

Every fibre tells a story

AN Australian technology company is aiming to provide detailed information of the cotton supply chain to give everyone, from farmer to consumer, a clear indication of how, when and where the products are produced and handled, including environmental impact data.

Using blockchain technology and an indestructible pigment, the system connects the physical fibre to a digital platform and can trace the history of a tee shirt bought in London back through the manufacturer to the spinner, ginner and farmer.

FibreTrace is spearheaded by Danielle Statham from Sundown Pastoral Company, an agricultural enterprise headquartered in the Gwydir Valley. Her team is placed globally and strategically to enable a product to allow vision of the supply chain in real-time at every step as a product moves from raw fibre to store, extending to consumer interaction.

The technology is indestructible and stays within the fibre through to reuse or recycle, it can also detect fibre quantity

blends, ensuring the fibre requested or marketed by a brand is reliable and honest.

Luminescent pigments

FibreTrace is a patented solution which embeds luminescent pigments into the fibre as the cotton is ginned and the pigment level is so minute it is considered less than dust or industry contamination – 0.01 per cent.

Luminescent pigment technology is not new, but the ability to remain within a raw fibre to withstand the full fabric and



The FibreTrace scanner can trace your jeans back to the farm on which the cotton was grown.



Fibretrace can collate and monitor the impact at the farm and the certification of suppliers.



More information is added in each step of the supply chain.

garment process has been the result of over five years of research and development which initially started at ICA Bemen and its cotton research facilities in Germany.

The high security luminescent pigment is usually used in bank notes or official documentation. It is non-toxic and has no impact on the fibre or quality of the end product, and it has been tested and passed safety standards for human skin contact.

As the product moves through the supply chain the pigment in the physical fibre connects with the digital technology at each stage and collects information, adding to the blockchain. Each audit is recorded in real time, with information such as the geo location of the farm, the gin, spinning mill and manufacturer. Also the time, the date and who made the scan or worked on the garment.

The technology is built as a plug and play solution with the ability to connect with existing supply chain systems and further certification or information can be recorded if desired. The information collected is secure, accessible and irrefutable. Because scans (or audits), are recorded in real time across the product journey to monitor every step, retailers and consumers can have complete confidence that the product has been produced using best practice with social compliance with labour issues, for example.

For the customer in store, information is accessible via proprietary FibreTrace scanners or via a simple QR code enabling a complete and transparent story of the finished garment.

FibreTrace was originally developed for cotton, but has also progressed to responsible viscose, leather and recycled polyester

and polyamides, with imminent completion of trials on wool, following with bast fibres later this year.

Are you carbon positive?

FibreTrace has partnered with Australian company Carbon Friendly, the brainchild of Dr Francois Visser, to release an addition to its technology called the Fibre Impact Module (FIM). The FIM carbon tool has been refined to accurately capture and verify field and agronomic information such as soil carbon content, nutrient, energy and water use at the raw fibre level.

“The Fibre Impact module is our next evolution at FibreTrace” says Danielle Statham.

“We identified the importance of understanding our emission levels during raw fibre production were a critical component for full transparency for responsible fashion brands. The stories the brands can now tell with FibreTrace are compelling and honest with third party verified information backed by the greenhouse gas protocol.”

The FIM combines the power of traceability with impact measurement. All impact data is verified by a globally recognised third party as it moves through the global supply chain.

“It is fitting that the first carbon positive farm in the world sits in our backyard” says Danielle “and the hard work of our team, along with Dr Visser’s proven science and methodology have enabled full transparency and traceability to global brands through our own Good Earth Cotton branded fibre (see story page 49). We hope to have more Australian farmers join us on this journey to showcase their best practices, fibre quality and environmental standards.”

Brands, manufacturers and producers

The advantage for clothing brands is that the FibreTrace system can create a distinctive brand that is verifiably true and that consumers can have confidence in the product claims.

Manufacturers can add value for their customers through transparent and real-time verification of yarn and fabric.

Growers can use the system to take their story and passion right through to the end customer. It allows farmers to report on the positive progress in raw fibre production, especially in relation to reduced carbon, water and energy use.

FibreTrace has also developed strategic partnerships with companies such as Dragontree and The Sourcing to further develop transparency in the cotton supply chain.

Dragontree

The Dragontree platform aims to revolutionise the way in which fibre is traded globally. Dragontree will allow the industry to shift from a commodity driven preferred fibre market to a de-commoditised model where specific growers are nominated to produce cotton directly to brands that have a differentiated value.

Growers will be able to utilise the FibreTrace technology and the Fibre Impact Module data to differentiate their fibre on the Dragontree platform and trade fibre directly with brands based on the quality of their farming methods and the impact they are having on the environment.

The Sourcing

The Sourcing, headed by Crispin Argento, a sustainable industry expert on the global cotton industry and supply chains, is also a strategic partner with FibreTrace. Together they give growers the ability to sell directly to brands and follow their fibre throughout the entire supply chain. The system provides growers with visibility on where their fibre ends up and consumers with the ability to see where their fibre was grown and by whom. 🌱