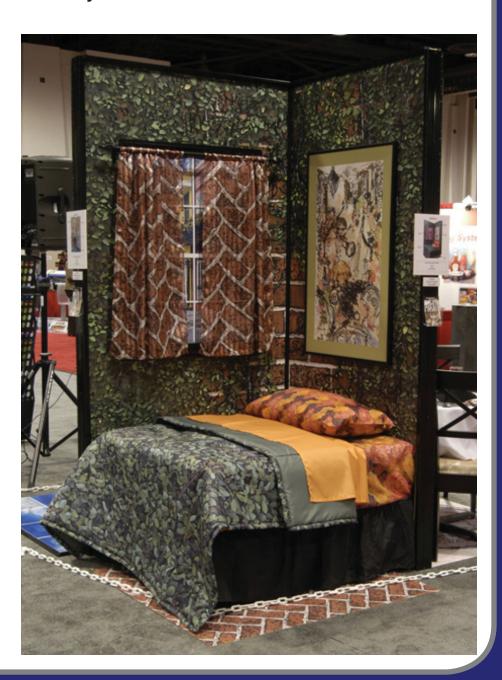
Nicholas M. Hellmuth December 2005

Dye-Sublimation on Tiles & Aluminum, etc, Textile Printers: Direct & Dye-Sub

Curious about Wide Format Inkjet Printers at SGIA 2005?



# FLAAR Reports

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Caption for cover: Prints on textiles displayed at SGIA 2005.

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#### Introduction

SGIA is a trade show on printing; DPI is a series of lectures on printing. They used to be separate but have been held together for the last three or four years.

SGIA used to be a trade show related to screen printing. But since most screen printers are adding digital printers, SGIA now focuses on inkjet printers.

Since SGIA+DPI was scheduled to be held in New Orleans at the end of September, it had to be cancelled for several reasons, one being that the New Orleans trade show center was trashed.

SGIA and DPI have done the best they can to resurrect the event for December 2005 in Phoenix. They dropped all the screen printing aspect and decided to focus just on digital printing.



The following comments are based on comparing the original exhibitor list for the New Orleans version with which companies actually exhibited in Phoenix. The main difference between the original SGIA and the rescheduled SGIA is that screen printing companies were absent (a relief, since screen printing ink is noxious). The new show was more oriented to wide format inkjet printers, especially solvent and UV technologies.

If you wish to compare SGIA to other trade shows in the US or Europe, then get your hands on our FLAAR Reports on trade shows in general. We cover ISA, PMA, DRUPA, Photokina, Graphics of the Americas, IPEX, VisCom Duesseldorf, VisCom Milan, FESPA, and others. As a trade organization SGIA is closest to FESPA, but FESPA 2005 was triple the size of SGIA 2005. In a normal year they would be about the same size (FESPA is normally held only every few years but for 2006 FESPA has added a digital-only event for Amsterdam in May; again, shedding screen printing because that is not a growing market).

We have a separate FLAAR Report on UV-curable inkjet flatbed printers at SGIA and another separate report on solvent ink printers at SGIA. The following report covers hardware and software other than related to UV-cured or solvent inks.

# New at SGIA 2005

Hyphen Asia Pacific showed their Arakis system for printing on canvas that is already stretched.

Durst announced their new printer for printing on tiles. The one machine prints on the unfired clay tile with an ink that includes the glazing material. The tile then goes through the firing process and comes out already decorated and glazed.

Mutoh introduced a flatbed version of their Toucan LT printer.

Otherwise, in general, not much was shown at SGIA that was new.

#### Awards for Best Features at SGIA 2005

The award for most honest advertising brochure is deserved by Mimaki Engineering Co. Ltd and Mimaki USA. The Mimaki brochure for their GP-604D garment printer for T-shirts has the most detailed admissions the limitations of their printer of any brochure I have seen. In general Mimaki brochures are more honest than brochures of their competitors. The best example is that Mimaki withdrew their eco-solvent printer in 2002 and kept it out of the market during 2004 because they knew the eco-solvent inks were misleading and inadequate. Only now that a third-generation ink chemistry is improved has Mimaki added lite-solvent inks.

**UV** printer with the most potential, I would award to the Dilli Neo UV printer: great color gamut, an energetic new distributor for the US, and lots of promise.

Recognition for breaking sales record for UV printers goes to ColorSpan. They have sold more UV printers than any other company, outpacing Zund by a considerable margin.

**Nicest display:** there were two attractive Christmas decorations: one a Santa, another an Arizona cactus festooned with Christmas tree lights. I believe the latter was cut on a Zund cutter.

I also liked the display in the **Lintec of America** booth: showing how their printed film can decorate glass.

Best booth display of all SGIA award is won by the textile display at the edge of the show area (near the cars that were getting vehicle wrap). This mini-booth packed more beauty, careful work, and innovation into a small area than I have ever seen.

**Coolest product award:** at every trade show I visit, the "black and white" prints in the Aellora booth attract my attention.

**Helpful booth personnel**: so many people had energy and excitement about the products in their booths I can't mention them all. The folks in the **Sawgrass booth** did a great job of explaining their products. The team in the **OmniPrint booth** had a welcome greeting every time I stopped in their booth (which was every day and sometimes twice a day). See also the "Pride in their Products" commendations at the end of this report.

**Recognition for the most alive booth**, goes to Gandinnovations.

SGIA was the first really tasteful show of 2005 in the sense of not using girls in bikinis in the booths. At Photokina some booths use topless models. Yes, after all it's Germany. Ads on German television for suntan lotion or shower soap are often topless too, as are programs even during early evening family time hours. But a digital imaging trade show this is distracting, and not fair to any booth within 10 meters of where the models are posing. If your booth is across from such a display most of your clients have a challenge to concentrate on your printers or software. Posters at SGIA, however, were not always very modest. But a so-so printer can produce a print of a fine art nude photo; but that same so-so printer won't be much good for your business.

We don't recommend buying a printer just because the booth decoration lured you into the booth with naked bodies. Indeed last year at SGIA 2004, one booth, of a large international digital imaging company, had only a single giant 2-story high photo of a woman in a bikini. But otherwise a pathetic display of printers. Frankly their poster revealed not just skin, but revealed how little this company really had to offer.



The failure of Encad or Kodak to appear is a landmark in the history of inkjet printing, because Encad (along with ColorSpan) were among the first companies to produce multi-purposed wide format inkjet color printers (in an era that HP was still producing monochrome and when color, primarily for CAD). MacDermid was able to rescue ColorSpan but Kodak was not able to rescue Encad. Part of the blame is on the Lexmark printheads that Encad printers utilize; they just are not adequate when compared to Canon or Epson printheads in quality, or to Canon and HP printheads for ease of use. But the real causes of the demise of Encad are not only in poor printhead technology. Indeed the company would make a fascinating study for an MBA course on how to mismanage a once-promising company.

Two years ago Encad still had at least one new printer under development. But if it takes any longer to bring this to market, there won't be any more wide format market share left. Same at the desktop level: between Canon, Epson, and HP, there is not much wiggle room left even for something spectacular. Canon already has a 1 picoliter drop size (and as they were surprised to find out, nobody cares because their marketing strategy was stuck with trying to sell wide format printers through channels already established for Canon copiers).

Since competition is good for everyone, we hope there is one more Encad printer to let them shine before their star burns out, so that at least they can fade away with one final contribution to their credit.

Kodak tried to survive in the world of inkjet by offering media, but the advent of cheap Chinese media took away any advantage Kodak's own technology offered. Indeed today, Kodak, Oce, and everyone else is rushing to sell cheap Chinese inkjet media.

There was a nearby booth that was among the dullest at the show, but we will spare that company the renown because the products in the booth were nice; they just had no excitement in the booth.

In 2000 and 2001, we had an award for the saddest printer of the trade shows in that era. In other words, the worst output. The Xpress won this two years in a row, as did several other printers which, fortunately, are no longer available. At SGIA 2005 there was no printer with unusable output. The last time I saw really bad output was at Graphics of the Americas between 2003 and 2004: about three Chinese printers vied for distinction of the worst output. But at SGIA the Infiniti (from China) in the Graphtec booth was producing beautiful output, visibly as nice as any European or Japanese solvent ink printer (I can't vouch for the mechanics or longevity of the Graphtec-Infiniti, but the pop to the colors was impressive).

# **Especially Conspicuous by their Absence**

Why is Canon is not present? Although signage is not their forte they need the exposure since their market share for wide format hovers at between 2% and 4%. Of course the real reason Canon won't be present is because they do not intend to introduce their new printers until 2006 through 2007.

I did not notice either Kodak or Encad¹. Their market share is low, and probably falling (not as low as Canon, but getting close). Maybe some dealers will be showing Encad printers. With their Lexmark printheads, Encad can't compete easily. And Kodak media fails to excite people when any print shop can get adequate media almost anywhere nowadays. Kodak ink is only usable in Encad printers, so a declining market there too. Too bad, since Encad started wide format inkjet printing back in the 1990's. Our first printer was an Encad NovaJet Pro 36. But how times have changed.

Comment on the floor was that Encad was continuing to slip. Not being at the premier trade show, such as SGIA, is an indicator of their sinking position in the market.

But the SGIA was difficult to use; it is neither alphabetical nor by sequential booth number. This is the worst trade show exhibit list concept that I have seen this decade. The website tries too hard to be trendy, with the result that it does not easily provide what people really want to start with, a simple old-fashioned A to Z index. I finally landed on the index by pure accident (from a search engine). Nowhere on the SGIA site nor SGIA 2005 trade show area was it intuitive to find it.

#### **Cancellations**

I did not see any Eastern Illinois University booth. Since it was exam time we could not find any students who could get away this week either. And professors have to administer and grade final papers, and exams, this time of year. Being a research professor helps; I don't have the normal kinds of students that depend on me being on campus.

# Thermal Dye Transfer (Wax Ribbon)

Matan pulled out, so no chance to see whether they are still showing their thermal dye transfer technology. Matan was a world leader in this technology at wide format sizes in 2000-2002. Nowadays Matan tends to show its rebranded Teckwin printers, solvent ink printers made in China. For thermal dye transfer Matan tends to show only their narrow-format label printers.

Summa and Roland are about the only wide format thermal dye transfer systems left. Summa has a small display of their printer at SGIA 2005. This is not a printer for trying to reproduce photographs in continuous tone. Summa is very good for what it is good for. But we received a complaint from a person that bought one though they did not realize it works best only with spot colors.

# **Water-Based Inkjet Printers**

**ColorSpan** still makes water-based printers but does not exhibit them at trade shows.

#### **Epson**

In Europe Epson sells a model 4400, 7400, 9400; these are dual CMYK printers. The model 4400 is primarily for printing T-shirts. In the US these models are not offered. Since Epson is not a printer normally used for signage, their booth was empty much of the time. The same was true at Graph Expo and other shows that are not big on photo or giclee. Where Epson really shines is at Photokina, PMA, and PhotoPlus. At these photo trade shows Epson outdraws Canon and HP put together.

# HP

The HP 5500 is an industry workhorse. But nothing new was in the HP booth. A Scitex Vision solvent ink printer looked kind of out of place stuck alone in the back of the booth. Solvent printers are a world of their own; have their own ambiance. Gandinnovations showed this kind of set-





ting in their dynamic booth.

#### Mimaki

Mimaki is one of the few printer manufacturers that continues to be successful with a water-based printer. Both the JV4 and the JV22 are still eagerly sought after.

**Mutoh** and **Roland** also still offer water-based printers on their websites, but their market has clearly switched to eco-solvent (for Roland) and mild-solvent and full-solvent for Mutoh. Same with ColorSpan; they exhibit only their solvent and their UV printers at ISA. Mimaki is the only company using Epson piezo heads that still seriously develops and sells water-based printers.

Any company that claims "blazing speed" is asking for a rebuttal. There is no piezo printer that is fast. Piezo printheads, by their inherent technological limitations, are slow. So calling a piezo printer "blazing" is just asking for comparison to an Encad or Canon.

# **Inkjet Printers: Direct to Textiles: T-Shirt Printers**

Mimaki GP-604D T-shirt printers were everywhere at SGIA 2005. I saw more of this printer than at any previous trade show. Four years ago the colors of the predecessor printer were muted. Today the colors are more alive. A lot depends on the background color of the T-shirt and on the colors featured in the design.

Retrofitted Epson printers were more common rigged as T-shirt printers (or dye sub printers) than as anything else. At SGIA, Epson had more attention outside its corporate booth for T-shirt printers than inside its company booth because the company booth was showing fine art, photo, and giclee, which is not the audience for SGIA. SGIA attendees wanted T-shirt printers.

There must have been almost a dozen booths that specialized in some form of T-shirt printing, or other comparable decoration. Sometimes it was direct printing (OmniPrint); other times it was dye sublimation. In all cases it tended to be Epson because no other piezo printer is available at desktop size. You can't run dye sub inks through a Canon or HP printer.

Since the Mimaki T-shirt printer is expensive, the average family-run sign shop is more interested in an economy Epson T-shirt printer. Our main goal at SGIA was to update our reports on UV-curable flatbed printers, so we did not have time to spend the necessary days or even hours to inspect every T-shirt printer at SGIA.

But one booth attracted our attention. Although booth attendants elsewhere consistently offer help, the folks in the booth at OmniPrint captured our attention every time I went up or down their aisle.

I also noticed the OmniPrint personnel gave the same attention to every single person who came near their booth. Keep in mind that FLAAR is not a buyer. So some booth attendants ignore us. In earlier years some booth managers even came over and told the booth attendants to stop talking with us and go instead to serve customers who wanted to buy. A few managers were quite vocal about this.



Obviously these booth managers did not realize that although FLAAR itself does not buy, we have about half a million readers who do.

So when a particular booth attendant ignores us, we just politely go to the next booth where we are better attended to. The folks at OmniPrint answered all my questions and patiently listened as I explained what FLAAR did.

OmniPrint had brochures for two printers: their TexJet is an Epson 4000 printer using dual CMYK textile pigment inks for direct printing. The FreeJet 290 uses a mild-solvent ink. The spec sheet lists 2880 dpi, so this means the printer has Epson printheads. On most materials, especially with a rough surface like canvas, you would tend to use 720 dpi.

Brother, an international name from a bygone era, had a booth. They introduced their GT-541 desktop printer for T-shirts, with a resolution of 600 x 600 dpi.

Until we can test these printers in-house for a protracted period it is not possible to comment on their production and efficiency or ease of use. The same common-sense observation pertains to comparable desktop sized T-shirt printers at the booths of other resellers. Often the identical printer would be in two neighboring booths, each time with a different nameplate.

When compared with FESPA trade show in early June (in Munich), there are few textile printers in the preshow exhibitor list for SGIA. One reason is that most inkjet textiles are digitally printed in Italy and Turkey (or China). Those buyers shop at European trade shows, not in the US. So you see more printers for textiles at trade shows in Europe, Turkey, Korea, and China.

When DuPont lists itself at a trade show it is not always clear what part of DuPont will show up: DuPont textile printers or DuPont UV printers or DuPont solvent ink printers. At a trade show such as SGIA the UV and solvent printers would be the logical machines to feature. DuPont did not show their Artistri because the textile ink portion of DuPont was not exhibiting.

The wide format Mimaki TextileJet Tx2-1600 printers were also in several booths. In some cases it was dye sublimation ink being used, such as in the ErgoSoft RIP booth. Mimaki makes several other printers that handle textile inks: JV4 and JV22. Mimaki also makes printers that handle un-backed textiles (textiles with no paper backing; the paper backing is needed on other printers in order to feed woven fabrics through a system (such as an HP) that was made exclusively for paper or inkjet media.

# **Dye Sublimation Textile Printers**

- Gandinnovations (direct dye sub)
- Mimaki (dye sub via heat transfer press)

In Europe, especially at FESPA or sign printer/ screenprinting trade shows in Italy, Kimoto has a huge and lively booth, usually partnering with Manoukian. I do not tend to see these companies in the US. Thus I was surprised to see a modest Manoukian booth at SGIA. They even had one of their modified Roland Philyrasystem printers for textiles. The range of their digital Sublimatic Inks included 16 "colors" including three kinds of dark black and one gray.

# **Dye Sublimation in General**

What tends to look unrealistic are "profit projections," the promises of quick profit if you buy a product. So one catalog offers you a profit of \$9.30 just to print a mouse pad. But they claim you can sell the mouse pad for \$12.95. How? You can buy attractive mouse pads at Staples or Office Depot for a fraction of that.

Plus, these get-rich-quick promises never admit how much wastage you will have.

And rarely to these resellers explain to you the amount of ink you will lose, and costs involved, when the dye sub ink gunks up your printheads. A single Epson printhead can cost over a thousand dollars to replace. How many mouse pads do you have to sell to pay for a single clogged printhead?

Dye sub printing is our favorite manner of decorating suitable materials, and many clever print shops can probably make a profit, just don't expect to get seriously rich unless you have a substantial market demand for these products in your area.

Trade shows such as SGIA and ISA have row after row after aisle after aisle of local, regional, and national outlets for sublimation materials. Until we establish a business relationship and get to know a particular company, we have no easy way to judge one or the other. The catalog of Johnson Plastics looks serious. Conde would be our normal choice, but they did not have a booth this time, although an executive of Conde was in the Sawgrass booth.

#### **Heat Presses**

Neither of the large manufactures of desktop-sized manual heat presses had a booth.

Practix did not have a booth but I believe one of the large roll-to-roll heat press machines that I saw was probably from them. The other alternative would be a rotary heat transfer system from Astechnologies, but they have not tended to exhibit as much in recent years. I mainly saw Astechnologies several years back.

# **Dye Sub Paper**

Forever, a substantial German producer of dye sublimation paper had a nice exhibit with multi-national attendants: a German crew and a US crew. What is impressive about the Forever transfer paper is that they have them for every kind of ink and toner you can imagine: even for solvent and mild-solvent inks. So you don't have to clog your printer with disperse dye inks (dye sub inks).

We would recommend trying out good European transfer papers and not going low bid with some cheap knockoff brand. In addition to Forever, a main brand is Coldenhove Paper, from The Netherlands.



# Dye Sub Inks

Coast Graphic Supply sells ArTainium UV sublimation ink.

Sawgrass Technologies

**US Sublimation** 

# Dye Sublimation on Aluminum, Tiles & Other Materials

Mimaki

Plus a dozen small local or regional vendors.

# **Dye-Sublimation: General Vendors**

Conde did not have a booth but their Vice President was in another booth.

#### **Inks for Textiles**

Ciba Specialty Chemicals offers reactive dye, acid dye, disperse dye (dye sub) and pigmented inks for printing on textiles.

# **Inkjet Media: Textiles**

3P, their contact is <a href="mailto:info@3P-Inktextiles.com">info@3P-Inktextiles.com</a>

DigiFab did not exhibit.

Fischer Textiles, primarily for solvent ink.

Most other textile companies that were listed for New Orleans did not hold out for Phoenix.

# Inkjet Media: Water-Based

Intelicoat Magnum Magnetics

#### **After-market Inks**

- Coates
- R. Monteith Corp.
- ITL, includes former employees of Lyson; Lyson was conspicuously absent
- LiqueColor Inkjet Group



# Coast Graphic Supply



Sawgrass



RedGiant

Most people are skeptical of putting an unknown ink in their printer. If the ink is made in China you have no idea what chemicals are in the ink.

# **Finishing Equipment: Trimmers, Cutters**

Keencut was not present. So no trimmers or cutters were on display other than in the booths of a reseller.

### **Laminating Equipment**

Advanced Greig Laminators was downsized to the point that they had no actual laminator, only a table with brochures.

The Clearstar Coatings booth was somewhat subdued compared to earlier years and other trade shows.

GBC had their laminators on exhibit.

Keundo (liquid laminators) was absent. No Keundo solvent ink printers either.

Seal did not exhibit though their parent Neschen did, in a downscaled exhibit with no laminator present (or none that I noticed).

At Coast Graphics Supply booth we saw the Lumina liquid laminator. This was the first time we had noticed the distributor or this brand of liquid laminator. The booth manager was very knowledgeable. We intend to look at them further and learn more about these products. We have been looking for a liquid laminator system to evaluate and present in our FLAAR Reports.

# Variable Data Presses

- HP Indigo (the press itself was not present; only a booth without a printer)
- Xeikon America, they had a nice Xeikon 5000 printing beautiful images.

Since Xerox presented at Print '05, it is doubtful they will have their iGen3 at SGIA. Same with Kodak; they were at Print '05, but unlikely to be at SGIA.

# **Laser Printers (Dry Toner)**

Dry toner laser printer manufacturers rely on magazine reviews to promote their products. You don't see laser printer exhibits at many trade shows these days.

# **RIP Software**

CADlink was absent.

ColorGate was sort of present. Sort of means that no one from the German headquarters was visible (being present and visible are two different things). Sort of means that the distributor had a sign with the words Col-

orGate. You expect more of a RIP that is so prominent in Germany and at German trade shows such as DRUPA and Photokina.

DigiFab was absent.

ErgoSoft had an energetic booth, complete with the key person from Switzerland and their US offices. The Ergo-Soft booth featured printing on textiles.

Onyx Graphics had a relatively large booth in a good location.

Scanvec Amiable was absent totally, unless buried in a reseller that I missed completely.

Shiraz had no booth but was represented by a key person from the English headquarters and by the manager of the new Shiraz USA office. I had an educational breakfast with the two Shiraz managers. FLAAR will be adding Shiraz RIP to our "short list" of RIPs that we find worth considering, in part due to its ease of use, in part due to the fact the company is long-established.

Wasatch had a nice booth in a prominent location.

Wasatch RIP is the Raster Image Processing software that
FLAAR uses at Bowling Green State University.

I did not happen to notice anyone from PosterJet RIP, neither from the US nor from Germany. PosterJet is the RIP that we use in our office in Guatemala. PosterJet RIP is available across the US from ScarabGraphics.

# **Laser Engravers**

Epilog Laser; if their booth was present I missed it.

Universal Laser Systems had a nice booth. We use a Universal Laser at Bowling Green State University. We are looking for a more powerful unit to write about in our FLAAR Reports since a laser engraver is great for architectural models and to recreate carved artifacts from our archaeological research in museums.

# **Trade Magazines**

# **Digital Output**

This is one of the top three trade magazines in the industry.





#### Wasatch



# Universal Laser Systems





# **Digital Teknik Magazine**

I have no idea where I got the name of this magazine. I assume I found it in an early SGIA listing. I am not familiar with this magazine from anywhere else. If they actually exhibited, I sure missed their booth.

# dlmages Magazine

Same with this magazine. . If they actually exhibited, I sure missed their booth.

#### **National Business Media**

This company publishes Digital Graphics magazine, one of my favorites.

# SM Media Group

# Wide Format Imaging

# **Summary on SGIA 2005**

Phoenix was a subdued atmosphere. Downtown Phoenix at night is the most abandoned city I have ever seen in the world. This is probably the only city where traffic in downtown (even during the day) is so low, and slow, that it would be difficult to get run over even if you jaywalk at every traffic light.

The trade show center was equally subdued. The ceiling is the lowest of any trade show exhibit that I know of. The low ceiling sort of cast its mark on the exhibits. There was no high vantage point to take a photo of the entire exhibit as there is at Chicago's McCormick Center or the Orange County Convention Center in Orlando.

#### **Pride in their Products**

It is nice to see booth managers who are as proud of their products as a parent is of their new born child. **Mutoh** was very proud of their (foam) board-printer. The folks at **DuPont** were proud that their UV printer is now out of beta stage and companies in Canada are already buying it.

# Appendix A List of Recommended Booths

The following list includes the booths that were in the original list for New Orleans. These are booths we recommended to visit for wide format inkjet printers and related products. Because SGIA an alphabetical list is hard to find on their website, and because the list they do provide is awkward to access on their website, our list of booths to visit is probably not complete

Companies **in boldface** are ones I remember seeing at Phoenix. It is hard to make a final list because companies that were in the original list maybe did not have their own corporate booth (such as Conde) but their people were at SGIA in the booth of a partner company. The following list is made from the pre-show list on the SGIA website and includes only nationally recognized names. At both SGIA and ISA, there may be up to a hundred additional booths worthy of visiting; these are local resellers, start-ups, or other companies that we do not know as much about. Once we were at SGIA, then we add mention and photographs of the local companies. OmniPrint would be an example of a company that we did not recognize from a pre-show list, but once we got to SGIA they stood out as a place whose booth was informative.

# **3M**

3P Inkjet Textiles Aellora Digital

**AGFA** 

**Alcan Composites** 

Arlon

**Avery Dennison** 

Bainbridge

Beaver Paper ??

CADlink CalComp

Catalina Graphic Films

Charrette

**Clearstar Coatings** 

Coates Screen (Sun Chemical, SunJet)

Conde Systems

DigiFab Systems (inkjet textiles)

**DuPont** Ink Jet

**Durst** 

Eastern Illinois University

**EPSON** 

FESPA

**Fisher Textiles** 

Flora, RTZ Co. Ltd. Fujifilm **Sericol** USA

**Gandinnovations** 

**GBC** 

Gerber

Glen Raven

Hartman Plastics

HP

**HIX Corporation** 

Infiniti / Aeromatrix

**InteliCoat** Technologies

Island Clean Air

**KAPCO** 

Keencut

Keundo

Konica Minolta

Leggett & Platt

Lintec of America

Lyson

MacDermid ColorSpan

MACtac

Magnum Magnetics

Matan

Mimaki Mutoh

Nazdar

Neolt

NUR

Oce

**Onyx Graphics** 

**Practix** 

Roland

Scanvec Amiable

**Sawgrass** 

**Scitex Vision** 

Seal

Seiko I Infotech

Shanghai Teckwin

Sihl

Splash of Color

**Tampoprint** 

Tara Materials

**Thieme** 

**Universal Laser Systems** 

Wasatch

Xaar

**Xeikon** 

Xerox

ZBE

Zünd

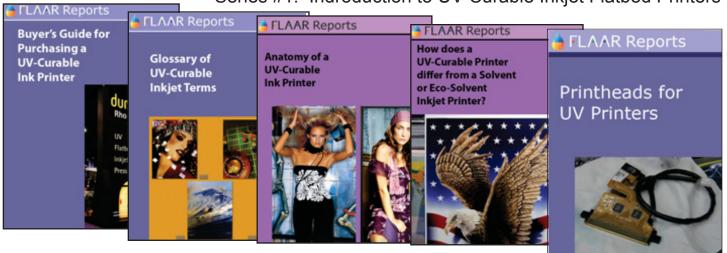
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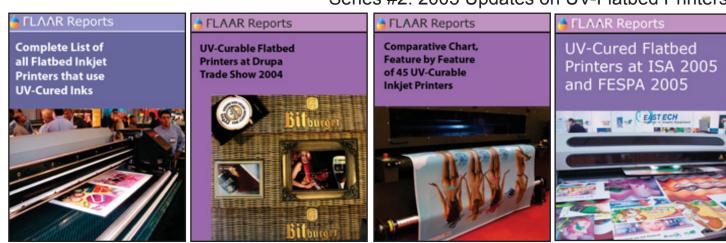
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