – Testing company that certifies products according to several recognized standards

Alongside compliance organisations, many of the textile and garment industry's largest manufacturers have also played an important role in driving the development of safety standards. As industry thought leaders, large companies enjoy a prominent place in consumers' perceptions and they wield effective influence with the organisations that write the various standards. The double-edged result of this is that large companies are driven by public pressure to embrace standards and certification while, at the same time, they work with compliance organisations in the definition of the standards.

For example, Nike provides SGS with industry feedback on proposed standards and certifications processes. When SGS was developing the standards for use of inks in textiles, it consulted with Nike, which was one of the first companies to embrace non-phthalate or non-PVC plastisol inks in its products.

THE GLOBAL STANDARDS MOVEMENT TREND

The EU and USA led the enactment and enforcement of regulations relating to environmental and consumer safety in textile manufacturing, and industry leaders across the textile industry have been actively implementing the regulations. As this played out, many companies located their manufacturing sites in Asia, where regulatory control has lagged behind the EU and USA. Doing so provided a convenient way to circumvent the increasingly strict regulatory environment in their home countries, and also enabled the manufacturers to leverage the advantages of relatively cheap labour pools. In addition to manufacturing in Asia, many major brands expanded their sales into Asian consumer markets, which likewise lacked the strict health and safety controls of their home markets.

However, that East-West division is now undergoing significant change. Parts of Asia have begun to catch up to the Western trend towards greater concern about health and safety. Under pressure from consumers to comply with standards accepted elsewhere around the world, some Asian countries have drafted or established their own consumer safety regulations for textiles and clothing. The new regulations require brands and retailers to become informed regarding the use and presence of various chemicals in finished textile products and take them into consideration when expanding their presence in Asian markets.

For example, in 2010-2012, South Korea, Taiwan and Egypt each introduced advanced requirements for imported clothing and footwear that retailers and brands must comply with in order to sell their products in those countries.

In 1973, Japanese Law 112 was introduced. This regulation restricted formaldehyde content in all household products, including textiles. It predated any other similar law affecting textile products in Asia by more than two decades. The first significant textile chemical regulation enacted in Asia since then was introduced by India in 1997. The Indian regulation banned certain azo dyes from textile and apparel products. It was followed in 2005 by China's GB18401-2003 regulation, which placed restrictions on azo dyes, formaldehyde, and pH value, and imposed varied colour-fastness tests designed to address chemical, dyestuff and wet processing safety.

The trend is clear – health and safety regulations are evolving in Asia and the reality of full market standardisation in Asia is only a matter of time. As Asia ramps up regulation and the draw-card of a loose regulatory environment steadily disappears, some global brands are already responding by moving manufacturing back in-house.

KEY CHEMICALS TO WATCH FOR

The following table highlights the most commonly restricted chemical families that are already regulated in certain countries and will likely be included in upcoming standards.

Restricted chemicals	China	Japan	South Korea	Taiwan	Vietnam
Azo dyes	X		X	X	X
Cadmium				X	
Flame retardants		X	X		
Formaldehyde	X	X	X	X	X
Lead			X	X	
Organotins		X	X	X	
Phthalates			X		

Fig. 1. Existing restrictions on chemical families in textiles, by country, in Asia.

Azo dyes – Azo dyes are commonly used as colorants in textiles and apparel. Depending on the condition of the enzyme and the basic chemical environment, some azo dyes can release harmful aromatic amines, some of which are banned carcinogens.

Formaldehyde – This volatile organic compound is sometimes used as an anti-creasing and anti-shrinking agent, generally for permanent press fabrics and clothing. Sometimes it is blended with phenol or urea to form a polymeric resin. Formaldehyde is a highly toxic chemical that is potentially carcinogenic and can irritate mucous membranes. The risk of formaldehyde failures has been shown to be particularly high in pigment-printed textiles.

Organotin compounds – Utilised in a wide range of industries, organotin compounds are primarily used as antifouling paints, catalytic agents, glass coatings, industrial biocides, pesticides, and plastic stabilizers. In the apparel and textile industries, tributyltin (TBT) and triphenyltin (TPhT) are the most commonly used compounds, and dibutyltin (DBT) DBT is used as stabiliser in many PVC applications and plastisol prints. Organotins are known environmental pollutants and are especially damaging to water-based environments. Even in very low concentrations, they are very toxic to marine and freshwater organisms, and consequently, seafood is the main origin of human exposure. DBT is a known immunotoxin.

Phthalates – Phthalates are used in many different ways in a wide range of products and industries, and can be found almost anywhere – including in footwear, textiles and even cosmetics. They are most often used as a plasticiser in PVC products, to increase their flexibility, transparency, durability and longevity, and are also commonly employed as detergents, fixatives, lubricants, and solvents. In the apparel and footwear fields, phthalates are very often found in plastisol prints and in PVC-based materials used for coats and jackets, shoe soles, and accessories such as belts and bags. Phthalates are easily released into the environment and exposure to phthalates may alter oestrogen levels in humans and animals, leading to health problems such as cancers and damage to

Continued over

reproductive and developmental systems.

Flame retardants – There are two classes of flame retardants involving halocarbons that are commonly regulated; these are brominated flame retardants and organophosphate-based flame retardants. Offering excellent stability and heat resistance, brominated flame retardants are widely used in automobiles, electronics, textiles and many other products. However, some brominated flame retardant compounds are as toxic as PCBs and DDT. They are possibly carcinogenic and, due to their high stability, may be harmful to wildlife. Once they enter the environment and food chain, they remain, and they may migrate up the food chain. Some organophosphate flame retardants are also suspected carcinogens.

Lead – Lead is sometimes utilised in the manufacture of dyes, paints, plastics, and metal accessories used in textiles and apparel. Recognized as a heavy metal, it is poisonous to humans and animals if ingested. Lead can damage the human central nervous system, immune system and kidneys and may cause brain disorders. Lead and its derivatives may also be carcinogenic.

Cadmium – This soft metal is naturally occurring and plentiful. It is used in a variety of industries, although its use is being phased out as a result of its known toxicity and suspected carcinogenicity. In textiles and apparel, cadmium is usually used in plastics, certain dyes (mostly red, orange, yellow and green), and metal accessories. Cadmium is also a well known stabiliser used in the manufacturing of PVC and other polymers. As cadmium is resistant to corrosion, it is often used as a coating agent.

TESTING OF PRINTED GARMENTS AND TEXTILES – AN EXAMPLE

In light of this increasingly regulated environment, which is dominant in Europe and North America and spreading rapidly in Asia, many companies in the textile and apparel supply chain are proactively working to ensure their products are free of restricted substances. For example, as a manufacturer of water-based pigment inks used in direct-to-garment and roll-to-roll digital printing for textiles, Kornit Digital has tested its inks for hundreds of substances, including those noted in the following list. This list details the substances that Kornit inks and textiles printed with Kornit inks have been tested for by third-party laboratories as part of various certification evaluation processes. In all cases, the substances were found not to exist or were found in concentrations or values well under the allowed limit.

- pH-Value
- Antimony (extraction) (Sb)
- Arsenic (extraction) (As)
- Lead (extraction) (Pb)
- Lead (total) (Pb)
- Cadmium (extraction) (Cd)
- Cadmium (total) (Cd)

Certifications give users of Kornit Digital's solutions assurance that printing on textiles and garments will not add hazardous substances

- Chromium (extraction) (Cr)
- Chromium VI (Cr-VI)
- Cobalt (extraction)(Co)
- Copper (extraction)(Cu)
- Nickel (extraction)(Ni)
- Nickel (release)(Ni)
- Mercury (extraction) (Hg)
- Σ Total content (Pb, Cd, Cr-VI, Hg) acc. to Packaging Directive
- Formaldehyde (HCHO)
- Σ Pesticides (incl. PCP, TetraCP)
- Pentachlorophenol (PCP)
- Σ Tetrachlorophenol (TetraCP) all isomers
- Σ Trichlorophenol (TriCP) all isomers
- o-Phenyl-Phenol (o-PP)
- TCMTB
- Arylamines, sources e.g. azo dyes, PU materials
- Carcinogenic Dyestuffs
- Allergenic Dyestuffs
- Σ Chlorinated Organic Carriers
- Biocide Finish (e.g. Triclosane)
- Flame Retardants
- Σ Phthalates
- Tin Organic Compounds
- Tributyltin (TBT)
- Dibutyltin (DBT)
- Monobutyltin (MBT)
- Triphenyltin (TPhT)
- Dioctyltin (DOT)
- Perfluorooctane Sulfonate (PFOS) and PFOS related substances Perfluorooctanoic Acid (PFOA) and its salts
- Σ Short Chained Chloro-paraffines (SCCP) C10-C13
- Σ Medium Chained Chloroparaffines (MCCP) C14-C17
- Σ Alkylphenols (AP) (incl. OP, NP)
- Σ Alkylphenolethoxylates (APEO) (incl. OPEO, NPEO)
- Σ Polychlorinated Biphenyls and Terphenyls (PCB, PCT)
- Σ Ozone Depleting Substances (ODS)
- Dimethylformamide (DMFa)
- Σ Polycyclic Aromatic Hydrocarbons (PAH)
- Benzo(a)pyrene (BaP)
- Odour unrelated (e.g. fish, meal, etc.)
- PVC
- Dimethylfumarate (DMFu)
- Bisphenol-A (BPA)

As part of and also as a result of the above tests, Kornit Digital reviewed and adapted its products according to international standards. Kornit inks currently fulfill the requirements of the Oeko-Tex Standard 100, Product class I ("Articles for babies") and have GOTS-V3.0 (Global Organic Textile Standard) approval. The Oeko-Tex Standard 100 Approval for Babies' and Children's Apparel ensures that Kornit Digital inks do not contain prohibited compounds such as alkylphenol ethoxylate (APE), formaldehyde, heavy metals, phthalates and CMRs (carcinogen, mutagens and reproductive toxins). The GOTS approval ensures that the inks are consumer friendly and eco-friendly, from development through production and distribution.

In addition, Kornit inks meet the standards defined by the Restricted Substances List (RSL) of, among other standards, the American Apparel and Footwear Association, and also meet the American Association of Textile Chemists and Colorists demands.

These certifications provide textile and apparel manufacturers that use Kornit Digital solutions with assurance that printing on their textiles and garments will not add hazardous substances to their textiles – thus helping them ensure their products are safe for consumers, and sellable everywhere. ■

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Industry mourns loss of Eric Melfi

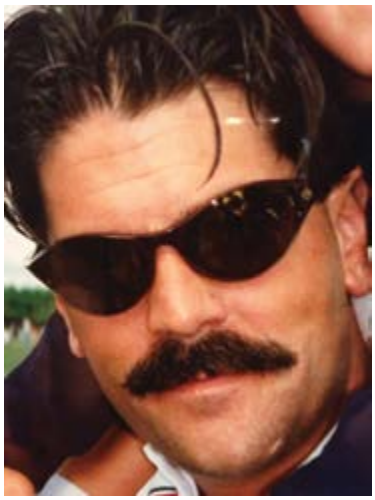
One of the textile industry's greatest warriors, Eric Melfi, has passed away at the young age of 54, following a courageous battle with pancreatic cancer. He began his career in the industry with Harlequin Nature Graphics in Fort Myers, Florida before moving from production to the manufacturing side of the business with Precision Screen Machines, where he travelled the world, installing and demonstrating printing equipment.

The next 20 years brought management positions with world class decorators including Starter, Screenworks USA and most recently, Hybrid Apparel. The pinnacle of Melfi's career was as the plant manager of Skips Cutting, Ephrata, Pennsylvania, and San Pedro Sula, Honduras. Skips was widely recognised at the time Melfi was at the helm, being the largest totally vertical, textile embellishing company in the Western hemisphere.

Bill Christensen, an industry colleague, co-worker, supplier and long-time friend of Melfi, who had the privilege of visiting with him in Columbus, Ohio, shortly before his passing comments: "Eric had the ability to manage hundreds of employees, hit production schedules, handle the pressures of major labels and maintain a sense of humour. Eric Melfi was a one in a million personality, larger than life itself and intimidated by nothing."

Those who knew him will miss him terribly. His quick wit and sense of humour were ever present! No one had the ability to use single syllable adjectives as creatively as Eric.

Melfi is survived by his wife Tona, daughter Erica Hasburgh, his parents, two sisters, brother, step-son, step-daughter and several grandchildren. ■



Eric Melfi was a popular industry personality

Nussbaum first to install Sun Chemical's Polare

Nussbaum, one of the leaders in the European monobloc packaging industry, has become the first company to install Polare, Sun Chemical's new dispensing solution. Launched earlier this year at Metpack 2014, this is a compact system designed to meet the requirement for this particularly demanding market.

Originally founded as an aluminium can manufacturer in 1963, Nussbaum has evolved into an independent Swiss group of companies specialising in high quality metal packaging for the global market. With more than 400 employees and four manufacturing sites located across Switzerland and Germany, the company focuses on the development, production and distribution of cans and tubes in a large variety of different shapes and sizes, featuring the finest lithography. Further establishing Nussbaum's position as a pioneering business is its dedication to advances in aluminium packaging, as well as its commitment to sustainability.

Striving for innovation, Nussbaum is constantly improving processes and introducing new technologies to its production environment. One area in which the can and tube manufacturer has recently invested particular attention is the optimisation for the preparation of spot inks for production.

"Aside from shape and size, the inks are the most visible component of a can. This means that, in order to obtain that visually striking balance to capture the customer's attention, the ink layer, colour shade and sharpness of print need to be perfect," explains Florian Nussbaum, CEO.

For Nussbaum, Polare represents the next step in making processes safer and more efficient than ever. Based on proven technology, the dispensing system is designed to meet exacting print requirements while streamlining the production of spot inks. With no stock wasted, and thanks to Polare's excellent ability to repeat processes, ink can be remixed identically in a matter of minutes.

Gordon Huettig CTO, Nussbaum (right) with Lukas Mettler, Marketing Director, Sun Chemical Switzerland

In 2011 Nussbaum installed Sun Chemical's Turnkey Solution, a web based colour management system as well as its colour QC software; the installation of Polare is the next step to optimise its production of metal decoration

Gordon Huettig, CTO at Nussbaum, has already noticed the advantages of incorporating the compact system into Nussbaum's production environment. "A machine this precise operating 24/7 is instrumental in the prevention of errors. But what I find most helpful is its ability to track batch numbers, which allows our production runs to be traced back to components from each job." ■

Screens held firmly in place with the new Vastex C-100

New from Vastex International is its C-100 screen coater rack that holds printing screens firmly in place for repeatable results. This saves time and improves consistency according Mark Vasilantone, the company's president.

Available in a wall-mounted or stand design, the rigid carbon steel rack allows fast clamping of screens in all popular sizes from 60 to 90cm long. Additionally, it requires no tools to adjust for height or screen size.

"The C-100 Screen Coater Rack is the affordable answer to the never-ending chore of coating screens," comments Vasilantone. "It frees up the operator's hands so screens can be coated evenly and consistently, without the worry of screens slipping or dropping."

The new C-100 screen coater rack from Vastex

The rack, which has a durable baked-on finish, comes standard with wall-mount hardware, and is available with an optional stand with or without wheels. It weighs 9kg or less, and is shippable via DHL, UPS or other common carrier.

Vastex is a leading producer of commercial- and industrial-grade manual screen printing presses, flash cure units, LED screen exposing units, screen drying cabinets, wash-out booths and complete screen-printing shop systems. ■

Online printing company switches workflow solutions to EFI

Stefan Ortmaier, managing director of Ortmaier Druck

Based in Frontenhausen, Germany, Ortmaier Druck has chosen EFI as its partner to implement an end-to-end work-flow solution to provide full control over its entire organisation at any point in time. The integrated solution will allow the company to monitor any job from the moment it enters the web-to-print portal to shipment and post-calculation.

The decision was made following the announcement that Hiflex MIS and web-to-print systems would no longer be supported. Ortmaier Druck has chosen in EFI a new partner which, with its similar MIS and web-to-print systems, offers a wider range of functions and promises long-term security.

With 170 employees, Ortmaier Druck is a traditional commercial offset printing company that has undergone exemplary diversification. It now uses sheetfed presses for commercial printing jobs, web offset for advertising inserts, high-quality digital presses for personalised mailings and small runs, and a five-colour screen-printing carousel for producing textiles and other advertising media. The company also runs an online web-to-print business at flyerpara.de.

"As a company, we are very diversified," explains managing director Stefan Ortmaier. "Hence we need production software that can control our entire operation, from estimating to job control and monitoring through to shipping and post-calculation. We can do this with EFI Pace, which we will implement first." The ability to integrate the interactive EFI PrintFlow planning board was especially important in the decision making. "Monitoring the entire production process right from the quotation phase, checking that all materials are available and thus being able to ascertain, monitor and log the cost and production time for a product, is an invaluable advantage given our wide range of products."

Equally important was the web-to-print solution, EFI Digital StoreFron (DSF). Using the browser-based storefront, customers can manage their orders or send print requests for their standard print products through Ortmaier's website. All communications are logged for the customer and Ortmaier to see.

"Perhaps the most important reason for partnering up with EFI was knowing that it offers the most comprehensive end-to-end business work-flow solutions in our industry, and, as the market leader, is at the forefront of development," reflects Ortmaier. "We need a partner that we can rely on in the long term, along with its products."

Ortmaier found that partner ten years ago at Drupa while looking for an imposition program to help make gang formes for large-format sheetfed offset more easily, more flexibly and faster than with Preps. This he found in the Metrix software, which he was the first in Germany to implement, and ever since he has considered imposition templates invaluable. "The news that EFI took over the Metrix Software company in 2013 made us confident that we will be able to continue using our Metrix formes in the future and that EFI will provide seamless integration into EFI Pace. It seems that with our choice of EFI, a lot is coming together, as we can add pieces of the fully automated system as we need them, knowing our investments are protected," concludes Ortmaier. ■

Affordable, high performing washout booth

Easiway Systems, manufacturer of the EasiSolv, PlastiSolv and VersaSolv line of environmentally approved chemicals for the screen-printing and the graphic arts industry, has added to its product line. The company has announced a new, affordable, ground shippable, washout booth, which ships without a crate charge.

"Easiway's E-3224 polypropylene washout booth is a game changer," claims the company's John Schluter. "This piece of equipment is an ideal example of low cost meeting high performance."

The E-3224 is manufactured using white, welded, corrosion resistant polypropylene which ensures a long life. The inside dimensions are 81.3cm wide (32 inches), 61cm deep (24 inches) deep and 96.5cm high (38 inches). This booth has an overall total height of 162.5cm (64 inches) including legs and accommodates manual screens as well as small, automatic frames.

Easy to assemble, the E-3224 comes professionally packed and boxed for inexpensive UPS or FedEx ground shipping. This washout booth does not require a crate, which provides an additional distinct cost advantage. All E-3224s come with a unique, polypropylene, free floating, screen rack designed to accommodate odd and standard screen frames. It also includes a 5.08cm (2 inches) female centre location drain for easy plumbing installation. ■

Easiway's new polypropylene washout booth

New community members accelerate UV LED technology adoption

The UV LED Curing Community has announced that 20 companies from around the world have joined the initiative. These new members include suppliers of materials, resins, photo-initiators, adhesives, inks, coatings, equipment, measurement, and end-systems. All have the common goal of accelerating UV LED curing technology adoption through education and knowledge sharing. The community website at www.uvledcommunity.org is an educational forum that enables market participants to share their knowledge of UV LED curing technologies, applications and chemistry, to distribute news and exchange information. There are two primary goals which are to provide a forum for UV LED curing conversations and to foster communication between suppliers and consumers of UV LED solutions.

"We are very pleased, but not surprised, by the growth of the web site," says site editor Paul Mills. "To a large extent the trajectory of the site mirrors the excitement and success of UV LEDs in the marketplace. We are happy to see the high quality of members that are joining us, including members that have a strong reputation in UV curing in general. It signals that LED curing has gained recognition as a technology. To date we have posted more than 125 industry articles on LED curing, and we are looking forward to our members contributing to the unique content of the UV LED Community by providing news, technical articles, and in joining the active discussion about UV LED applications."

The Community is free to join with a simple agreement to post two articles in a twelve month span and provide a landing page on their corporate website. Please contact us at info@uvledcommunity.org. ■

Sign-Tronic adds Douthitt as distribution partner

Sign-Tronic has announced a new distribution partnership with Douthitt Corporation of Detroit, Michigan, and a manufacturer for more than 95 years. The two companies now offer world-leading screen imaging technology for industrial, graphic, and textile applications from a trusted resource in North America.

For more than three decades, the Sign-Tronic brand has stood for high-tech equipment in the graphic arts industry. The company, based in Widnau in Switzerland, began its success story in 2003 and focused itself on the development and manufacturing of the StencilMaster computer-to-screen systems. From day one, these systems were intended to rule pre-press departments around the globe by offering real direct, digital and full automatic screen exposing. Over the years StencilMaster systems have become the unrivalled benchmark in this technology and SignTronic continues to develop its equipment line further, now offering various sizes, resolutions and loading concepts.

Sign-Tronic states it is now proud to announce the new distribution partnership with Douthitt Corporation as it is well-known as a trustful partner for screen exposing equipment all over the continent. “Starting at the end of 2014, this partnership offers customers a more direct and local access to information and knowledge about what we call the digital screen making process,” says Michael Ose, Technical Sales Manager at Sign-Tronic AG and responsible for the USA and Canada.

“The distribution of StencilMaster exposing systems completes our extensive line of exposing technology,” adds John Diehl of Douthitt Corporation. “We now offer products for all customers from basic to high-end equipment for screen-making. Customers will get the best suited, most efficient exposing solution for their specific requirements; all from one source.”

StencilMaster computer-to-screen systems are also available as fully integrated in-line solutions in co-operation with Grünig, and are locally serviced from CTP Engineering. CTP Engineering has been involved in direct exposing technology from the early years all over the USA and Canada. ■

SignTronic’s inline STM-TEX digital screen making solution

See pages 18–20

The Gallus DCS 340 digital label printing machine

Gallus invests in the future by strengthening its digital printing team

Gallus's positive view of the future includes its DCS 340 digital label printing machine introduced recently at the Gallus Innovation Days and a proposed market launch at Labelexpo 2015. As a result, the company management has decided comprehensively to reinforce the team responsible for this digital converting system and is recruiting more specialist and management staff with expertise in digital printing.

The management team at Gallus is aware that there is much more to market success than an outstanding printing press system. The Swiss company is showing how seriously it is taking its entry into the digital printing technology segment by looking to recruit new marketing, sales and service staff. With Gallus and Heidelberg developing a fully functional digital printing machine system in a joint project in the space of just twelve months, this is now to be continued with the same intensity.

"The digital world moves much faster than the conventional one," explains Stefan Heiniger, COO of the Labels division at Gallus. "To ensure that we live up to our goal of 'success and security for the label printer' in digital label printing, too, we are going to boost both our staff and our expertise in this area,".

Additional staff are being sought for building up sales and service for the digital label printing machine in particular. The company is looking to build up a pool of experts with wide-ranging prepress know-how in systems and application support, for example. This underlines the special position that digital printing enjoys in the Gallus product portfolio as a whole.

"Besides needing a first-class product, the success of a mechanical engineering company greatly depends on the competence shown in sales and service when dealing with customers," says Heiniger. "Outstanding customer service is incredibly important – particularly for a technology that changes as rapidly as high resolution ink-jet printing. We will ensure that our customers can operate the Gallus DCS 340 really profitably and can open up new business potential using this digital printing press system."

Gallus already maintains a virtually global service network for conventional label printing. A joint service network for digital printing is also being built up with Heidelberger Druckmachinen AG. "Thanks to our outstanding link-up with Heidelberg, the comprehensive, high-performance service our customers expect from us will already be in place in time for the market launch in September 2015," comments Christof Naier, Head of Sales and Marketing at Gallus. ■

Inkcups Now introduces new systems to its product line

Two new additions have been made to the Inkcups Now portfolio of products, with the first claiming to be the world's first UV LED ink-jet machine designed for both short-run and long-run industrial printing and the second being a duo of laser plate-makers designated the Cobalt 2000 and Cobalt 3000.

The XJET UV LED printer combines high-quality graphics with the high-production capabilities of inline inkjet systems. Its speed enables it to print an entire 500 x 600mm print area in 90 seconds at a cost of only $0.0015 per square inch. This machine offers variable quality settings up to 1200 x 1200 pi and is now capable of printing multiple artworks in one cycle.

The XJET features six print-heads (CMYKWW), dual LED-curing lamps and uni-directional or bi-directional printing. The staggered white print head enables simultaneous white and colour printing in one pass. The XJET has variable dot settings for extremely high print resolution, resulting in smooth gradations without banding. A two litre bulk ink system for each colour is another standard feature of this machine.

Able to accommodate parts up to 14.6cm (5.75 inches) in height, the XJET can print on flat or slightly curved/uneven surfaces and is equipped with a conveyor and a programmable servo-controlled load station (patent pending). It can utilise quick-change low-cost templates and fixtures that can be loaded onto the belt and either travel through the machine or return to the operator.

The second new introductions are the Cobalt 2000 and Cobalt 3000 intended to be affordable laser plate-makers for pad printing and have been designed in-house by Inkcups Now for etching high-quality pad printing plates. The Cobalt 2000 utilises Inkcups Now's WFC technology (patent pending) and is stated by the company to be the most affordable laser engraver on the market. The Cobalt 3000 can handle a wide variety of images including fine-line and bold, offering complete control over etch depth and laser dot size. The Cobalt 2000 and 3000 lasers are both simple to use with image type-setting pre-loaded into the laser software.

Inkcups Now states that laser plate-making offers enhanced print quality over chemical etching. This is because there is no loss of resolution due to film, plates are 100% repeatable without hurdles, and there is better ink laydown due to straight-walled etching and enhanced inkwell profiles. ■

The new XJET UV LED printer from Inkcups Now

Esko announces leadership transition

Esko has announced that Udo Panenka, formerly Senior Vice President for Global Sales & Marketing, succeeded Carsten Knudsen as President at the start of 2015. In the near future Knudsen will continue to support Esko and Danaher in an advisory role.

"Under Carsten's leadership, Esko has built a loyal and growing customer group, created world class technology, and with a strong team, driven excellent growth and established itself as a leader in its served markets," comments Joakim Weidemanis, Vice President and Group Executive for the Product Identification Platform, Danaher Corporation.

Udo Panenka joined Esko from Kollmorgen, another Danaher business, earlier this year, where he was Vice President & General Manager for Industrial Automation in Europe and India. Panenka joined Kollmorgen in 2008 and has served in several key leadership roles with increasing responsibility.

"We want to thank Carsten for his leadership and tremendous impact on the success of Esko," adds Weidemanis. ■

Rocket Graphics shoots for the stars with third Mimaki

Following a positive year of growth and new staff in place to take the business forward in 2015, long-standing Mimaki customer Rocket Graphics has added a third JV33-160 to its extensive print capacity as it gears up for further expansion.

The Mimaki JV33-160

Based in Watford, Rocket Graphics produces an extensive range of wide-format digital production of branding and signage for events, exhibitions and retail. Rocket's team has a fluid and flexible approach to how it operates and embraces the challenges of working with diverse customers, both at home and abroad.

It was the acquisition of a high profile print contract in the USA that prompted Rocket's investment in a third Mimaki JV33; "We added a third Mimaki to our portfolio in order for us to complete a large job in America, whereupon we printed graphics for a very large sector of the exhibition," explains Production Director, Phil Eames. "We sent a team of installers out there to ensure a smooth transition from production to display and we even shipped one of our Mimaki JV33's along too in case there were any last-minute changes to be made. We like to go the extra mile for our customers, and the Mimaki certainly went the extra mile with us."

Mimaki reseller Granthams Graphic Technology supplied and installed the JV33 at Rocket Graphics, providing support in shipping the printer to the USA and back as part of the campaign. General manager, Kirsty Reader states: "We have supplied Rocket Graphics with several Mimaki printers and have been their consumables partner for some time, so it's natural to want to assist them wherever we can. They have great vision and are attracting some big contracts and we wanted to share our knowledge and expertise of the printing industry – and Mimaki printers more specifically, to help them get the best out of their business." ■

EFI meets demands of the ceramic tile industry in India

Since 2010, EFI says it has installed more than 100 Cretaprint ceramic tile printing systems. This rapid success is the result of providing innovative technology that meets the demands of the Indian market for high performance and application creativity.

Kajaria, India's largest ceramic tile producer has provided proof of this by choosing the EFI Fiery proServer to upgrade and enhance workflow performance and colour control. This gives all Cretaprint systems the industry's first complete colour management system for ceramic tile printing. It ensures accurate and consistent colour quality while lowering ink consumption. The Fiery also allows automatic creation of a special effect channel for digital decoration as well as automatic white ink-channel generation for dark coloured glazes.

At the recent 2015 Indian Ceramics show, EFI demonstrated the newest version of the Fiery proServer as well as the new Cretaprint C4 digital ink-jet printer. With a width up to 745mm, the competitively priced new C4 engine offers a more compact footprint and is 30% lighter. A new user interface and advanced nozzle plate cleaning system are among its additional features. The easy-to-use product lowers maintenance costs and energy consumption.

EFI also showcased its new ceramic inks which provide intense colour within a wider colour gamut. Colours include dark blue, reddish brown, yellow, golden yellow, beige, pink and black. Special effect inks include sinking ink, extra white, matte glaze, glossy glaze and lustre.

Other advancements from EFI now include a new ink system designed to produce the highest accuracy under any printing conditions and new electronics for greater ■

Sawgrass introduces the first fully integrated HD product decorating solution

Announced by Sawgrass Technologies is a long-term, private-label OEM purchase agreement with Ricoh Company to bring the first fully integrated high-definition product decorating system to markets world-wide. Sawgrass's new Virtuoso HD Product Decorating System is designed specifically for the digital decorator looking for a smaller footprint without sacrificing productivity, efficiency or quality. This complete system delivers improved yield performance, faster speeds, higher print resolution and an increased gamut that makes it easier to hit tricky reds and blues.

"Our collaboration with Ricoh has launched Sawgrass into a new era," states Darcy Mauro, Sawgrass Technologies Consumer Division President. "For more than 20 years, Sawgrass has sold after-market, patented digital sublimation ink for use in desk-top printers. Now, we will deliver purpose-built printers under the Sawgrass label that will produce even better finished products. Our new private-label solution offers our customers a stable and predictable road map of future product development, which we are proud to provide."

The new Virtuoso HD Product Decorating System from Sawgrass

The Virtuoso HD Product Decorating System includes a purpose-designed printer with innovative and environmentally friendly water-based inks. The newly formulated ink is now even brighter and works intimately with the printer using specially designed cartridges. An enhanced PowerDriver colour management application and the new CreativeStudio online design solution will also be bundled with the system at no additional cost. Together, these components will help decorators create and print beautiful designs quicker and more easily than ever before.

"We are very excited to be working closely with Ricoh's engineers to leverage their proprietary print head technology and bring a complete HD product decorating system to market," continues Mauro. "Virtuoso brings together Ricoh's successful desktop line of GelJet printers, Sawgrass's newly formulated SubliJet-HD ink, advanced colour management and online design/production solutions, and vast offering of sales, support and marketing resources. This collaboration, along with the support of our global network of distributors, will empower businesses to create and grow like never before."

Although Sawgrass intends to grow its Virtuoso brand in the coming years, this first solution will focus on the sublimation market. The new Virtuoso SG 400 A4 (8.5 x 14 inches) and SG 800 A3+ (13 x 19 inches) printers will be sold through the company's global distribution network. ■

PEN PRINTING MOVES INTO A DIGITAL FUTURE

High quality and imaginative results can now be printed on the round

According to Machines Dubuit, one phrase that won't be heard again in the future is "not gonna happen", and this is because a claimed 'world first' is now being released onto the market. German-based specialist Senator has found a way to use the increasingly popular technology of using digital printing direct onto pens. As a result, it is now possible to include instantly multi-coloured motifs, photorealistic product pictures and highly detailed designs in a round-transfer printing process.

Digital printing is continuing to gain in significance – it has already proven to be an efficient, very convincing process across several domains. The benefits are clear and include modern corporate logos and branding. These can be enhanced with additional effects, such as colours or shading, thereby achieving a 'life-like' quality which is often every bit as realistic as photographs. However, the printing methods now proving themselves to be effective on pens have never before been capable of reproducing such complex designs.

Senator has now overcome the limitations for the first time with its completely new 360 degree digital printing method. It is now possible to perform the process on items with as small a diameter as pens. All the usual benefits apply including a great variety of colours, brilliance and a highly detailed, photorealistic print, with all these advantages achievable at an extremely attractive price. The three-dimensional appearance of the prints is enhanced with the use of high-gloss lacquer, generating a very realistic print and the result is a totally novel and intelligent development of firmly future-orientated technology.

An example of a pen printed by Senator using a UV-curable digital printing machine produced by Machines Dubuit and Encres Dubuit

Machines Dubuit manufactures specialist digital printing systems for a variety of application types

NEW OPPORTUNITIES FOR PROMOTIONAL PRODUCTS

Potential users are those seeking new opportunities for making their printed promotional products stand out, and Senator's web site features its wide selection of pens with digital production carried out using Machines Dubuit's UV-curable technology. Multi-coloured motifs and highly detailed designs can now be printed quickly and easily on pens, saving costs and making them stand out as an all-round impressive advertising experience.

As a leading supplier of individualised and personalised advertising, Senator's techniques can be applied to a range of products including top-quality writing implements, drinks' containers, pencil cases and accessories. Production and processing takes place at the company's head office premises in Groß-Bieberau, Germany. With subsidiaries in the UK, France, Benelux, China and India, there are agents in Russia plus exclusive partnerships leading to product availability in around 100 countries. Founded in 1920, the company belongs to the Merz Group, the head office of which is located in Frankfurt am Main. ■

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SPREADING THE WORD AND INVESTING WISELY

Social media savvy screen-printer grows 30% each year

Since its founding in 2007, Four Ambition has grown an average of 30% annually. Last year, company president Shannon Thomas quit his full-time job as a shipping-bindery manager at an offset printing house to devote his complete attention to Four Ambition. "It was always my ambition to own my own company and help others build their businesses with promotional products to help get them to the next level," says Thomas. Starting the business on a part-time basis, he worked every day at Four Ambition from 5 pm to midnight and on weekends. Today, the company employs three full-timers and is hiring two more as it expands.

Thomas is heavily focused on the youth market, but is also gaining ground in the corporate world. Four Ambition screen-prints quality T-shirts, other apparel and promotional items inspired by good design, humour, positivism and marketing through the Internet and social media sites. He attributes his understanding of design and customer needs to his five years of experience at the offset printer, but he began early preparing for a career in the printing industry.

"In high school they had a tech program where I learned to design and screen-print. When I completed that programme I got a scholarship to Sinclair College in Dayton where I took all of the printing and screen-printing classes available, and was one of the last to get a degree in Print Technology."

SPREADING THE WORD ELECTRONICALLY

"Social media has helped our business a tonne. Most of our business comes from word-of-mouth. But the best is when a customer tells everybody on Facebook or Twitter that they picked up a great job from us and they tag us on their post and their friends see it," Thomas continues. "When we do a job, we try to post a photo on our social media, tagging our customer and sending more business their way and spreading their name as well. That helps promote our clients. We are planning on developing social media contests and offering our merchandise or free printing as prizes."

Four Ambition has a sophisticated web presence, but is planning an even more ambitious site. "As one feature, people will no longer have to e-mail their orders. They can just go on-line, fill out a form with their design and product options, and upload their artwork to our site," explains Thomas. "Once we have the order information we need, such as sizes, quantities and colours, we can send a quote, get a go-ahead, print the job and deliver. We handle the check-out process by contacting each customer, because we don't want to become so automated that we lose personal contact with our customers."

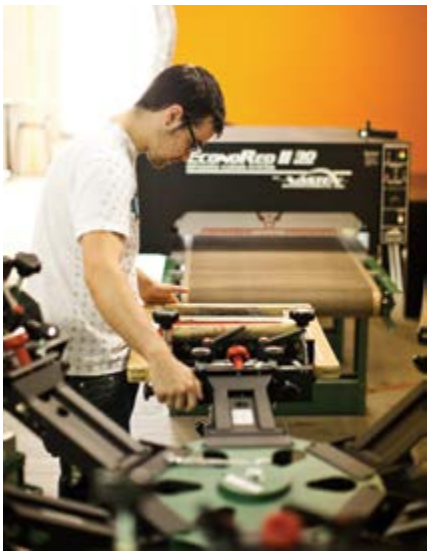
QUEST FOR QUALITY PRINTING

"From early on I've always researched the equipment market looking for the best quality image," states Thomas and, in 2009, Four Ambition bought a used Vastex D66, six-colour, six-station press. "It's an older model, but does everything from oversize printing to four-colour process. We've used it for up to 2,000 quantity runs, even for poster printing. In moving, I've taken it apart and put it back together several times. It goes together nicely. I love all the different micro and head adjustments. They really come in handy when dealing with warped screens."

When Four Ambition began to have problems with a small, older flash cure unit in 2010, it ordered a new Redflash 46 x 61cm model with adjustable heat control. "We needed a new unit that could flash cure oversize prints. It increased productivity as well as giving us more even, full-flash cures which meant a better quality finished product," comments Thomas.

Registration accuracy holds throughout the print run, eliminating the need for re-adjustments

The 76cm infrared conveyor drier allows Four Ambition to tackle oversize printing at faster production rates



Owner Shannon Thomas makes fine print-head adjustments on his one-colour, one-station press

This 46 x 61cm flash drier with adjustable heat control cures oversize prints producing a higher quality finished product

Four Ambition's new six-colour six-station press helps expand business

GOING FOR LARGER JOBS

By early 2011, business was growing and Four Ambition wanted to tackle more oversized printing at faster production rates. It started by purchasing an EconoRed II 76 cm infrared conveyor drier. "We were using a small 46cm wide belt drier and planned to buy a new all-over press to do more oversize printing and would need a wider drier," Thomas says. "The new drier arrived with advanced features like digital temperature control, power exhaust and air recirculation. It heats up quickly; the belt and heat controls are precise. On it we dry everything from plastisol printing, koozies, water-based, discharge and heat transfer printing. The long belt allows for more cooling time which prevents prints from sticking together."

Soon after installing the drier, Thomas ordered a new V-2000HD one-colour, one station press with an all-over pallet. "It's great if you need to do posters, signs, or set up a one-colour sleeve printing station. It has double shocks so it can handle the weight of 107 x 122cm screens. Not many shops have this press, nor the capability of doing all-over. We can also add a pallet and print like we would on any other one-colour press."

LOOKING FORWARD TO CONTINUED SUCCESS

This year, to keep pace with expanding business, Four Ambition added a V2000HD-66 six-colour, six-station press. Thomas now performs basic work on the new press, and shifts other work, such as sleeves, koozies and oversize jobs to the older six-station press. He can readily switch pallets from one press to another.

This new press increases productivity and quality. "The pallets slide off and on and adjust easily. Because registration is perfect every time, we don't spend time readjusting, so we can increase production. Each print-head holds its accuracy, not moving during the run and during the off-contact time.

"No matter how bad the economy has been, we are cranking out work and have grown steadily, increasing our sales by 30 percent every year, with some recent months breaking that record," concludes Thomas. "We add several new clients every month. Some may only order once a year, but they may tell five friends. We're doing outstanding work, getting good word-of-mouth advertising and spreading awareness even more on social media." ■

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WHITE MAGIC AND IMAGINATION

Toner technology helps printing company diversify into new markets

It's not often that something as straightforward as a printer changes the course of a business. But an OKI device has certainly opened up new horizons for Surrey-based Surefire Print and Design. Although the company remains a popular one-stop shop for local businesses needing anything from business cards to banners, thanks to the OKI C711WT, it now also lists film crews, fashion models and motor-racing companies among its clientele.

There are many reasons for this new direction – the skills and experience of the team for one. But on the technical side, it is all down to one main factor – the ability of the device to print with white toner.

Surefire's founder and managing director Simon Garrett is certain of the impact of this advance. "We have made the decision to stay small, but for any company aiming to expand, I think this printer could help increase turnover by at least 20%," he says.

IT STARTED WITH A MUG

Garrett founded Surefire in 2008. He had just sold a large, high turnover print shop as the recession began to bite. Reluctant to waste his many years of print experience, he set up the new venture with the idea of keeping it small. Instead of focusing on growth it would concentrate on the quality of its work and on providing the best possible customer service.

The business began by focusing on wide-format printing of posters, banners and other applications. Then, a few years ago, one of Surefire's customers asked if they could produce printed mugs and iPhone cases. "We went down the dye sublimation route originally – and we still do a lot of this," explains Garrett. "However, we then began to consider mugs with a matt finish."

The OKI C711WT includes white toner in the CMY colour process

He saw an advertisement in a printing magazine for OKI specialist partner, TheMagicTouch, experts in image transfer paper and applications. The team there suggested the OKI C711WT which is an LED printer that, for the first time, includes white toner in the CMY colour process. This enables the decoration of dark coloured substrates such as mugs and other products including diaries and phone covers.

GENERATING MORE IDEAS

However, the C711WT was about to do far more than just print mugs. "In fact we don't do them at all now," explains Garrett. "Somehow it sparked off far more ideas and we realised we could print and bond onto almost anything using the transfer paper supplied by TheMagicTouch and the OKI printer.

"Everybody does T-shirts," he continues. "But we've been more ambitious. We've particularly worked hard on perfecting our work on leather. We've found a way to get the print to sink into the leather and this has meant printing not just on iPhone and iPad cases and bags but also on leather jackets."

In fact, Surefire's customised leather jackets have become legendary. Customers approach them to print one-off jackets to see what the design looks like, before they go into mass production, using screen-printing. Or, sometimes, it's a single jacket for a TV programme or fashion shoot.

"Most people assume that you can only print on flat items," Garrett continues. "But if you know what you are doing, you can print on virtually anything. In my opinion, the OKI printer gives you that freedom – and it's enabling us to differentiate ourselves as a business. I've been in the industry for 30 years and in my opinion there isn't another machine on the market that would do what we wanted it to in this way."

Garrett stresses that the printed jackets are not a huge part of Surefire's overall business as they are usually single orders. "But they get our name out there and this enables us to offer other things that traditional printers would never consider," he says.

DIVERSIFICATION IS ESSENTIAL

He believes very strongly that these days, printers need to diversify in this way to compensate for changes in the industry due to the increasing use of electronic marketing materials and communications. "Printers such as the C711WT offer a tremendous opportunity. At the moment, there are no plans to expand Surefire, but if we did need to do so, this would be the way forward."

He adds that, in his view, printing companies that wish to achieve similar success need to do two things. The first is to put the work in up-front to get new methods right. "You might need to waste product at first, but if you are breaking new ground this is inevitable. Once you have cracked it, every job should come out right first time. But you have to be prepared to take a risk."

The second is for businesses to have their own ideas. Of course, Garrett is not going to give away how Surefire achieves what it does, but he believes that with the OKI printer and the help of TheMagicTouch it has the potential to innovate in a parallel way.

"It's a case of using your imagination," Garrett concludes. "And then you can do almost anything." ■

Surefire says its customised leather jackets have become legendary

One-off jackets can be printed before they go into mass production using the screen process

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COMBINING QUALITY WITH ECOLOGICAL AND ECONOMICAL INTERESTS

Sustainable creativity is achieved with a blend of Swiss business philosophies

Two Swiss companies from different regions have teamed up to realise sustainable textile printing. ErgoSoft sits on the tranquil shore of Lake Konstanz while Mitloedi Textildruck enjoys a panorama of the Swiss landscape from high up in the Alps. Perhaps it's these impressive natural surroundings which inspired the economical and sustainable business philosophies of Mitloedi Textildruck and ErgoSoft.

The fact is that environmentally friendly developments have been accepted as the international standard and are becoming increasingly central to the textile industry. With this example these two Swiss companies are demonstrating that digital textile printing and sustainable methods fit together well – unusual, speciality textiles, brilliant colours and high-quality printing blend to create a beautiful, durable, sustainable product.

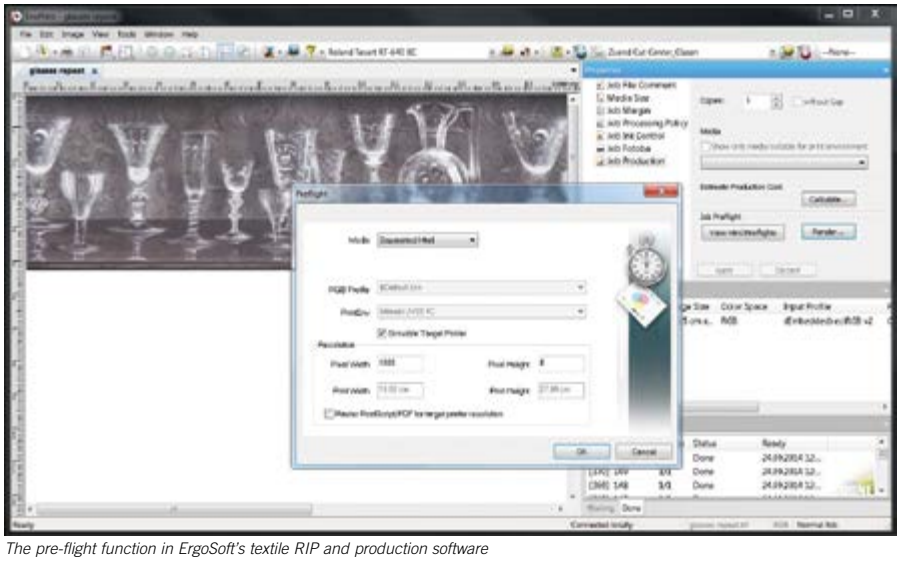
Mitloedi Textildruck is situated high up in the Swiss Alps

The RIP and software used in production have a decisive impact on the quality and appearance of the finished product, particularly in the preparation and processing of print data. "If a manufacturing company prioritises high-quality and colour accurate production, and, either out of ecological or financial interests, wants to control and reduce production costs, ink and material usage, the field of compatible RIPs is narrowed down to those offered by ErgoSoft," explains Hans Blesi, CEO of Mitloedi Textildruck AG. "Consequently, we chose the ErgoSoft RIP when we launched our textile printing business, and it's clearly been the right decision."

NO CREATIVE LIMITATIONS

With this set-up the Mitloedi team is able to take on unique challenges, create prototypes, and bring exclusive projects to fruition. Customers can choose from a practically unlimited array of textiles and colours and, using their own technical expertise together with the support of ErgoSoft software, Mitloedi produces high-quality, high-value end products. Mitloedi's day-to-day business operation demonstrates that first-class products can be designed and produced using sophisticated work-flows, without having to set any creative limits for designers.

But print quality is not Mitloedi's only priority. Ecological and economical interests have caused the company to implement a number of ErgoSoft's features for saving material and ink by reducing scrap and wastage. Colour management tools allow Mitloedi to control the amount of ink being used, reducing it to the necessary minimum to avoid waste while still giving the best colour results. The waste-reducing pre-flight feature within the ErgoSoft RIP enables either a digital preview or printed proof to ensure accurate print results. To further reduce production losses, the RIP has a special colour control function which ensures consistent colour reproduction, allowing Mitloedi to reproduce colours accurately and on the first try, decreasing sample prints and boosting customer satisfaction. Production costs can be determined using calculators which tally ink and media use and which, over a period of time, will show the bottom-line savings resulting from efficient production.



The pre-flight function in ErgoSoft's textile RIP and production software

Textile production under-way at Mitloedi

"But all of our features which support and promote high-quality, sustainable digital printing would have little positive environmental impact if it is not a priority, like it is for Mitloedi," says Hans Peter Tobler, founder and owner of ErgoSoft. "It's great for me to see that the RIP is being used purposefully and to its full potential – to reduce ink and material waste while creating great digital prints." ■

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RECORD-BREAKING ATTENDANCE AT CHINA EXHIBITION

2014 event sees increase of 32% in visitor levels

Organisers say that FESPA China 2014, which took place from 19 to 21 November 2014 at the Guangzhou Pazhou Poly World Trade Centre, Guangzhou, China, attracted 11,667 individual visitors, making it the best-attended FESPA China and CSGIA event to date. This represents an increase of 32% compared to the last CSGIA event held in Guangzhou in 2012 and a 23% increase on the first FESPA China exhibition which took place in 2013 in Shanghai.

During the three days attendance reached 15,166, with visitors returning to the event across multiple days to see a wide range of international manufacturers and local suppliers showcasing technology and applications for screen, digital and textile print. With more than 500 exhibitors, this year's event was 30% larger than the 2013 edition, providing more screen and digital wide format solutions than ever.

MOST INTERNATIONAL EVENT TO DATE

This year's event was also the most international FESPA China & CSGIA event to date, with visitors travelling from 91 countries, compared to 62 countries for the 2012 event and 76 countries for the 2013 event.

"It is great to see such growing interest in the FESPA China event and we're thrilled to have expanded the event and its audience to make it the biggest FESPA China and CSGIA event to date. Feedback from exhibitors was that they met with more overseas visitors than previous years, and that the decision-making calibre of visitors was high," comments Nigel Steffens, Board Advisor, FESPA. "With every FESPA event we build on past shows to ensure that we meet the requirements of today's printers. With the number of visitors in attendance in Guangzhou, it's clear to see that Asian printers value FESPA events as an environment to see technological developments and access educational content that will support their business growth."

Charlie Taublieb at FESPA China 2014

The event's educational conference was heavily attended

A busy aisle at FESPA China 2014

A PROVEN SUCCESS

Rosaria Pozzoni, Business Operation Manager, J-Teck3 srl adds: "FESPA China 2014 was a very successful show for J-Teck3. China is a major market for us, we have a distribution centre in Shanghai as well as a sales office and warehouse. We collected over a hundred leads during the show. The majority of visitors to our stand were Chinese; however, there were also visitors from Thailand, Indonesia, Bangladesh, Pakistan and Egypt."

"FESPA China 2014 was a very successful show," states William Barker, Sales Manager at Watts Urethane Products. "FESPA has begun to make an impact on the appearance and way the show is run, which is great. This is the key yearly show for us and I met with distributors from 30 countries, as well as generated a lot of new opportunities, so it was a productive few days."

Elisa Beretti, Marketing & Communication Department, Kiian Digital, notes: "Out of all the FESPA shows we have attended this year, FESPA China 2014 has been the most interesting in terms of new and fruitful contacts. We're expecting new business opportunities on the horizon."

The next FESPA China exhibition will take place from 21-23 October 2015 at the Shanghai New Int'l Expo Centre, in Shanghai, China. ■

Further information:
web: www.fespa.com

VIETNAM EXHIBITION OPENS ITS DOORS FOR THE FIRST TIME

Strong market demand for new show is boosted by association pledges

A new year is the right time to explore new horizons to highlight developments and showcase offerings to a market that is poised for substantial growth in future. This is the reason why Screen Print Vietnam 2015 will make its debut from 30 July 30 to 1 August 1 2015 at Saigon Exhibition & Convention Center (SECC). Organisers have said that this is a logical extension of the Screen Print India exhibition, which has consistently been Asia's leading exhibition of International stature, attracting exhibitors, pavilions and delegates from across the globe.

Screen Print Vietnam is being organised by Aditya Expositions, a brand that has carved a strong reputation during the past two decades. It has been organising the Screen Print India exhibition since 1994, which has always been among the world's leading and Asia's finest exhibitions. Focusing on screen, textile and digital printing materials and equipment, this interactive event has been providing an ideal platform to connect with every segment of the industry and explore new business prospects.

ASSOCIATIONS PLEDGE SUPPORT

Screenprinting and Graphics Association of India (SGAI), the national screen printing association of India, Indian Printing Packaging and Allied Machinery Manufacturers' Association (IPAMA) and China Screen Printing Industry Association (CSPIA), the national screen-printing association of China have already pledged their support for Screen Print Vietnam. Many other associations at a regional and global level will also be extending their support for this prestigious exhibition, indicating its high level of credibility and ability to deliver more than promised.

The world comes to attend Screen Print India exhibitions with country pavilions like China and focused visitors who are genuinely interested in exploring business opportunities and new technologies.

Located in the heart of Phu My Hung New City, Saigon Exhibition & Convention Center (SECC) is the largest, the most modern Exhibition & Convention Center of the South of Vietnam, only 15 minutes from the centre of Ho Chi Minh City and 30 minutes from Tan Son Nhat International Airport. It is an international standard facility capable of satisfying the requirements of national and international conventions, large scale public and trade exhibitions, corporate meetings and specialised events.

THE RIGHT TIME

The organisers state that this is the right time to be a part of this amazing growth story by making brands' presence felt at Screen Print Vietnam 2015. Vietnam's economy and printing industry have both been on an upward trend for quite a while now. From printing labels to packaging materials and a wide range of printing services, the industry is well settled and has made a reputation for itself. At the same time, textile printing, flexo printing and digital technology are also gaining in popularity.

Organisers state that the time is right to bring people together at Screen Print Vietnam

The potential for further growth seems almost limitless. For this, it is essential to be updated with the latest developments in technology materials and methods. Responding to the demand from visitors and exhibitors alike, the immensely successful Screen Print India event concept is now being extended to the Far East region and makes its debut at Vietnam. ■

Further information:
web: www.screenprintvietnam.com

TECHNOLOGY AND SOCIAL MEDIA CAN HAVE A FLIP-SIDE

Lascelle Barrow confirms why community, relevance and relationships matter

Lascelle Barrow, President of FESPA

In today's digitally connected world, our choice of ways to communicate, access information and share knowledge is wider than ever. The Internet gives us a window on an infinite breadth and depth of information at the click of a mouse, while social media enables us to interact with our peers at any time.

But, as we look to the future, I do see an increasing need – in the face of this information and communication overload – for trusted organisations to help us filter and evaluate the information we need.

I also believe that, while social media makes it easier for us to connect and engage with large networks of like-minded individuals, we will crave more and more the intensity and authenticity of face-to-face contact. For me, this will be one of the core values of a real-world business support organisation such as FESPA in the future.

STRENGTH IN COMMUNITY

Technology is revolutionising the way we live and work, but the flip-side of this is that we are gravitating towards the simplicity and integrity of family, community and genuine relationships. Having experienced the power of social sharing over the last five years, many active users of social media are now editing their virtual communities, focusing on the people and brands they really value, rather than simply connecting with anyone and everyone.

This re-balancing underlines the future value of a global community such as FESPA. Within it, our members can build relationships with their peers that are real and mutually rewarding, while our networking events, conferences and exhibitions give them live environments in which to nurture those relationships.

CREDIBILITY, RELEVANCE, VALUE

Likewise, when it comes to researching and gathering information to support business decisions, we have all learned that there is no substitute for seeing products close up, and comparing a range of options under one roof. While the Internet has proved itself a brilliant tool for initial desk research, we are also coming to understand its shortcomings, and to be more aware of the influence of the major search engines in our information gathering.

Face-to-face contact and physical networking will always remain important, especially where big decisions are to be made. There is still a great deal to be said for an in-depth discussion with a technology expert or several who can talk you in detail through the pros and cons of an investment, and help you to understand the full potential of the product or service you are buying. The digital environment just can't replicate that experience.

This is precisely why most senior business decision makers still place such high value on content-rich B2B events like FESPA. And, while the Internet is awash with information-based content, an organisation such as FESPA has – and will have for a long time to come – a vital role to play in curating that content for credibility, relevance, and value. While the shape of B2B exhibitions will inevitably evolve, I believe that their significant role in informing and supporting investment decisions won't change for the foreseeable future.

REAL RELATIONSHIPS COUNT

In the connected, multi-channel world of the future, trust is becoming ever more important. We want to do business with brands – and people – that we have confidence in. We want to buy from companies whose values chime with our own. We need to feel empathy and chemistry with their people. We need to believe that those who supply us have our best interests at heart, and to develop true partnerships.

Technology is changing at such a rapid pace that it's hard to predict quite what a FESPA event will look like in ten years time – but I can guarantee that innovation, education, networking and knowledge exchange will still be at its heart. ■

Lascelle Barrow is President of FESPA

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

FESPA 2015 will take place in Cologne, Germany, from 18 to 22 May

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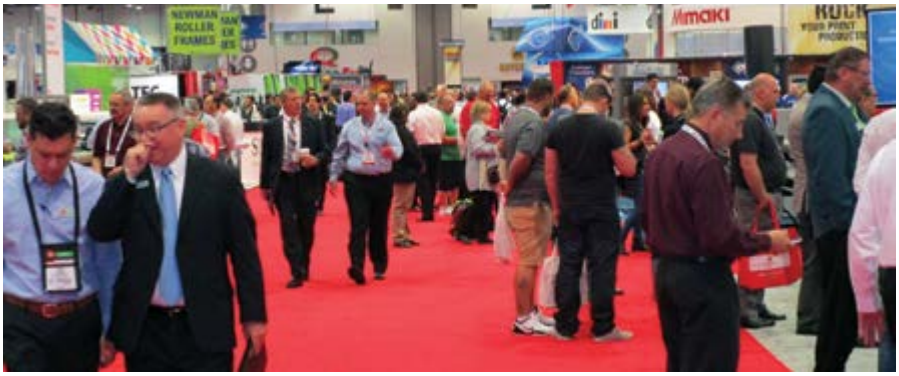
A FIRST LOOK AT THE USA MARKET

Michael E Robertson predicts activity for the coming year

Michael E Robertson

If the trends continue, it'll be a good year for SGIA graphic producers. The demand for imaged graphics in the retail market is very strong. Working through their creative resources, retailers are taking full advantage of the versatility of digital imaging. They are helping the community push the limits of the technology – and that's a very good thing.



There were more than 22,000 registered visitors at last year's SGIA Expo

Imaged fabric for retailers and other environmental uses is on the fast track in the USA. Companies in Europe were early to maximise the use of imaged fabrics, and the USA is playing a bit of catch-up. But, we're seeing fast growth in the USA likely based on the experience gained in the European markets. Many SGIA members have added fabric-specific production lines to their rolled and rigid systems.

The big flat-beds are changing the marketplace, too. The sophistication of the advanced systems has increased production and enhanced customisation while maximising material usage. The graphics producers with the large flat-beds are reaching deeper into the market because of the success of this technology.

FOCUS ON PRINTED ELECTRONICS

Meanwhile, SGIA members who are focused on printed electronics appear to be very busy as well, many running at capacity. A substantial number of their customers want component production handled nearby instead of overseas. They are willing to pay a little more per part if the error rate is minimised and tighter production schedules are possible. This approach of regional, just-in-time production appears to be working quite well in many markets, but it's especially noticeable in the printed electronics and membrane switch markets.

We're also seeing new markets opening up for printed electronics in the medical field and the soft goods' markets, to name two. You can just sense that there are many developmental projects in the works that will add more market share for this industry segment. Here at SGIA HQ, we've had the privilege to see some very exciting beta test items employing circuitry in ways that surprised us. There is much more to come on this you can be assured.

GARMENT DECORATION HOLDS STRONG

The garment decoration community is holding strong, anchored of course by the USA's T-shirt and performance wear markets. Screen-printing dominates among the technologies being used. Direct-to-garment imaging systems are gaining ground as one-off and short-run production fits many business models today, especially the online business model. Styles change but decorated apparel is a popular item. Current styles, often bold, one color designs, fit screen printing technology particularly well.

Equipment sales at the 2014 SGIA Expo in Las Vegas, in October, were off the charts. It was one of the busiest Expos – if not the busiest – in SGIA history. A successful fall SGIA Expo is another strong indicator of business expectations for the coming year.

All in all, the SGIA community is doing quite well and we're optimistic about the coming year. ■

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

SGIA
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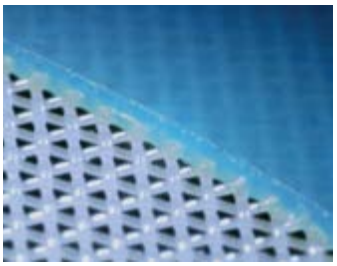

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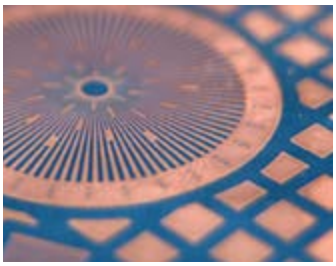

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