

Founded four years ago, Swiss textile effects technology provider HeiQ has now launched two products and has convinced Radici Fibres and Mammut to become early adopters.

HeiQ on the high road at last

You might expect a young company like HeiQ to have rushed to market with the composite technology it has developed for use in textile effects, but not a bit of it. Instead, in the four years since the Zurich-based outfit started out, it has concentrated on attracting investors such as major Swiss bank ZKB, winning technical awards such as the De Vigier prize for Swiss entrepreneurship and the McKinsey Venture Prize for the quality of its business plan (both in 2006), and on perfecting its products.

Nevertheless, the time comes when you have to test your ideas on the open market, to see if you can turn your vision into reality, your plans into action, and for HeiQ, that time is now.

One of the founders, Dr Murray Height, trained as a textile engineer in his native Australia and then studied at the Massachusetts Institute of Technology, before going to Switzerland "to try some ideas out". He's won entrepreneurial awards on his own, such as the Gebert R f Foundation award, which helps the start-up projects of science entrepreneurs get off the ground, but he doesn't talk about that. That, too, came in 2006, and Dr Height prefers to talk about today and tomorrow.

The company now has two principal products on the market, Pure and Barrier.

HeiQ claims its anti-odour and anti-microbial solution, Pure, can keep climbers smelling fresh.

 HeiQ

Silver lining

The first features silver microcomposite particles and what HeiQ calls an extremely robust finishing film to make sure the silver stays in the fabric and offers antimicrobial and anti-odour functionality for the lifetime of a garment without having any effect on the wearer's skin. It is a clean technology containing no harmful biocides, the company says.

Synthetic fibre manufacturer Radici Fibres expressed an early interest in this, announcing a partnership agreement with the Swiss start-up almost two years ago. Under the agreement, Radici committed itself to developing new fibres featuring HeiQ's antimicrobial silver microcomposite technology. The first product to result from that work was polyester fibre Nanofeel, which Radici said it had endowed with permanent antimicrobial properties by incorporating microcomposite silver from HeiQ into the PET matrix before spinning. The handle, strength and elongation properties of the fibre are unchanged, but the silver microcomposite reduces the proliferation of bacteria and prevents the development of unpleasant odours. Carlo Centonze, HeiQ's chief executive, said at the time that Nanofeel would meet the needs of modern users of garments, while outperforming the competition in durability.

For his part, Roberto Parenzan, head of polyester research and development at the Radici Group, said the partnership with HeiQ had allowed his company to bring Nanofeel to the market quickly. "We are confident this will be a sought-after product with strategic importance to both our company as well as our customers," he added.

Odour-free underwear

At the end of 2008, Swiss sports brand Mammüt announced that it had incorporated the technology into its new Alpine Underwear collection to provide odour-free underwear products for outdoor enthusiasts. Mammüt said that using a minimum of naturally occurring silver "in a suitable form for textiles" had allowed it to meet the challenge of building high-performing odour-control into modern sports garments in a lasting way.

The Alpine Underwear range is the result of a three-year development programme. It combines natural (merino wool) and synthetic fibres (polyester) with body mapping technology. The company says the combination allows each part of the body to be regulated differently, transporting moisture away from the body, cooling and heating precisely where needed.

Stain gain

HeiQ's second product, Barrier, is a particle-based water and oil repellency system that

provides protection against the elements and against stains for all types of fabrics. Rain, snow, and other liquids will roll off a surface treated with the new finishing technology. The company's argument is that Barrier is "distinctly more effective" than other textile finishes available on the market, thanks to the fact that it builds up a 3D structure on the surface of the textile by embedding specialised micro-sized particles into it. This minimises the contact area between water or oil and the textile, preventing water, oil and stains from adhering to the surface.

The Barrier technology, which the company launched at Techtextil in Frankfurt in June, is highly durable and it can cut the use of fluorine-based repellency chemicals by up to 60%, HeiQ states, making it an "environmentally responsible performance choice". Since the Frankfurt event, the company says reaction to the new idea has been good and that it is currently very busy pushing Barrier out onto the market.

"You can use Barrier on polyester, cotton, polyamide, blends of all of these, and even on aramid," Murray Height says. "It can be used by itself or in combination with Pure."

He explains that HeiQ's approach is to sell its products in liquid or in polymer form. There is a standard, one-step process for them, which he insists manufacturers will find to be compatible with their existing processes. "We've adapted it to plug in directly. If technology is difficult or expensive to use, companies hold back," he says. "They can apply our products in several forms, including masterbatches, liquid dispersions or coatings. Companies can take a masterbatch, for example, and spray it onto a shirt as part of the production process. It's an ideal way to do it. The pigmentation is built in. This is what Mammüt has done with Pure, adopting it at finishing level. It is very happy with how it has worked. And although it's early days with Barrier, a number of customers are very interested and we expect a very good reception in the market." 

Outdoor brand Mammüt has incorporated HeiQ's Pure technology into its Alpine Underwear range.

 Mammüt

