

► **FEATURE: SCREEN TO DIGITAL**

# DIRECT EXPERIENCE

John Scrimshaw asked Kevin Kelly, CEO of leading T-shirt printer Blue Heron Industries, to describe his experiences in switching from screenprinting to direct digital. Here are the questions and answers.

## What persuaded you to invest in digital printing?

As a career screenprinter, I was watching digital printing or direct-to-garment printing out of the corner of my eye for a very long time. I remember the first time I heard about the process and it seems like yesterday.

I was standing in my old screenprint production room, talking to a salesman about new screenprinting equipment. There were multiple automatics humming in the room at the time. We were discussing the advances and the lack thereof in the screenprinting business and the subject of Radio Welding (HighFrequency HF) special effects and ink-jetting on to T-shirts came up. The technologies were pretty raw and I filed the information in the back of my mind.

By 2006 I started paying attention to the direct-to-garment technology with an eye towards getting involved. At the time I was a bit sceptical of the solvent-based ink systems and the price tag of the better-quality machines. I was also not impressed with the white ink, as a screenprinter.



**Kevin Kelly**

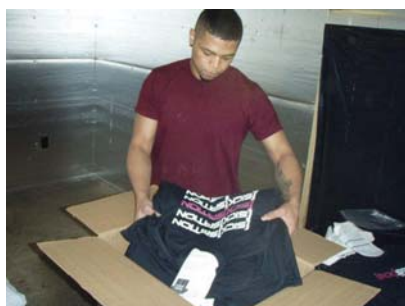
During the early part of 2007 I made a purchase – the wrong purchase – of a piece of machinery. The gear was absolutely substandard in a production environment. But in short order it became obvious that I had to be in the direct-to-garment business.

We started selling the DTG process to one of our largest customers and we were printing thousands of custom T-shirts per month. At this point I got involved with the Kornit technology, because I needed gear that would hold up to the rigours of heavy production.

## How did you make your technology choice?

My initial foray into the DTG world was based on price. My subsequent decisions have been based on solid technical information, industrial construction, speed, versatility and support. We are a very art-centric company.

My association with my friend and colleague Matthew Fox was a driving factor in making the decision to invest heavily in the Kornit technology because of our shared interest in reproducing original art. We are not generally printing stock designs and logos. With our Kornit machines we are able to utilise several variations of external ripping software to help us accomplish the best



**Printing operations at Blue Heron Industries**

Blue Heron Industries Inc is a full-service commercial custom-apparel-decorating company, based in Little Falls, New Jersey, USA, and specialising in T-shirts, hats and caps. [www.goblueheron.com](http://www.goblueheron.com)

prints possible. No other brand offered us this kind of latitude and we felt Kornit equipment made the most sense, based on the goals we had.

For us the price tag became the secondary issue – the printing capability was the primary issue. I guess you live and learn.

We also did not want the limitations of using a Windows-based driver system to process our printing. We needed more flexibility than that. Our decision was also based on the reliability of the ink system. By this time Kornit was moving towards a water-based system and seeing good results in prototyping.

### What obstacles did you encounter in making the change from screen to digital, and how did you overcome them?

The major obstacles we encountered were not as drastic as one would think from a printing point of view. The equipment we are using fitted right into our background as process screenprinters. The primary issue we faced was converting certain types of customers from screen to digital printing and changing their thought processes.

I have been printing custom T-shirts for decades, so I understood what needed to be done mechanically on our end. The customer, on the other hand, needed to be retrained to take advantage of the new medium's capability. We spent a lot of time providing assistance to their design teams in order to make the transition smoother. In some cases we realised that design talent and a comprehensive knowledge of Photoshop and printing was lacking in the very people we had previously been working with.

From a mechanical standpoint, our speed was diminished and therefore daily output was down. Interestingly enough, billings were up and direct labour was down. So that was a winning situation.

Another issue that digital printers can identify with is the conversion of spot Pantone colour to its CMYK equivalent. Finding the right colour parameters in the rips and at the machines took some extensive testing, particularly when printing on black and dark substrates like T-shirts.

After several years of working with this technology on a daily basis, we have more or less redefined who we are. We are high-end direct-to-garment printers that specialise in printing full-colour images on black T-shirts. It has been an incredibly rewarding experience as a printer.

### What advantages has the new capability brought to Blue Heron?

The most exciting capability that direct-to-garment T-shirt printing has brought to us is that we are in no way limited in what we can design or print. Matt Fox and I specialise in creating original art that relies on continuous-tone images. Our custom



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T-shirt designs at Blue Heron Industries

art is not designed to be screenprinted; it's designed to be printed with direct-to-garment technology.

We now prefer DTG because we are not constrained by the limitations of what can be exposed on to a screen. We no longer have to fight dot gain or squeegee-pressure variations that may affect colour balance. I personally love the fact that proofing is measured in minutes and not hours, due the elimination of all the ancillary processes associated with screenprinting. Our proof corrections can be turned in 30 minutes or less, depending on the complexity of the changes we need to make.

### Has the technology met your expectations?

The technology of DTG printing has actually exceeded my expectations at this point. Our prints are perfect and our production methodologies have been adjusted to meet the demands of the new medium.

There are aspects to the technology that we are still exploring in our own R&D process. We are uncovering new tricks of the trade every day. We have involved our staff in this process as well. I believe we have the best staff in the country when it comes to the technical aspects of digital, custom T-shirt printing.

### Where would you like to see further development?

The number-one shortcoming in direct-to-garment printing is speed. This is an issue that I believe will be solved eventually, but not in the near future. We are using the most advanced print heads in the DTG industry and they do have limitations that will eventually need to be addressed. The physical machinery can run faster but the print head technology needs to catch up a bit. Once this occurs, DTG will become more widely accepted as an industrial decoration method.

There is a major development that has recently occurred in the Kornit ink technology that we use. The latest version of Kornit's ink has an increased colour gamut that was unimaginable just a few years ago.

We are talking about a gamut with approximately 32 million shades of colour. Half of those are fractional shades, but at around 16 million colours we are well above what the human eye can perceive.

The biggest advantage that we have noticed is an increase in detail that more accurately conforms to the original art. Design elements that were practically invisible before are clearly present. This leap in technology should excite everyone, because eventually the industry will develop better inks for printing.

### What long-term impact do you believe digital garment printing will have on the sector's evolution?

Estimates that I've seen indicate that the direct-to-garment T-shirt-printing industry is growing at a rate of 40% per year. The number of custom T-shirt decorators using these methods is somewhere between 5% and 10% of all apparel decorators. The data is sketchy at this point and possibly overstated because there is no definitive study on record.

I believe these numbers will rise dramatically over the next several years. There are two areas where you will see rises in use of the medium and the application of the technology – small T-shirt shops and home-based businesses, and industrial producers of licensed products. The latter will provide the impetus for the industry's growth and consumption of supplies.

I draw this conclusion based on our own experiences in the industry. The type of client that is transitioning into direct-to-garment printing is very telling. We are seeing savvy merchandisers opening their eyes to the increased art possibilities and lower minimum orders. In this economy the lower-minimum-order thought process has gained significant traction with some folks that previously kept huge inventories on hand.

I believe you will see some major players make significant capital investments in the higher-end equipment in the not so distant future. **DT**