FASHION · CASE STUDY

Colorifix

Impact delivered in 2025

45.9t
Linear resource use avoided

6.6tCO_2e
GHG emissions avoided

The story

In 2013, co-founders Orr Yarkoni and Dr Jim Ajioka were building biological sensors to detect heavy-metal contamination in drinking water across Nepal and Bangladesh. When locals handed them a list of 65 chemicals found in their water, the founders traced more than half to one industry: textile dyeing. So they changed course, took on the problem itself, and in 2016 spun Colorifix out of the University of Cambridge.

Industrial textile dyeing is one of the most resource-intensive and polluting stages in fashion. It swallows vast amounts of water and energy and depends on more than 70 toxic chemicals, a major source of freshwater contamination and carbon emissions.

Colorifix grows colour instead of manufacturing it. They developed one of the first biological dyeing processes, using engineered microbes to grow and fix natural pigments directly onto fabric. It removes toxic auxiliaries entirely, cuts water and energy use, and independent LCA validates it.

That is what makes Colorifix a Shift, not a Kick. It doesn't make conventional dyeing a little cleaner, it replaces the chemistry entirely, intervening before a single toxic compound reaches the value chain. A shift like this only moves the system once it reaches scale, which is why Regeneration.VC co-invested alongside H&M and brought IKEA in as a scale-up partner. Done fully, even the by-products can help regenerate soils.

What excites us

> “Textile dyeing is one of the world's most polluting industries and a major driver of freshwater ecotoxicity within planetary boundaries. What excites us about Colorifix is that it tackles the issue at the root, growing colour with biology instead of the toxic chemistry conventional dyeing relies on. With the potential to become the new standard for a trillion-dollar industry, Colorifix could significantly help reduce that boundary's overshoot.”

Jamie Rowles
Partner