Digital Textile Printing
Opportunities for Sign Companies

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INTRODUCTION

Digital textile printing, particularly for soft signage applications, provides an attractive new service opportunity for sign printers that are looking to expand their offerings and clientele. Recent advancements in ink types, mainly in LED UV and latex, have lowered the barrier to entry and offer a wide choice of printing media. Other advantages of digital textile printing include its positive environmental impact, the ability to expand product offerings, improved operating cost structure, and greater flexibility in production.

This document will map out new business opportunities in digital textile printing for sign companies, analyze growth opportunities in textile printing, highlight recent successes in textile-based printing applications, and discuss requirements from human capital to equipment investments. To assess whether they can enter into a digital textile printing business, readers will need a broad view of all the components that make up the process to build a finished product. This document will provide a review of popular mid-range and large production machines as well as case studies of successful businesses. We will also discuss what it takes to succeed in this business.

KEY HIGHLIGHTS

- Placements of digital textile printing systems are growing on a global scale, and a significant number of these devices are being placed in fabric manufacturing environments for garment, décor, and industrial applications.

- A range of vendors providing textile signage systems using acid, latex, sublimation, and UV inks are contributing to this growth. Representative models are described here along with systems for fixing, finishing, lighting, and sewing.

- User profiles for KSK Visual Ingenuity and McCrae Imaging provide insight on how end-users are taking advantage of these technologies.

RECOMMENDATIONS

- If you’d like to offer textile printing services, check local availability and pricing information (including order minimums) to determine the opportunity in your area. It’s smart to uncover your sweet spot before jumping in, and to focus on a market where services are lacking.

- Learn as much as you can about the equipment and the workflow that is required to do the work successfully. Determine how many hours will be required to build a successful business model.

- Consider the equipment, cost, physical size, and the environment and factor them in to your cost model. Will you need more air conditioning? What are your electrical power requirements? How will you move products on and off the machines? Also, take a hard look at the finishing requirements for your end products.
Determine how your existing staff members will fit into your new business segment, and assess whether you will need to bring in additional resources.

Although business opportunities exist, they come at a cost of research and investment. Businesses must be willing to invest in personnel development, money, and time to learn about the various textile printing methods.

Develop a digital migration strategy to ensure that your business addresses customer needs for maintaining legacy products, while also developing new digital products.

Review digital product offerings in conjunction with expected volume requirements, ink types, and the finishing capabilities that are suitable for your mix of substrates.

**SOFT SIGNAGE APPLICATIONS**

Soft signage is a common industry term that is used to describe digitally printed fabric signage. Although this term is not limited to a particular ink set, it usually refers to a polyester product. It might also be cotton (natural fiber) or a synthetic fabric. Soft signage is evolving into a range of applications, including a number of store décor items. Soft signage continues to grow with a variety of ink sets for decorative items, including UV, aqueous, dye sublimation & disperse, and latex methods.

Retail environments offer a rich opportunity for inkjet printed materials, including wall coverings, curtains, back- and front-lit tension fabric displays, branded umbrellas, flags, and table throws. Product branding and versioning enables end-users to reinforce their brand identity and focus on a customer of one. The Table below highlights some of today’s common décor applications. They are not necessarily soft signage products, but personalized and versioned products that are commonly decorated.

<table>
<thead>
<tr>
<th>Wall coverings</th>
<th>Curtains</th>
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<td>Back- and front-lit tension fabric displays</td>
<td>Branded umbrellas</td>
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<td>Flags</td>
<td>Table throws</td>
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<tr>
<td>Branded floor mats</td>
<td>Drink cozies</td>
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Mass customization is driving the growth of digital printing. Of all the applications that are printed today, textile soft signage and digitally printed materials used in retail environments support a strong brand message. It is not uncommon to see chain stores using wind feathers, mesh and woven polyester banners, wallpaper, and other unconventionally printed substrates in their advertising efforts.
THE 2014 TEXTILE INDUSTRY

This section of the report provides InfoTrends’ 2014 market placements of wide format roll-to-roll digital textile printing systems used in production environments. The placements are divided into two key environments—graphics and fabric manufacturing. The chart below illustrates the distribution of units between these two key environments, where 69% of units are in the graphic textiles while the remaining 31% are in textile fabric manufacturing environments. Total placements in both categories amounted to 11,041 units in 2014. These placements increased by over 1,400 units between 2013 and 2014, primarily due to robust growth in most product categories. This report focuses on analyzing the trends in the fabric manufacturing environment.

Figure 1: 2014 Digital Textile Printer Unit Placements by Environment

As outlined in the Figure above, placements in fabric manufacturing environments of digital textile printing systems totaled 3,374 units worldwide in 2014. Of these, 523 units were in high-volume environments (81+ m²/hr.) being used predominantly for garment and décor fabric manufacturing. The 523 units in the production category (81+ m²/hr.) use predominantly reactive inks. Nevertheless, we have observed an influx of sublimation systems that address the growth in use of synthetic fibers. These are likely to drive sublimation ink device placements in the future.

This forecast estimates the total number of worldwide placements of roll-to-roll printers used for digital textile printing in fabric manufacturing environments during 2014. In addition to these manufacturing environments, the majority of units printing on textiles today are found in graphic textiles environments. This latter market is a subset of the overall wide format market and evolved to meet the needs of the garment, décor, and industrial fabric industries.
Many of the printing devices used for the printing of textiles were developed specifically for this purpose by using inkjet head technology and mechanical components of traditional textile machines. These digital textile printers have helped fabric finishers to increase productivity, lower costs, and improve environmental impact. Additionally, using digital printing systems as part of the manufacturing process enables retailers and designers to reach market faster, rapidly develop new designs, and improve the environmental impact of fabric manufacturing.

**MARKET GROWTH IN WIDE FORMAT DIGITAL PRINTING**

In a previously published study entitled *ISA Wide Format Print & Media Mix Survey, Parts One & Two*, leaders from the International Sign Association (ISA) were asked to make some determinations about the state of the signage and graphics market and the tools, technologies, and brands that ISA members count on to conduct business. This research had two primary goals:

- To examine the primary applications for wide format digital printing solutions and determine which applications are growing as a percentage of the signage and graphics business.
- To measure the current wide format digital print media mix, determine brand preferences and purchasing volumes, uncover purchasing expectations, and identify purchasing decision criteria.

**TECHNOLOGICAL SHIFTS**

Companies that are investing in higher-end wide format digital printing technologies typically do so to become more competitive, both in terms of running costs and in the types of applications they are able to produce. Survey respondents expect to make subtle shifts into various technologies. The expectations are that there would be slight growth in eco-solvent, solvent, UV and aqueous production. There is also expected to be a notable increase in the dye-sub market.
Figure 2: Wide Format Print & Media Mix

Source: ISA Wide Format Print & Media Mix Survey, 2013

Figure 3: Most Frequently Produced Applications

Source: ISA Wide Format Print & Media Mix Survey, 2013
APPLICATION TRENDS

Although it’s necessary to understand which applications are commonly produced today and what drives the majority of wide format digital printing volume, it is perhaps equally important to comprehend wide format application trends. Respondents were asked which applications are growing and which are declining as a percentage of their total wide format digital print volume, and there are several important findings within our survey results.

The first is that 75% of the companies that produce signs consider them to be a growing application in the wide format digital printing market. InfoTrends believes that this is a result of the desire to change messages more frequently to drive sales activities among certain products and services. Along these lines, wall coverings/wall murals were rated as a growing application by almost 70% of respondents. Once again, this is likely due to the desire to frequently change messaging, but the wall covering/wall mural market is also being fueled by latex’s emergence as a wide format printing technology.

Textiles represent a particularly interesting area of the market. InfoTrends considers this to be a growth market and although 60% of respondents report that it is growing, nearly 17% report that it is actually in decline. Perhaps new market entries in the textile business are impacting smaller suppliers. It should be noted that for all listed applications, the share of respondents reporting growth exceeds the share reporting a decline. This reinforces the idea that wide format digital printing is a growth market overall.


VENDORS OF GRAPHIC TEXTILE AND DECORATIVE SOLUTIONS

To clearly understand market dynamics and the range of available solutions, InfoTrends met with a variety of equipment manufacturers and learned about their products. Several of these manufacturers provide entry-level solutions based on dry process sublimation printing, while others offer a range of products to meet traditional fabric finishing methods. We reached out to a wide group to ensure a comprehensive industry view that provides a true representation of market trends.

Table 2: Popular Graphic Textile and Decorative Vendors

<table>
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<tr>
<th>Agfa</th>
<th>EFI-Reggiani, VUTEk</th>
<th>Mimaki</th>
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<tr>
<td>AGS</td>
<td>Epson</td>
<td>MS Srl</td>
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<td>ATP Color</td>
<td>EuroTech Printer</td>
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<td>D-Gen</td>
<td>Gandy</td>
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<td>DGI</td>
<td>Global Imaging</td>
<td>Printer Evolution</td>
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<td>Digifab</td>
<td>Graphics One</td>
<td>Reggiani</td>
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<td>Digitex-Gunsjet</td>
<td>HP Latex Machines</td>
<td>Roland DG</td>
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<td>Dongcheng</td>
<td>Konica Minolta</td>
<td>SPG Prints</td>
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<td>Durst</td>
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TEXTILE SIGNAGE PRINTERS

INK SETS

The key ink sets that are used in today’s sign graphics applications include:

- **Sublimation**: Sublimation printing is a dye transfer printing method. Ink is printed using a digital wide format printer onto a transfer paper that is usually coated with a cellulose or clay. The ink dries onto this surface while still retaining its transferability. A heat transfer press is then used to transfer the latent image from the paper to the receptive media, which is a polyester base. Heat and pressure together enable the ink to “sublime,” meaning that it turns into a gas and the color molecules are driven into the receptive media. This results in a stunning and vibrant rendition of the image. Common sublimation applications include sports uniforms, flags, exhibition graphics, table throws, and even some hard surfaces.

- **Acid**: Acid inks are used for non-organic media surfaces like rayon and acrylic. The materials must be steamed after the direct printing process. Although the results are excellent and quite popular among professional flag/banner printers, the machines themselves are costly and messy.

- **UV**: Wide Format UV printing on roll, hybrid, or flatbed was seen throughout the ISA 2015 Sign Expo in Las Vegas, NV. New UV hardware additions should continue to fuel sales in this high-growth segment. Research from the latest InfoTrends survey predicts sales growth of 14% worldwide over the next 2 years. Although the UV product category is becoming increasingly crowded, sales continue to increase. UV printing technologies offer a number of benefits, including a wide choice of substrates and printing materials. The foremost applications that are fueling this growth include decals, commercially printed materials, and décor textiles.

- **Flexible UV**: Flexible inks are now available for UV-curable printers that use Mercury Vapor and LED curing lamps. Soft signs, exhibit graphics, and décor items printed with UV curable inks usually have a thicker ink layer and are somewhat limited in décor use that doesn’t come close to more tactile uses. 3M recently announced a polyester based fabric for use in outdoor UV printing applications. It will be paired with Flex Ink and covered under the company’s well-known Commercial Warranty.

LATEX TECHNOLOGY

After just five years, HP’s Latex printers have built a new industry presence in durable outdoor printing. Latex is not a dye-based ink. It is printed directly onto the media, which then requires heating to fix the ink binder to the surface. Once the ink cures, its resinous properties enable it to adhere to a fairly wide range of surfaces. For this study, however, we’ll be focusing on latex’s use for soft signage, exhibition graphics, and other décor applications. HP’s Latex products offer a textile printing technology with a low barrier to entry that can introduce new users to the benefits of outdoor graphics.
HEAD, HARDWARE, AND INK SET EVOLUTION

Epson’s DX-5 & 7 are the most common head technologies used in today’s entry-level wide format roll-to-roll printers which are primarily supplied through OEMs like Mimaki, Mutoh, and Roland DG. Some OEM’s have recently switched to Ricoh’s Gen 4 and 5, and the more expensive machines are using Konica Minolta of Fuji Dimatix heads. This shift in head vendor usage is a result of Epson taking a greater role in promoting its own range of textile printers.

In entry-level machines, heads may be damaged by user error (head strikes) or possibly worn out due to the extreme duty cycle in the field. In many cases, the mean time between failures has exceeded one year. Furthermore, many of these machines are driven well beyond their designed capabilities.

PRINTER TRANSPORTS

Some of the most commonly used printer transports include:

- **Standard Roll-to-Roll**: The typical transport of a dye transfer printer is a standard roll-to-roll system. Common suppliers include Mimaki, Mutoh, and Roland DG.

- **Higher-End Systems**: Provided by vendors like Durst, EFI-Reggiani, Mimaki, and MS Italy, these devices are more elaborate and commonly offer fabric tensioning systems, electrostatic belts, and sticky belts. Some retrofits are also available for system integrators from Mutoh and Roland.

- **Single-Pass**: Today’s single-pass textile printing systems are becoming available for textile printing applications, but they are expensive. Konica Minolta is developing its new class of Nessinger DTP machines for single-pass, instead of scanning heads like some of the other machines. Single-pass development is occurring across many wide format printing applications. Starting early in office color and then shifting to commercial print applications, this technology is expected to migrate to lower-cost textile wide format print applications.

EARLY PLAYERS

Early players in the textile signage printer market include:

- Dupont, Inc.’s **Artistry** was a full turnkey system that included the printer and ink. Ink types included acid, reactive, and dye sublimation. There were over 100 of these machines in use at one point, and many are still working today. Most of today’s vendors, from the low end to the high end of the market, offer some type of replacement for the Artistry.

- Mimaki’s **TX** is a low- to mid-end machine that can handle pigment as well as dye inks. The original offering, which had 4 heads, was built from the JV4 platform. These machines were quite capable, and many are still in use today. The TX was available with fabric “dancer bars” to tension materials, and at one time had as many as 12 different inks available.

- Back in 2003, **Stork** textile printing machines were Mimaki JV 4s running on a variety of different inks. Stork offered a machine at this level up to Mimaki’s JV5 series, and most of these reached end of life in about 2013.
WIDE FORMAT TEXTILE SOLUTIONS

ENTRY-TO MID-LEVEL VOLUME MARKET SUPPLIERS & OEM INKS

Epson

Epson’s 44” SureColor F6070 (priced at $7,495) and the 64” F7170 (priced at $19,995) are wide format printers that have been completely redesigned for dye sublimation print applications. While many companies simply sell the same solvent-based products for use in dye sublimation applications, this is not the case with these models. Epson introduced this series with a newly-designed printhead described as “Precision-Core,” which was built for industrial-level dye sublimation performance. These devices also offer a take-up mechanism that is designed for delivering improved winding accuracy.

HP

HP’s new Latex 370 is a wide format printer that is built for unattended operation so end-users can become more productive. Its rated speed in four-pass mode, which HP calls “Outdoor High Speed,” is 334 sq. ft./hour. The device features a 3 liter ink tank, which is one of the largest in its class. It carries an MSRP of $29,995.

Mimaki

The TS300P-1800 Wide Format Textile Printer brings an entry-level dye sublimation device to Mimaki’s lineup. Created for paper transfer applications, this printer primarily serves the digital textile soft sign and apparel markets. It has four in-line printheads that can produce a single-pass speed of 115 sq. m./hour. The device is available for around $30,000.
**Mutoh**

Mutoh’s new ValuJet VJ-1938WX Wide Format Dye Sublimation Printer is equipped with two staggered printheads and a two-pass high-speed production mode of 73 sq. m./hour. The VJ-1938WX is designed for transfer paper and direct print applications like flags and banners. Mutoh has formulated a DS2 dye sublimation ink that is available in CMYK. The printer is priced at about $30,000.

**Roland DG**

Roland’s Texart RT-640 wide format dye sublimation printer is designed to provide superb quality, productivity, and value. The device uses a new Texart SBL3 ink and an advanced print control technology for quality imaging. It is capable of color consistency at a production speed of 351 sq. ft./hour. A version of Ergosoft is provided with the printer package, which is priced at $24,995.

**HIGH-VOLUME LEVEL SUPPLIERS & OEM INKS**

**Durst**

Durst has launched its 1.8-meter (72”) Rhotex 180 TR dye sublimation textile printer in North America. Rated between 2,000 to 6,000 sq. ft./hour, the device is equipped with Fuji Dimatix printheads. It uses water-based, odor-free, non-volatile organic compound dispersion inks. The machine is designed for printing polyester, polyester blends, sportswear, home textiles, and soft signage.
**EFI –VUTEK & Reggiani**

EFI’s acquisition of Reggiani further adds to its portfolio. EFI provides digital textile printing equipment via its VUTEk line, which includes solvent dye sub and UV products to support textile printing. Reggiani is a provider of rotary screen printing equipment. Up until now, Reggiani was supplying to all of the major ink companies with warranty arrangements, often as part of a supplies/services agreement. EFI will be providing new inks for Reggiani’s platform, and that will evolve this into a turnkey system.

Reggiani demonstrates two of its 1.8m ReNOIR ONE digital printing machines at the company’s demo center. One was sublimation printing onto paper for polyester-based output such as sportswear and apparel. The other was performing direct-to-fabric printing using the company’s recently launched pigment ink, which can achieve vibrant colors on a range of knitted, woven, and cotton materials. The ReNOIR ONE machines handle the pre-treatment and drying process in-line, offering a complete solution for dry process fabric printing. The devices can print up to 320 sq. m./hour at 2,400 dpi with 2 sets of 8 printheads.

**Global Imaging**

Global Imaging’s Printer Evolution Eos126 was independently developed, built from the ground up, and is exclusively sold by Global Imaging. Priced at $270,000, the Eos126 DS is a direct-to-fabric printer built for high-volume fabric production. The device also offers a high-capacity bulk ink system for continuous printing and high ink yields. It is available in two widths (126” and 100”) and two configurations (8 or 12 printheads).
**HP**

Although HP's Latex ink is not designed for use with apparel, it does have one highly-sought-after attribute—UV resistance. For the purposes of a simple comparison, HP’s Latex inks offer durability with the cost of a “soft hand” (i.e., the soft feel of dye-sub imaged polyester media). HP’s Latex 3100 and 3500 wide format printers are updates to the 3000 series. The Latex 3500 is designed for high-volume production, accommodating large paper rolls of either one single 300kg, 40 cm or two 200kg, 40 cm. In-line slitters have also been added to the Latex 3500, along with the ability to cut 3.2-meter widths.

**Kornit**

Kornit’s 1.8-meter Allegro is a roll-to-roll device that offers an enhanced configuration and printheads with ink recirculation technology to reduce ink waste and increase reliability. One of the few pigment systems available to the market, it is positioned as a single-step solution printer with integrated pre-treatment and curing processes that can print on multiple fabric types using Kornit’s Neo-pigment inks.

**MS Printing Solutions**

In 2014, Dover Corporation announced its acquisition of MS Printing Solutions s.r.l. (“MS-srl”) from its Italian parent. MS-srl offers a range of products for paper and textile printers aimed at varying production levels. The company supplies paper transfer printing products with a width of 1.8 to 3.2 meters, ranging from 155 to 500 sq. m./hour in throughput. The MS LARIO leads the industry with its maximum throughput of over 8,000 sq. m./hour. Although most MS textile printing systems appeal to production-level fabric manufacturing, the low-end machine can easily be positioned for exhibit graphics and soft signage.
**SPG Prints**

SPG Prints’ Pike is a 1.8m wide Single-Pass digital printer that will debut at ITMA in November 2015. The machine uses Fujifilm Dimatix Samba printheads configured in a single pass. There will be six Archer print bars available for the launch (one for each color), targeting print speeds of about 40 meters per minute. With a 4 millimeter throw distance between the printheads and the substrate, greater reliability is expected. The Pike will likely be running reactive inks when it is launched, but direct disperse and acid inks will follow—along with a 3.2 meter version.

**FINISHING, LIGHTING, AND SEWING**

Finishing is an important part of the digital soft signage and textile printing workflow. Various machines are now offered with different levels of automation to cut, attach, light, and frame a printed fabric product. The router/cutter segment is becoming an important growth area in wide format printing.

Lighting schemes have evolved from earlier fluorescent tubes to LED lit frames. A number of schemes exist to light from the front, side, and rear. Tensioned fabric signs and displays have largely replaced the early film-based Lightjet Dura-Trans system.

Sewing is required to piece together large-scale printed fabric panels. Seaming and attaching a tensioning bead that is sewn into display fabrics is a necessary part of the workflow.

**Aristo, Flexa SRL**

Aristo’s Flexa MIURA II is an Italian-made automatic cutting/trimming machine that offers rotary blades in both X&Y direction. It is capable of cutting a variety of flexible materials, including laminated graphics, PVC films, Scrim banners, polyesters, polycarbonates, reflective films, magnetic substrates, wallpaper, and a number of fabric types.
Blackman & White / MCT

MCT’s VersaTec Digital Finishing Solutions were brought to the American market through a partnership with Blackman & White. The company introduced its new fully automated Versa-Tech Laser solution, which enables virtually any fabric that is capable of being printed to be finished. The system combines laser cutting of fabrics and plastics, and all elements of routing and tangential knife cutting, as well as creasing of traditional materials. For more traditional work, the device supports a fully automated conveying capability using non-woven conveyor materials. When used with its 140 watt liquid cooled laser, a conveyor with an aluminum skin automates the movement of the cut pieces. MCT’s history in the cut-to-print market started in 1999 with the introduction of i-cut vision software at MGE.

Esko

Esko is driving innovation with hardware and software solutions that help sign & display businesses offer innovative products. Esko Kongsberg tables are well-known for their robustness, flexibility, versatility, and precision. About 50 years of developing finishing tables has made Esko-Kongsberg a leader in this product category. The company offers cutting tables with many different options to accommodate a range of applications, including sign and display, packaging prototyping, and textile finishing.

Miller Weldmaster

Miller Weldmaster’s Sewing System is designed for sewing the gasket-like latex bead for soft signage. A cooling system keeps the sewing needle from getting too hot, which can deform the latex bead. This enables the user to work continuously rather than stopping at intervals to cool the sewing needle.

Zünd

Zünd’s cutting systems are well-known for being modular. The company’s S3 cutters can be changed, expanded, and upgraded at any time. Modular tooling makes it possible to process a wide variety of materials up to a maximum thickness of 25mm/1”. Various levels of automated material-handling turn the S3 into an all-around production system. A high-performance direct drive system maximizes speed and accuracy.
LED LIGHTING & EXTRUDED FRAMES
LED Lighting has taken great measures to improve presentation quality while also bringing new life to backlit graphics. Tension fabrics for signage applications have taken many unique forms, and companies that have entered into this space can acquire new pre-cut extruded aluminum materials. Because the lighting is low voltage as well as low temperature, it offers high-impact presentation quality to retail displays where the graphics can be replaced. A bead of latex is usually sewn to the graphic’s edge to create the necessary tension to stretch the material. Matrix Frame and System Metal are just two examples of companies that are offering these extruded aluminum systems.

HEAT FIXATION EQUIPMENT
Heat fixation, whether it be a roll calendar heat press or a flatbed heat press, is required for dye transfer work. These systems vary in size, price, and complexity. The most basic units generally use electric heating coils, while the more sophisticated types use heated oil for a more consistent temperature across the transfer substrate. Some of the companies involved in this business include Practix and AIT on the low end, and Klieverik and Monti Antonio on the high end. Prices can range from $20,000 for an entry-level roll-to-roll 1.8 Meter to about $100,000 for a 3.2 M device.

MATERIAL AND INK INNOVATIONS THAT ARE DRIVING NEW APPLICATIONS
Media, inks, and a proliferation of sublimation transfer paper suppliers are a welcome addition to a market with a growing number of hardware suppliers. Here are some product highlights to consider:

- Although Bordeaux Inks is not new to the wide format inking market, its new Velvet Jet digital textile solutions division is tasked with widening the company’s range of inks for fashion, home textiles, and soft signage. The Velvet Jet line includes dye sublimation inks, pigment inks, and a new latex ink for direct-to-textile printing.

- Coldenhove Papier is a Dutch paper mill that recently introduced its JET-X 57 gsm dye sublimation transfer paper for polyester-based textile printing applications. With its high transfer efficiency and light weight, the paper can contribute to lower consumables costs. A proprietary base coating emulates the characteristics of a heavier paper to provide a more saturated image.

- Italy-based J-Teck 3 launched its new J-Lux high-lightfastness water-based dye sublimation transfer inks for polyester fabrics and substrates. The inks offer lightfastness that is close to that of direct to fabric printing—6 out of 7 on the fastness scale for light and 4 out of 5 for washing. The company also introduced a patented direct-to-textile double-sided printing system (EPS) that includes suitability for Kyocera printheads. It uses EPS Clear (a non-pigmented clear ink) to drive the colors through the fabric for a uniform ink volume. Together with EPS-Software, the system delivers the correct amount of EPS Clear to achieve strong color penetration. Kiian Digital and JTeck 3 merged a year ago, but the companies continue to operate as competitive brands.
Kiian Digital recently launched several soft sign and textile printing water-based inks as well as new fluorescent inks. These new inks are suitable for Epson & Ricoh heads used in apparel and decorative textile applications. This news from Kiian Digital follows the announcement of merger plans with Sawgrass, a longtime supplier of sublimation inks.

END-USER PROFILES
Two North American companies provide good examples of how sign printers are expanding their service offerings to include digital printing of textiles: KSK Visual Ingenuity and McCrae Imaging.

KSK VISUAL INGENUITY
KSK Visual Ingenuity is celebrating 31 successful years in the graphic imaging industry. Founded in 1984 as a commercial photographic color lab, KSK grew as the digital imaging era evolved. Early on, the company made a commitment to digital imaging technology, and it often served as a beta-tester for imaging software and equipment manufacturers because of the high standards photography required.

Located in Solon (a suburb of Cleveland), KSK designs, prints, and installs visuals for a variety of clients across the United States. These include major retailers, corporations, museums, restaurants, schools, hospitals, exhibit companies, independent designers, and other graphic imaging providers. Due to its strong reputation for quality, a focus on customer service, and account managers backed by a devoted production team, KSK experienced growth when many other businesses were declining or even shutting down. The sales team uses a consultative approach and works closely with the production and installation teams to ensure that creative visions can be achieved. By attending trade shows, seminars, and webinars, associates are able to stay on top of the latest trends and imaging materials. As a result, they can offer their clients a consultative approach to projects and also forge long-term partnerships.

KSK has been involved in textile printing since 2005. The company’s history with dye sub printing has established it as a leader in the area of graphic imaging. KSK’s line of frames and structures—custom metal frame and pipe bending solutions—complements its fabric imaging department. Fabric finishing includes zippers, grommets, pole pockets, hot knifeing, and hemming.

At this time, KSK uses the 10’ Mimaki JV5 dye sub printer and the Klieverik transfer machine in its dye sub area. The dye sub transfer allows the highest quality of fabric imaging to be achieved since the ink is heated to fuse with the fibers in the material. Several types of fabric are available, and KSK works with clients to specify the right type of dye sub fabric for each project. KSK’s other textile imaging equipment includes 2 – 80” Durst Rho UV flatbed printers for canvas and wall paper imaging as well as acrylic and other rigid substrates. Additionally, the company has 60” inkjet printers, a laser cutter, laminators, a full wood shop, and a finishing area for custom structures and frames. The design department utilizes the latest Adobe suite software, and this investment in color calibration software helps ensure that clients’ color standards are met on every job.
Figure 4: Tension Fabric Displays by KSK Ingenuity

MCCRAE IMAGING

McRae Imaging (Mississauga, Ontario, Canada) is a leader in the world of HD digital printed fabric graphics, including a wide range of fabric display hardware and lighting solutions. The company provides solutions to partners and clients throughout North America across a variety of market segments, including display, tradeshow, exhibit, retail, and events.

Inspired by a passion for excellence, McRae Imaging is driving innovation in the wide format digital textile printing and custom dye-sublimation industries while remaining environmentally progressive. With state-of-the-art technology, the company strives to provide the best of creative communications and brand in high style. According to CEO Bob Murray, McCrae Digital Imaging added a 3.2 Meter Reggiani ReNoir Digital Textile Printer about two years ago. This device has helped build the capacity needed to access national exhibit accounts across the United States.

McRae offers a wide range of unique and high-quality display products, including retail and POS visual communication and graphic solutions, tradeshow displays, custom exhibit solutions (e.g., hardware and LED light-box solutions), and many other modular, portable, and hanging displays.
CONCLUSION

Digital textile printing has taken many forms over the years, and this creates a unique set of opportunities and challenges for signage companies. This dynamic marketplace offers a number of profitable opportunities with its new technologies and printing equipment. Thanks to new latex/UV flexible inks and sublimation/pigment technologies, the growth potential has spread beyond sign and flag applications and into the home textile sector. Although the opportunities are plentiful, they all come at a cost—businesses must be willing to invest the money and time to learn about the different textile printing methods. Regardless of whether you are a huge sign/exposition company or a small entrepreneurial digital printing company, the market offers a number of viable avenues. The key is developing the right production and pricing strategy.

Mass-customization is the driving force behind digital printing growth. Of all the applications printed today, the textile soft signage and digitally printed materials used in retail environments support a strong brand message. The soft signage market has also evolved to include a number of related applications, including a wide range of store décor items. Retail environments offer a rich opportunity for inkjet-printed items like wall coverings, curtains, backlit & front-lit tension fabric displays, branded umbrellas, flags, and table throws.

As the sign graphics industry matures and expands into new business categories, numerous products will play a role in the multi-dimensional opportunities of tomorrow. To gain a foothold in this rapidly evolving market, businesses must find a way to be responsive as well as nimble.
ABOUT THE AUTHOR

Steve Urmano
Director
steve.urmano@infotrends.com
+ 1 781-616-2129

Steve Urmano is the Director of InfoTrends’ Wide Format Printing Consulting Service. As Director, Urmano develops InfoTrends’ annual global market forecasts for hardware and supplies used in the wide format printing markets. He is responsible for conducting multiple primary research studies annually in the wide format market both on a custom basis and as part of InfoTrends’ syndicated research.