



UV-cured Inkjet Printers Presented at Print '05 Trade Show

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Introduction

This is a summary and annotated list of all the UV-curable inkjet flatbed printers that we saw and photographed at Print '05 trade show in Chicago, early September 2005.

If SGIA had not been doomed by Hurricane Katrina causing the New Orleans trade show center to be trashed, we all would have seen several previously unknown companies presenting still more UV-cured inkjet printers in October.

It is amazing that so many diverse companies are all competing for this market. Over 30 manufacturers are trying to sell 50 models of UV-cured inkjet printers. There is no way they will all survive. Just look at Encad: it is barely surviving in the aqueous ink world; as soon as Canon comes out with their 60" model and as soon as HP finally updates the venerable Designjet 5500, the Encad NovaJet 1000i (Kodak 1200i) won't offer much competitive advantage.

Because of Hurricane Katrina, SGIA was not held in its regular time and place. A smaller show has been rescheduled for December. So what was available at Print '05 is what people will have to look at, unless they went to Viscom Düsseldorf (same days in Germany that SGIA would have been in New Orleans).

Here in this free report we mention each printer. If you prefer to have a comprehensive evaluation combined with an in-depth list, premium reports are available from www.wide-format-printers.NET. Look for the link at the right to UV printers. FLAAR offers over 50 publications on UV-curable ink flatbed printers.

UV-cured Ink Printers Presented at Print '05 Trade Show

Aellora

Aellora makes innovative narrow-format UV-cured printers for labels, featuring white ink. They also make CMYK UV-cured printers (again, narrow label-format, or otherwise small format). At Print '05 they demonstrated a unique hybrid printer. It has perhaps four printheads. Several jetted UV cured ink; the other printhead(s) jetted solvent ink. So the substrate (a glossy material for labels) received both some solvent ink and some UV-curable ink. This was all black; the purpose was to achieve a more solid (darker) black than traditional label printers could previously achieve.

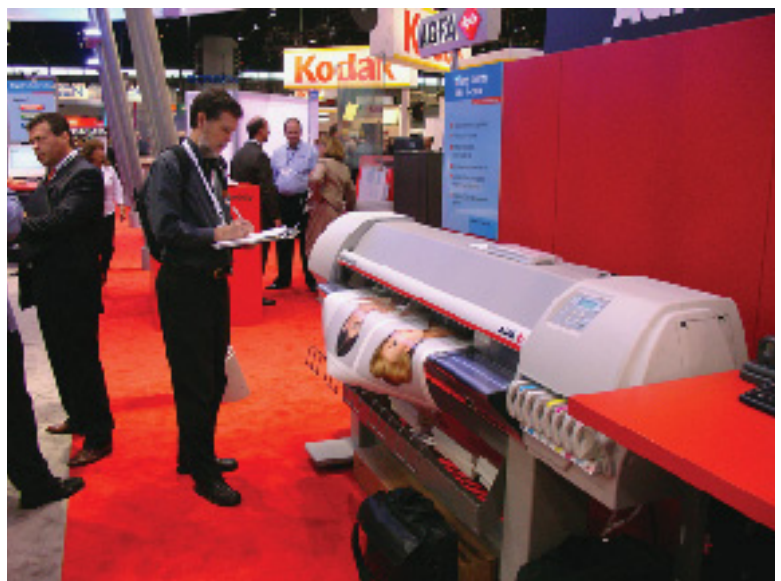
I did not notice how they cured the UV-ink; in other Aellora systems the UV-lamp curing unit is separate.

Aellora features Spectra printheads, as you would expect from a company owned by Markem (Markem also owns the division which makes Spectra printheads).

Agfa

Agfa actually is involved with several UV-cured inkjet printers:

- Agfa :Dotrix
- Agfa :Anapurna, in cooperation with Mutoh
- Thieme M-Press, obviously in cooperation with Thieme



Agfa Grand Sherpa

The M-Press is huge, and was not physically present either at FESPA or at Print '05. Due to the size and weight of this printer, it is unsure whether it will be shown at SGIA. It is also unclear whether it is completely out of beta stage development and testing.

The Agfa :Anapurna, and its Mutoh twin, the Cobra, are evidently not finished enough to be shown to an inquisitive audience, other than the sneak preview at FESPA in June.

But the Agfa :Dotrix is five years old: it was born at DRUPA 2000 via Barco, grew up with Dotrix (a separate company at that time), and at least they got rid of the stupid name "the.factory" pronounced "the dot factory." Cute is not clever.

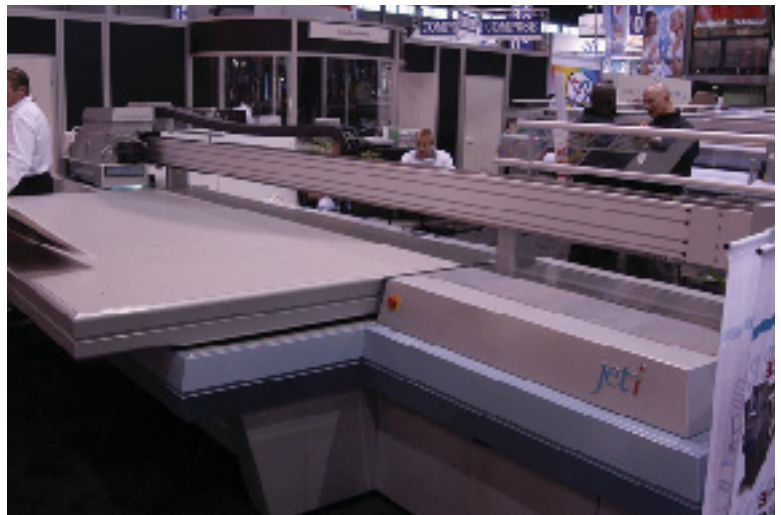
The :Dotrix is much improved, but was not physically present at FESPA for some reason or other. The presence of this printer at Print '05 shows it is now ready for prime time.

Originally the :Dotrix was positioned as a label printing machine. Now it is revealed to be more versatile: it can print photo-realistic quality. It is scary to think that images can print so well on economic, uncoated paper. We don't know the technology intimately (though we sure hope to learn), but it is our impression that it has a page-wide array of special Toshiba Tec heads. These are comparable to the heads in the Mimaki UV printers; the printers with the absolute ultimate top quality. Toshiba Tec licenses the "grayscale" technology from Xaar. The result is very, very nice quality.

If you could add variable data software, would this become a formidable variable data short-run digital press?

Gandinnovations

Gandinnovations brought all of their Jeti printers to the show, including their 3150 UV flatbed. The 3150 UV can take media up to 120" x 60" and, according to the literature we picked up, has 24 Spectra print heads capable of printing at 550 square feet per hour at the highest quality settings. This machine was happily printing the entire time. We met someone who had recently purchased this UV-cured inkjet flatbed printer and have undertaken a site-visit case study at his print shop in Minneapolis. So we now have two full reports on the Gandy UV printer. Both are available from www.wide-format-printers.NET.



Gandinnovations 3150 UV jeti

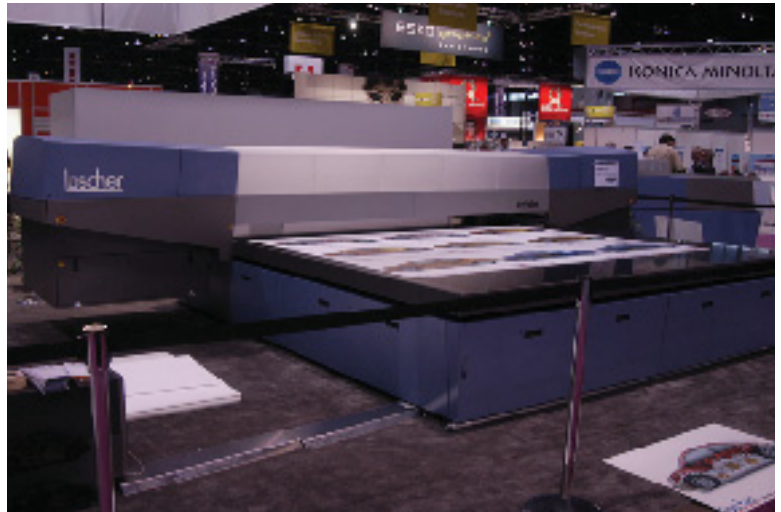
The Gandy brothers also had their solvent and dye sublimation printers at the show, which are discussed in the separate "Solvent/Eco-solvent" issue of the Print '05 FLAAR report. Overall, Gandinnovations caught a lot of attention.

We like the integrity of the Gandy brothers: James who designs and manufactures the printers and Hary who is in charge of marketing and sales. We like their spec sheets which includes honest comments about how clear top coating doubles print life. Other printer companies try to pretend that lamination is not necessary.

Lüscher

The Lüscher JetPrint 3530 UV was on display actively printing. We have inspected this printer at DRUPA 2004 (where we believe it was first shown in beta stage). We then saw it again at FESPA 2005 in Europe. It has now arrived in the US.

The Lüscher would primarily be competition for the NUR Tempo. The other giant flatbed, from PIT, was not yet out of alpha stage at FESPA 2005 and is unlikely to be available in the US. The Scitex Vision VEEjet+ is rarely shown at trade shows and is among the oldest technologies still extant (the Zünd 215-C would be the other oldie). The Lüscher and NUR Tempo are newer technologies.



Lüscher JetPrint 3530 UV

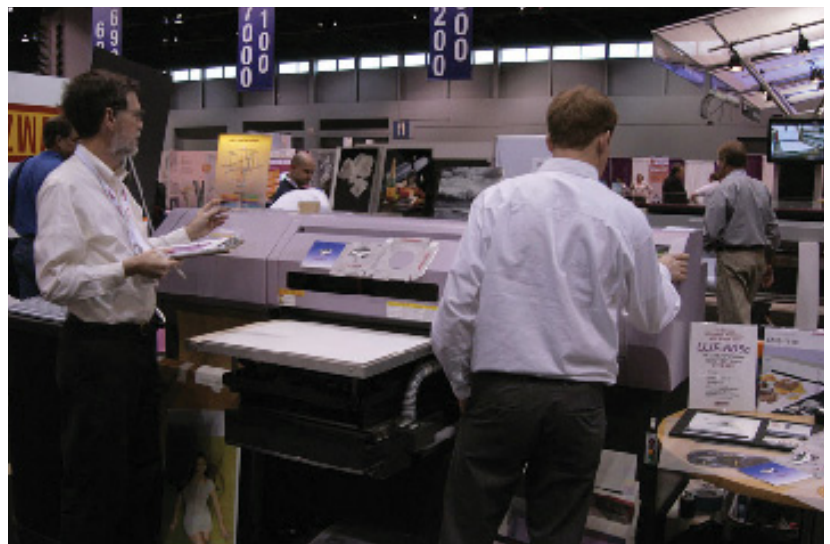
We would take issue with any advertisement for any UV-flatbed printer that claims it can print on everything. Issues of problems with adhesion, possible need for primer coats on some materials, what about lamination or top coating that might be needed? And the facts on possible abrasion need to be raised any time a brochure claims it prints on everything.

Based on our comparative knowledge of each brand we have a full report in our question-and-answer format on the Lüscher JetPrint 3530.

The first day, the Lüscher JetPrint 3530 saw a lot of action, producing print after print of VW Beetles. However, we did not notice the printer running much beyond the second day of the show. We do not know why this was the case, but would be curious to find out. Our evaluation report does point out some potential issues, primarily a result of the unusual size of this printer.

Mimaki

Tucked in the back section of the Wide Format Pavilion was the Mimaki booth. Here, they exhibited their two UV models the UJF-605R II and the UJF-605c. The UJF-605R II model shown was a 7 color CcMmYK+white system. We saw several samples while we were at the booth. One of the samples that we looked at was a logo printed in reversed color order on to Plexiglas. These machines are designed for jobs that require extremely fine detail. They use the Toshiba Tec grayscale-technology print head so the quality was quite good.



Mimaki UJF-605c

Mimaki is unique among printer manufacturers in that all their UV-cured ink printers are highly specialized. Mimaki UV is primarily for printing white ink on clear material.

Mimaki produces relatively flawless quality (they escape bi-directional banding that most other printers have by simply not printing bi-directional. Mimaki (and Inca) are the only two printers (to our knowledge) that print exclusively uni-directionally.

Previously the Mimaki UV printers were for rigid materials. Now they have a roll-fed version also.

- UJF-605R II, \$160,000
- UJF-605c, \$119,995

The R-model is a new roll-to-roll version of earlier model UJF-605 that was only for rigid materials. The UJF is for printing on plastic, primarily for transparent plastic where white ink can be a useful feature.

These are not wide-format printers for general signage. These are relatively narrow format for specialized signage that has to be excellent quality.

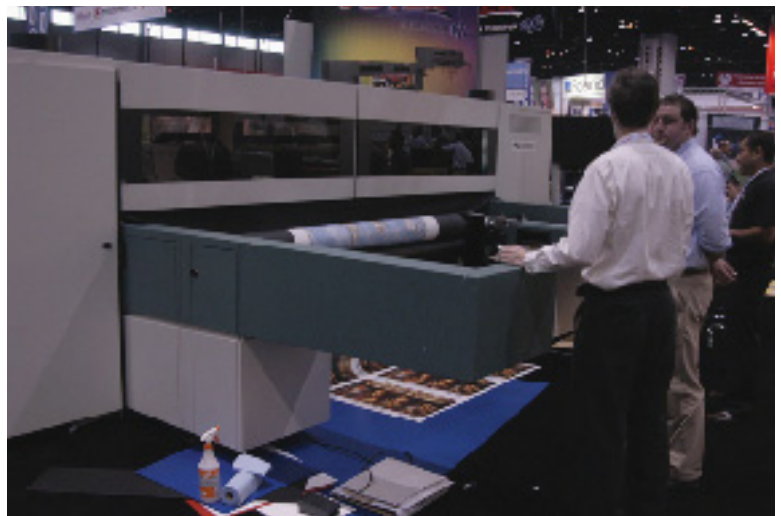
Mutoh

Mutoh is co-producing an impressive UV printer with Agfa. Both companies will sell the identical printer under their own respective brand names. However, Mutoh did not show anything UV-related at the show, even though they brought their entire Eco-solvent line.

NUR

The output from the NUR Tempo flatbed was very good quality: a tad better than Lüscher JetPrint. NUR had minimal to almost no splotchiness. Not much splatter; very good quality overall. But be sure to see our FLAAR Reports, since we learned some information from two sources during a Milan trade show, including from a site-visit case study of an installed NUR Tempo.

We did not notice the roll-to-roll UV NUR Expedio.



NUR Tempo

Oce

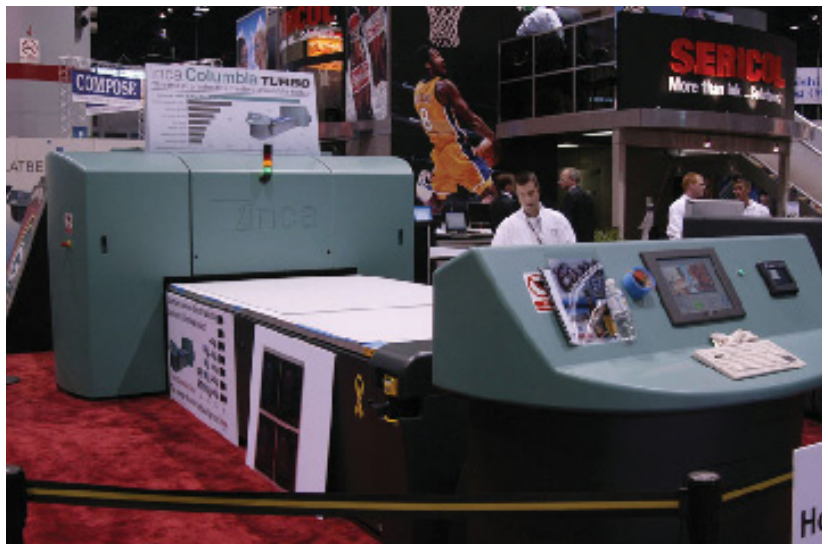
Oce had a popular booth, but another division; there was no presence of the folks responsible for their wide format printers. Thus Oce failed to exhibit a single solitary inkjet printer; this means no Oce Arizona T220 UV.

Scitex Vision

Scitex Vision tends not to show their UV flatbed at trade shows. They normally show just their solvent ink printers. Print 05 was no exception. Scitex Vision is now (since August 11) owned by HP, as announced during the first weekend of Print 05.

Sericol

The Sericol booth was likely the most popular booth at the Wide Format Pavilion. They exhibited the Inca Columbia Turbo 220, capable of high quality POP printing at an advertised 753sqft/hr. It became apparent that people like to see big, heavy, moving parts.



Inca Columbia Turbo 220

The Inca Columbia Turbo is a flatbed UV printer that moves the media on the x-axis, not the print head. The result is a very large piece of metal launching back and fourth at high speed. The samples we looked at were some of the best we had seen at the show. Banding was very subtle and color was nicely saturated. What was striking about the Inca Columbia Turbo 220 was the technology used to move the bed – electromagnets. The booth attendants pointed out that the magnets reduced friction and eliminated some moving parts. While this is likely true, we can imagine that the Inca Columbia Turbo 220 consumes quite a bit of electricity.

SunChemical

SunChemical is an ink company, so they don't make printers. But SunChemical is one of the driving forces behind the FastJet, a rather impressive technology. FastJet is designed to print on corrugated and other packaging materials. So this is competition for the Durst Rhopac and Scitex Vision CORjet.

The FastJet is manufactured by Inca Digital (since SunChemical makes ink, not machines). The printer features variable data software (now available elsewhere even in Wasatch RIP) and a page-array of printheads. In other words, the printheads are stationary; they stretch all the way across the path. There are four (staggered) page arrays. Page array technology is the direction of the future, because it allows speed. It is easier to move the materials faster than you can move the printhead carriage.

Downside of early page arrays was that unless there are redundant nozzles or redundant printheads, there is no easy way to make up for clogged or defective nozzles. An Epson, Roland, Mimaki, or Mutoh (water based printer) gets their high quality by going back and forth, repeatedly, over the same area, interweaving the drops to cover banding and other imperfections. The Roland can go as often as 32 passes (the reason it is so slow).

Of course on packaging material, you don't need or expect 1440 dpi, yet some packaging is being used as POP advertising: you show the product in the box. Actually you show just the stack of boxes sometimes. So the sales message has to be on the box. This would imply at least 600 dpi if possible, though for years people survived just fine with 300 dpi from Encad NovaJet Pro printers, and thought this output was great (until they saw 600 dpi from competing printers....).

Roland

Roland has not yet shown much in the way of flatbed printers in the current year. We know they have one under development but, as expected, did not reveal it at Print 05.

Vutek

The older PressVu UV 200/600 SC was shown, yet the focal point of Vutek was their newest model UV printer – the PressVu 320/400. The PressVu 320/400 is a flatbed printer with roll-to-roll capabilities.

Vutek points out that speeds that need to be verified by an independent testing institute before they can be accepted. This observation holds true for all speed specs. Speed specs vary from wishful thinking to outright misleading because they don't include the parameters, nor do the speed specs reveal when the speed simply can not be achieved.



Vutek PressVu UV 320/400

Zünd

Zünd is a Swiss company that primarily manufactures highly regarded XY-cutting machines for signage materials.

There were brochures for two models being handed out at Print '05: the Zünd 215 and the Zünd UVjet 250 Combo.

The model 215 printer at first glance produced very saturated colors, but also produced noticeably bad banding. We do not know if this is a flaw in the printer model or if it was a problem with clogged nozzles. But other people who have tried this printer also complain about its propensity for banding. I like Swiss products; I lived in Zurich for several very happy years. My

brother attended the prestigious ETH technical university there. Thus we respect Swiss quality. This is why it is disappointing that the Zünd 215 has not impressed us as much as their XY-cutter.



Zünd UVjet-215

Between 2000-2004 Zünd sold more of their flatbed 215 series than any other manufacturer, but in 2005 ColorSpan's 72UVR is outselling the Zünd.

The model 250 printer uses Spectra printheads and therefore should have better quality all around than the 215 (which uses Xaar printheads). But within one month of Print '05 trade show, the model 250 was withdrawn from the market due to a host of problems. Basically the first customers it was sold to found it unusable. The model 250 is being improved over the next 8 months and will be relaunched sometime in 2006. Once they get the burps and hiccups resolved, the model 250 should be an impressive printer. It took DuPont two years to retrofit their Cromacolor 22uv, and millions of dollars in investment. So some printers do have a slow gestation period. Even the Durst Rho 160 took well over a year to get out of beta stage. It went on to become a popular and productive printer. We hope this is the positive result that we can write about in another year.

Conspicuous by their absence

Durst was in the initial list, but did not exhibit, since naturally SGIA is more their audience. From what we saw at FESPA (early June), the two new DURST Rho printers (600 and Rhopac) are alive and well.

Can't say the same thing about the Agfa :Anapurna 100 / Mutoh Cobra. It was functioning at FESPA, sort of... Several people commented that they were not convinced it was functioning the entire time. Yes, obviously SGIA would have made a better place to introduce this UV printer to the US audience. But since Agfa had two booths at Print '05, the absence of the :Anapurna 100 from the Agfa booth and the absence of any mention whatsoever of the Mutoh version in the Mutoh booth suggests that the printer was still not ready to be shown to an inquisitive audience.

One person asked out loud what the sales potential would be for the Agfa / Mutoh UV printer in its price class, if, if the entire world sales figures for a \$200,000 such printer would be say, 200 units a year, with Durst, Zünd, Vutek and others already well established with fully functioning products, with Agfa's market share in other inkjet categories, and even adding Mutoh's market share, the totality hovers between 5% and 10% so at best that's 20 units a year.

But, on top of that, with ColorSpan taking over the entry level at 300 units from Zünd (the previous worldwide sales champion), and with RasterPrinters gradually getting their entry-level RP-720UV into the market, these

enticing prices (especially the ColorSpan, since their printer is tough, well-proven, and has documented tech support), don't leave much market for a new entry.

Plus, if the Agfa Anapurna does not appear at SGIA (rescheduled for December), and if not at least by ISA 2006, then a host of newer UV-printers will make the market all the more crowded. Even the French have produced their own UV-printer. A Czech advertising company built their own UV printer when the Zünd they originally wanted to print banners did not meet their needs. This Czech printer is now sold as the Grapo Octopus throughout Europe. So if a French university-related company can produce a fully-functioning UV-flatbed, and if a mid-sized billboard printing company can design and manufacture their own printer in-house, surely the Agfa printer will come out okay at some point.

The Zünd XY-Flat and Zünd 250 both have failed (though the Zünd 250 will try to re-launch in mid-2006). The Oce Arizona 60 failed before launch; the Oce Arizona T200UV has been withdrawn. The Hypernics and Azero Creon UV printer was magnificent in conception, but Hypernics seemingly went totally out of business and Azero ran out of operating capital and withdrew from exhibiting at American trade shows.

So you have two extremes: people that build complete UV printers in their shops. And major companies that can't get theirs to work, or can't get anyone to buy them.

Surprise Appearance

Noritsu, famous from the days of photo labs, appeared in the Mitsubishi booth with a revitalized Noritsu Mytis. The quality is breathtaking. Downside is that inkjet quality with piezo printheads is slow, and the fabulous media is very costly. If the media cost would come down, and if people recognize that this class of quality has value, then the printer ought to begin to sell.

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McCormick, where Print '05 was held.



Lüscher booth



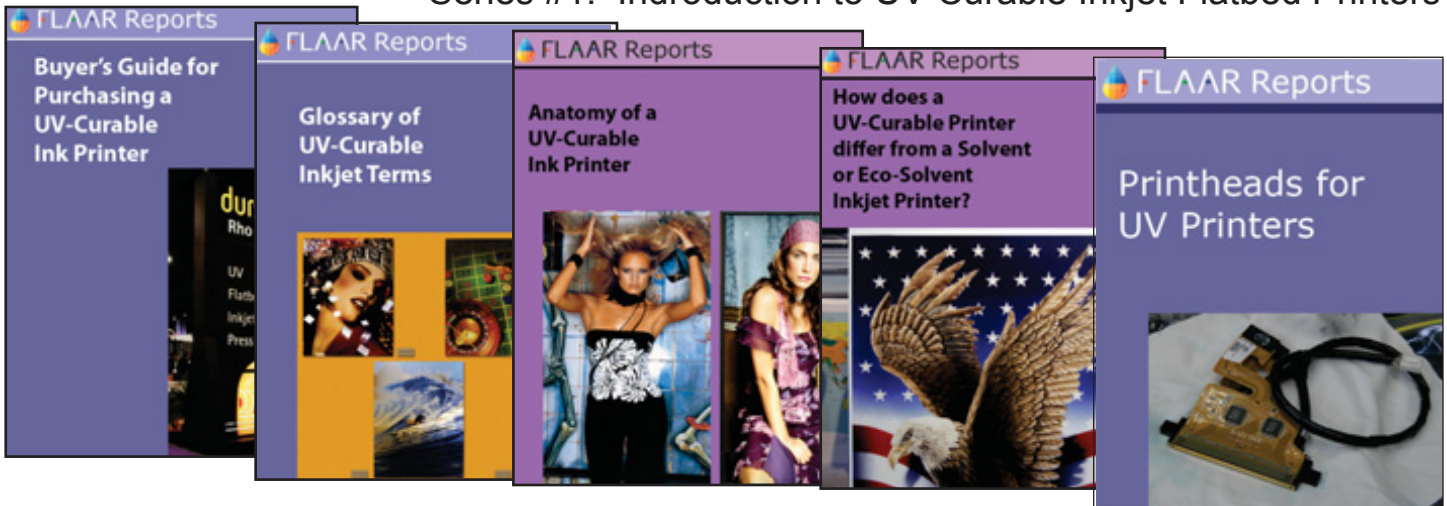
Aisle within the Large Format Pavilion.



FLAAR booth in the Large Format Pavilion.

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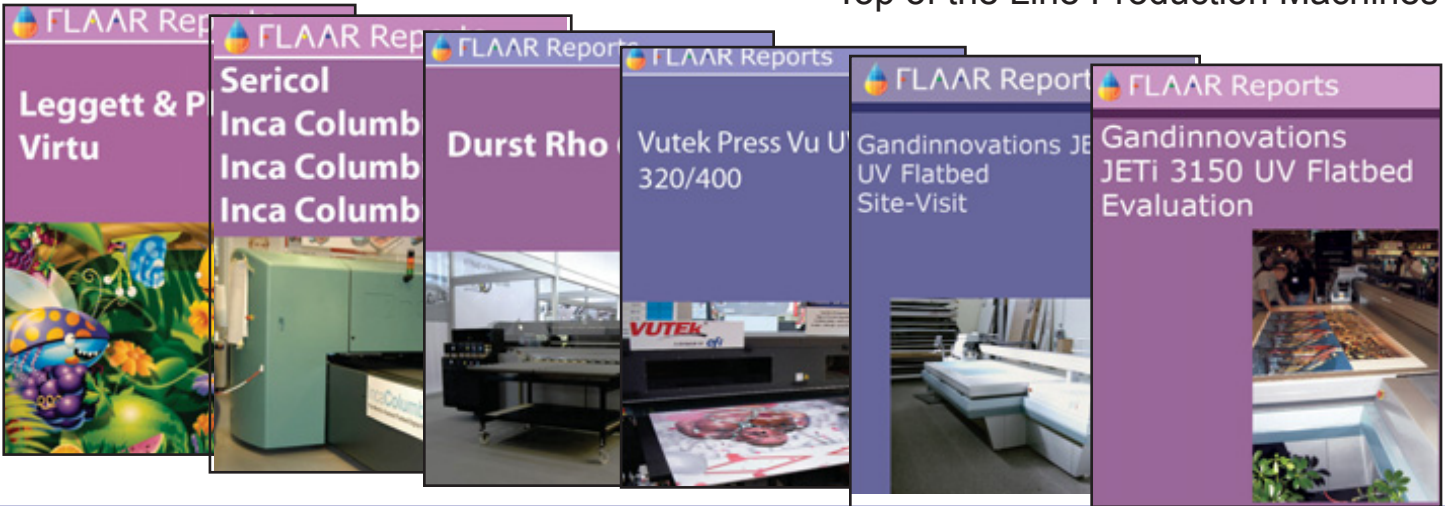


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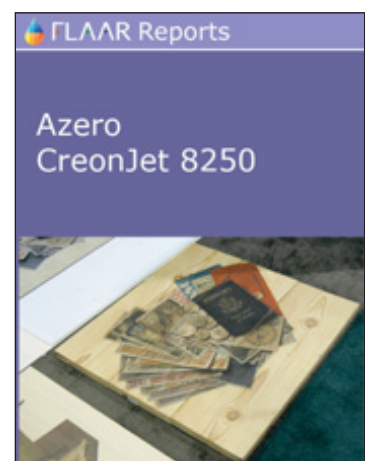
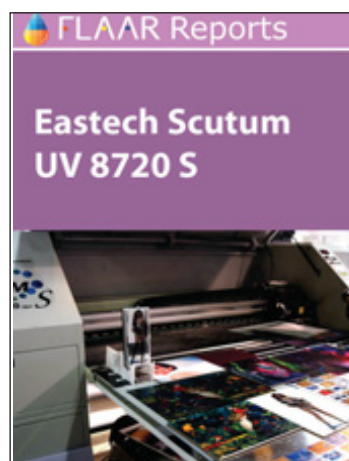
Entry Level / Mid-range Price, but sturdy



Entry Level Budget



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