WWD

Digital Fabric Printing Catching On Quickly

The technology has taken off in Asia, which now represents around one third of production, on a level with Europe, with India growing rapidly.

By Katya Foreman on November 25, 2016

Miroglio Textile digital printer.

With sustainability, speed-to-market, cost-efficiency and personalization rising in importance, digital printing is experiencing a boom, propelled by the introduction of new generation machines that have revolutionized the industry.

Fitted with fixed arrays of inkjet heads that cover the entire width of a roll of fabric, the new single-pass printers are capable of producing around 3,000 square meters an hour versus the 300 to 400 square meters of the traditional scanning machines, explained John Scrimshaw, head of content for the World Textile Information Network, the knowledge partner of Messe Frankfurt's fledgling digital print fair Avanprint.

This has resulted in "revolutionizing the possibilities of digital printing in the retail supply chain," Scrimshaw said.

Digital printing has its roots in luxury, having emerged in Italy's Como region around 20 years ago. But the arrival of the new printers, said Scrimshaw, meant "an explosion in the speed and volumes of digital printing."

The technology has taken off in Asia, which now represents around one-third of production, on a level with Europe, with India growing rapidly. The fast-fashion giants have also moved in on the action.

"Ordering digitally printed fabric made pretty close to the market means they can hugely reduce their lead times and even replenish stock in season," Scrimshaw said. "The market is also seeing traction in North America. Everyone's eyes are on America because there is some impetus there about reshoring. You have companies like Wal-Mart investing in R&D in digital print and that indicates how this has become a mainstream technology."

Omer Kulka, director of product marketing at Kornit Digital, a specialist in systems for printing directly onto finished garments, said, "The rate of adoption of the technology is accelerating….Companies like Amazon going into fashion changes the map of how fashion is being purchased and delivered to the customer. It goes hand-in-hand, fashion and retail; these models are changing dramatically."

The company's aim is to "bring printing much closer to the designers."

"Our vision is to allow printing in the middle of London, Berlin or Paris," Kulka said. "If you're a huge name designer and have your supply chain all around you, it has its benefits for shorter runs, but it may not change the world. If you're a small-to-medium designer, for example, then that can provide you a full supply chain within your close urban vicinity and that is the revolution we're going after, a revolution of supply chain more than just capabilities of printing. It's bringing those capabilities closer to the end market and we believe this is the perfect answer for many different forces currently at play in the fashion industry. One is the need for shorter runs, everything is becoming more personalized.

"You can create a design, print it and have it in your hands in five minutes, which opens up new possibilities of design through trial or error," he added.

Jessica Kayll, a London-based textile designer who was among speakers participating in the Digital Textile Conference held by the Federation of European Screen Printers Associations' in Milan in September, said, "The biggest problem is that digital prints can look flat and two-dimensional, very much without texture. There are a lot of possibilities with digital printing that haven't been explored yet."

"Embellishment is the key thing with digital print, it's a huge trend. Our students are tending to screen print over their digital print as well as embroider over them, hand stitch into them, or use vinyl cutting, which is very popular," said Laura Baker, a 2-D specialist print senior technician at Central Saint Martins in London.

Manufacturers argue it's a question of getting to know the technology and what it best lends itself to.

"One of the limitations is when you try to use digital printing to mimic conventional printing. If you want a really rich and deep navy background on a large surface, let's say on a dress, this would mean trying to get something from digital printing technology that is not its forte," Kulka said. "But when you take into account that I can do a gradient that is impossible to do with conventional methods, I can have 3,000 hues of blue on one dress, then the results are remarkable and nothing seems flat. Another huge advantage of this technology is that you're not limited in the size of the design. It's more about getting to know the technology, its capabilities, its drawbacks and advantages."

On the sustainable front, aside from offering the possibility to print locally, the technology also uses around 50 percent less water than traditional screen-printing methods, according to Andrea Ferrero, chief executive officer of Miroglio SpA. That means, for every 100,000 meters of natural fabric printed using the firm's digital technology, some 3.2 million liters of water are saved.

The Italian industrial giant, which owns three subsidiaries — Miroglio Fashion, which houses 11 women's fashion brands; Miroglio Textile, and M2Log — prints some 50 million meters of fabric yearly, of which 70 percent is digitally printed and 30 percent printed on traditional rotary machines. The aim, said Ferrero, is to eventually recycle all water used in its digital printing processes.

"We look to innovate every day, we're constantly improving processes to reduce the use of chemical products," Ferrero said. "While we believe in contributing to a better future, using fewer chemical products and water also means reduced costs."

Giusy Bettoni, organizer of the Milan-based eco-textile consortium CLASS, said, "Over the past couple of years prints have been quite successful in collections, also at the retail level, which has meant high volumes of printing and I've seen growing interest in finding smart, sustainable solutions; how to achieve better results in terms of both the look and the impact on the environment. Things are advancing very fast in this area, they're really pushing."

With clients increasingly conscious of the need for certification, companies in the printing area are looking to produce new tools to improve quality but that also pass Lifecycle Assessment standards, an evaluation of the impact production has on the environment and workers, she added, "and Miroglio Textile was the first to do this for its printing production."

Having just passed the one billion square meter mark, digital printing still has some catching up to do, representing around 3 to 4 percent of the 30 billion square meters of fabric printed globally, according to Scrimshaw. But its development is impressive, with an average growth rate of around 30 percent over the last five years, and a projected average of 17 percent annual growth through 2020 — "even if in Europe the market is reaching a certain level of maturity" — he said. "It's an industry that is doing very well, and for printing technology companies, this is very much a market they want to be in."