

In conversation with...

# Sarah King, Smartfiber AG.

Recent reports suggest that sustainability will promote growth across the textile industry – and functional fabrics will be no exception. Here, we look at Smartfiber AG which produces man-made cellulosic fibres with special additives derived from zinc and seaweed. **Tony Whitfield reports.**



Smartfiber's seaweed farm in Iceland

**T.EVO: Smartfiber has a patented process to permanently incorporate natural additives (such as zinc and seaweed) into cellulosic fibres. What can you tell us about technical process behind this?**

**Sarah King:** It's based on the Lyocell manufacturing process, which uses cellulose (wood pulp), normally processed from beech trees. With our patented technology, we can permanently embed natural additives inside the fibre. We then add zinc oxide and seaweed (in powder form) to the liquid stage of dissolved cellulose. The solution is then spun into fibres, cured in water and processed into staple fibres. We only use pure and chemical free additives, which makes them fully biodegradable. Our seaweed is harvested from the Icelandic Fjords, one of the purest eco systems still existing. Sustainability is very important to us, so that's why we always cut above the regenerating part of the seaweed, so they can grow back after time. The seaweed is dried, crushed and ground into a powder. The zinc is recycled (usually from the automotive industry) produced using the indirect (French) process. The result is pure and highly pharma-graded zinc oxide.

**T.EVO: What types of end-use applications benefit from Smartfiber technologies?**

**SK:** The greatest thing about our fibres are their versatility. They can be processed with any other fibres (natural and synthetic) to develop materials for all kinds

of applications and functionalities. Our fibres are already successfully used in sports and lifestyle collections, underwear and loungewear, clothing, footwear, home textiles and bedding. Our products deliver added environmental benefits to any finished garment by the fact that they are both natural and sustainably produced.

**T.EVO: What would you say are the main advantages of incorporating skin protection and hygiene properties at the fibre level, rather than at the finishing stage?**

**SK:** The biggest benefit is that the additives are permanently embedded inside the fibre which eradicates the need for a chemical finishing treatment. Garments using our fibres can be washed multiple times without losing any of the fibre properties. We've done wash tests where even after 100 wash cycles our fibres still retained their high performance.

**T.EVO: We spoke at the Performance Days (PD) trade show in Munich – which this year leaned significantly towards biodegradability in the functional apparel sector. Where do you stand on this?**

**SK:** I was delighted to be invited by Performance Days to speak about biodegradability in the functional material sector. This shows that the industry is changing and looking for natural and sustainably produced alternatives.

I've been working in the fashion industry all my career, so from my

perspective, I'm happy to see this shift from both customers and brands. It's important that everyone understands the impact the fashion industry has on our environment. It's the second largest polluter after the oil industry and every year over 50 million tons of textiles end up on landfills globally, most of which cannot degrade or be recycled.

Through forums like the one at PD we can help to educate and make designers and brands more aware of these issues. Hopefully, we can change the way they think about a product's lifecycle and help them to adopt new sustainable approaches for their products.

**T.EVO: Is it possible for industries such as the outdoor sector, which relies upon technical fibres and advanced processes to enhance performance, to adopt completely biodegradable fibres/fabrics? And if not, what are the barriers to doing this?**

**SK:** It's not easy and new approaches are still in the early stages in the functional material industry. The sector has relied on synthetic fibres for many years, so it will take a while to change perceptions and find functional and cost-effective alternatives. But I'm positive that this will change over time, because there are new alternatives and more innovations available than ever before. I'm proud that Smartfiber can offer such an alternative, using nature's strength to create functional fibers that offer great benefits and added value to any textile. **T.EVO**