

Exceeding expectations

Barbara Barkhausen assesses the strengths of New Zealand's increasingly significant digital textile printing market

While New Zealand's digital textile printing sector may be of moderate size, serving apparel, accessories and interior design markets, the country still manages to be an innovator with a taste for experimental work such as printing on merino wool. This of course reflects how New Zealand remains a global wool powerhouse and the country's textile sector is always striving for competitive advantages.

Digital textile printing technology certainly has brought positive change to New Zealand's textile finishing market. The sector has been quick to recognise benefits including reduced labour intensity and smaller print runs when compared to screen printing. This has helped to establish digital textile printing as part of the country's overall digital print industry, which has a ready market for local advertising hoardings and signage.

"The technology has caught on really well for the local market," says Peter Heslop, manager of the textile and design laboratory at Auckland University of Technology (AUT). The lab was established 15 years ago and "digital textile printing was one of the technologies that we have adopted," he adds. At that time, "digital printing was in its infancy in New Zealand and we wanted to create awareness

particularly in the apparel and fashion textile market".

Today, the lab is home to a suite of cutting edge Shima Seiki knit design and programming systems, flatbed knitting, digital printing, weaving and non-woven technologies. It can tackle modest print orders of up to 25 metres. The lab's focus is currently on digitally printing natural fibre materials on a Mutoh 1628TD ValueJet printer. The ValueJet 1628TD and the ValueJet 2628TD have been designed to deliver at speed direct-to-fabric or via dye-sublimation transfer, all in one printer. They both use Mutoh water-based inks, boosting sustainability.

Since the introduction of digital textile printing, mainstream applications, including textiles, have grown, says John Heyworth, director at Auckland and Tauranga-based printing house Textiles Alive: "The country has caught up fast, due to recent and significant capital investment in all facets of production, which has allowed a real focus on quality in wide-format output."

This dye-sublimation, textile-only production house has, says Heyworth, benefited from the digital age: "It allows us to do rapid trailing, both on substrate and around colour management, at low cost, promptly - a real advantage as we all try to meet higher end-user expectations."

Overall, however, the textile printing market in this remote island nation with a population of 4.9 million is certainly small in global terms. But it is combining its wool traditions - New Zealand's wholesale wool market is currently worth NZ\$899m per year (US\$642m), according to IBISWorld - with a will to innovate and adopt new approaches and techniques. The country will need to play to these strengths to grow its digital textile printing industry.



DIGITAL TEXTILE

Regional focus: Australasia



▲ Auckland University of Technology lecturer Peter Heslop looks at a digital textile print together with a student. Image credit: AUT

▼ Georgie Laurenson designed digitally printed neoprene fashion swimwear. Image credit: Georgie Laurenson



But as with other higher income countries, steep labour costs have restricted the ability of the textile industry to produce on home ground: "In general, many companies from the printing, spinning, circular knitting or woven textile sectors that existed 20 to 30 years ago in New Zealand are not here anymore as the cost of labour is just too high," Heslop says. Printed textiles, as well as knitted fabrics, often come from Asia these days and to a much lesser extent from Australia.

Tracy Kennedy, principal lecturer at the School of Design at Otago Polytechnic, in Dunedin, South Island, says that although most fashion designers will go offshore for a supplier these days, "more New Zealand fashion designers are utilising digital print as an option particularly in light of the small-scale production opportunities and more sustainable use of cloth through less processing and short runs." A student from Otago

Polytechnic digitally printed neoprene fashion swimwear.

Also, at AUT, for example, local designers and brands have the option to use the university's equipment for prototyping and sampling, for smaller print-runs for local fashion shoots and for experimental work. Currently, AUT plans to invest in a prototype printer to enable it to experiment with conductive inks for circuitry and wearable technologies, and push tech boundaries by teaming up with engineering students and researchers.

One such experiment was digitally printed merino knitwear. One of the earlier companies to experiment with digitally printed wool was Icebreaker – a merino wool outdoor and natural performance clothing brand headquartered in New Zealand's largest city, Auckland. However, the company does outsource its finishing offshore.

Today, Icebreaker uses digital all-over printing (AOP) across a variety of products and is currently trialling digital prints for T-shirts. "Digital print is great to capture detail that screens can't," says a spokesperson for Icebreaker. "For us, our prints are inspired by natural textures so it's a fantastic way to bring a print to life as it captures gradients, multiple colours and intricate details." Icebreaker which prints with multiple accredited suppliers in China but works with farmers in New Zealand to grow wool, has formulated its own way to print on merino fabric to ensure that they maintain the integrity of the wool. During the process it aims to avoid using 100% plastisol inks and seeks to use water-based dyes instead.

Overall, however, New Zealand has sufficient print service providers to respond to local demand. And

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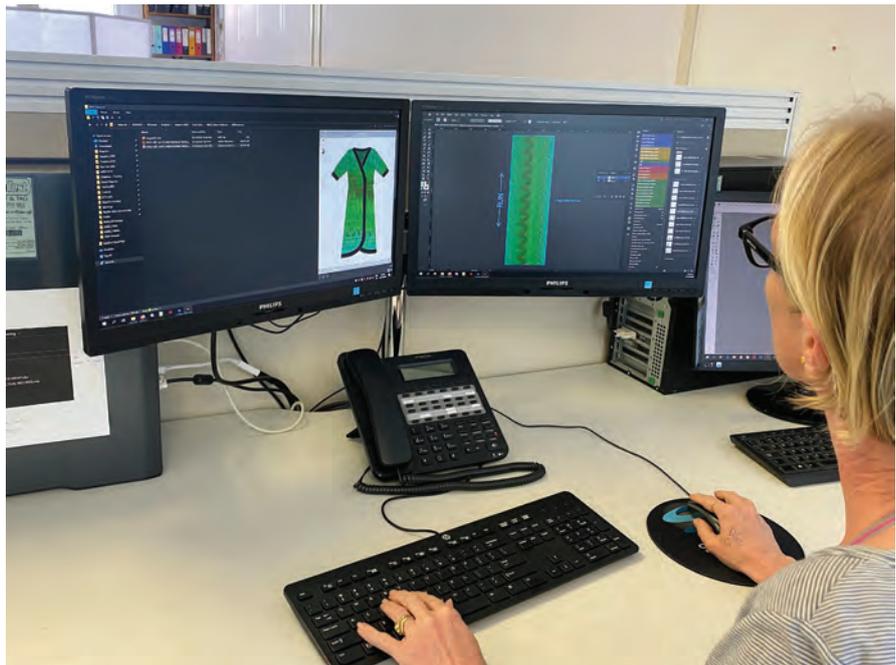
increasingly, customisation is the key to success. "The advent of customisation and online design collaborations has increased our international exposure," says Kennedy. "We are certainly able to be more connected internationally to inspiration, innovation, new technology and supply chains than ever before."

Covid-19 seems to have played in favour of New Zealand printers who were quick to adapt their product offering to help meet demands of the market according to Ruth Cobb, chief executive at industry association PrintNZ: "Printed masks are a great example of this - but they also had the time to consider what lay ahead and what else they may be able to offer in the future."

Other companies that may benefit from time to consider how to leverage innovation include Auckland-based Maak Textiles, which designs and digitally prints drapery, upholstery fabrics and wallcoverings for residential and commercial interiors.

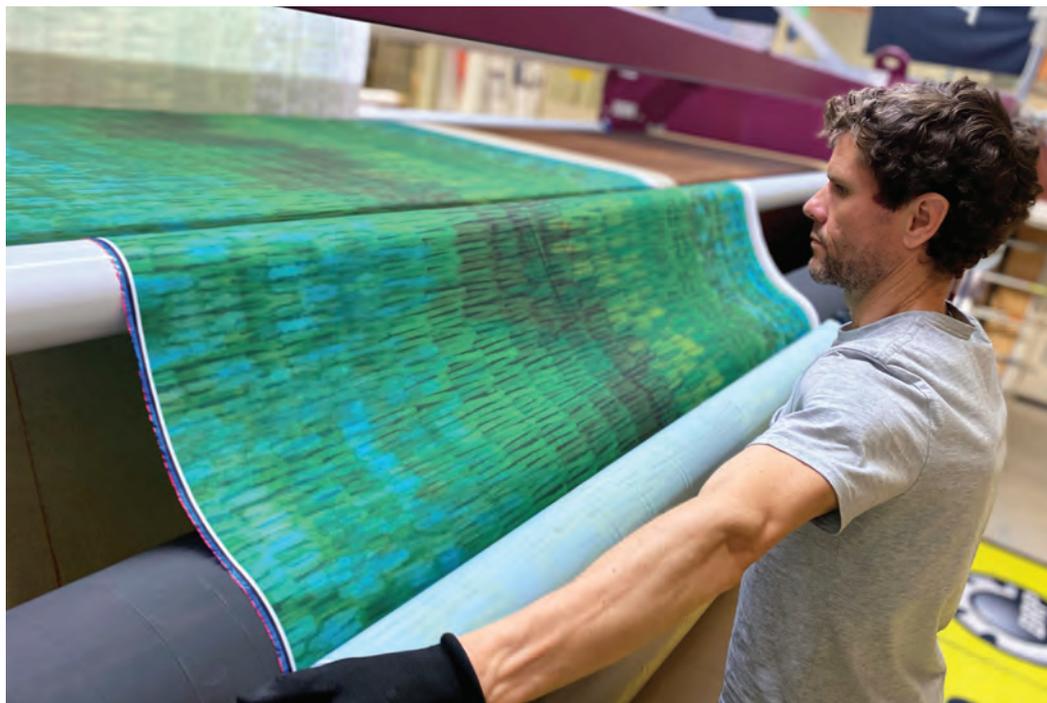
Another is Benefitz, also based in Auckland, which offers digital printing but focuses on advertising and design, mainly for displays, exhibitions and signage - including textile products, such as wraps.

In the capital Wellington, INKA Ltd is a professional fabric design and print business which specialises in creating textiles for clients, from boutiques to corporates, that span markets from apparel to interiors. Another supplier in the capital is Digital Décor, which specialises in high-quality dye-sublimation textile printing which is suitable for producing advertising and promotional products. Digital Décor also cooperates with the School of Design at Otago Polytechnic.



▲ A Textiles Alive designer works on finishing plans for this New Zealand textile company. Image credit: Textiles Alive

▼ New Zealand's Textiles Alive works with a digital EFI Reggiani FabriVU printer. Image credit: Textiles Alive



These printing businesses work with a handful of different printer manufacturers which offer local technical support in New Zealand. Among the brands supplying to New Zealand digital printers are EFI Reggiani, Mimaki, swissQprint, Dilli, Exile Technologies, Epson, and Mutoh and their products have been well received. Subsequently,

Heslop reveals that AUT is also looking at further investments. Covid-19 stalled plans for the university to invest in its own prototype printer, which would enable its researchers to experiment even more with digital textile printing in New Zealand and subsequently enhance a small sector that aims to punch above its weight.