

## **Demonstration and launch of high performance, biodegradable, regenerated cellulose carbamate textiles to consumer markets through an innovative, circular supply chain**

The textile industry is among the most polluting industries, generating 1.2 billion tons of CO<sub>2</sub> per year since huge quantities of textile waste are landfilled or burned. However, existing solutions cannot resolve the problem, and there is a lack of feasible alternatives in the market, especially as the production of textiles is expected to rise by 63 % by 2030. The textile industry - along with government officials, environmental organizations, and consumers - agree that it's imperative to make a change towards sustainable production and consumption. There's a will and an urgent call for change and existing solutions cannot recycle the growing piles of discarded textiles. The EU-funded New Cotton project has demonstrated a cellulose carbamate technology to allow the transformation of textile waste into cost-efficient, cotton-like fiber with superior qualities.

There hasn't been a feasible recycling alternative on the market that would be affordable, environmentally sustainable and provide fibers with the required mechanical properties and functionality for production of high-quality textiles. Infinited Fiber Company's cellulose carbamate technology enables textile waste that is currently burned or landfilled to be turned into cost efficient, cotton-like Infinna™ fibers with superior qualities. The patented process can digest cotton rich textile waste (including mixed fibers) and other cellulose based waste feedstocks. The diverse feedstock range is a technological advantage diminishing the need for virgin raw materials and offering a new life to textile waste. In addition to this, the process uses urea instead of harmful chemicals used in the viscose process. As this is the first project of its kind, this has also been an opportunity to identify and find solutions for potential bottlenecks to scaling up circular textile production and for calculating the environmental impacts over the lifecycle of textiles.

This project has already demonstrated that circular, sustainable production and consumption can be a reality. Bringing together the whole circular textile value chain, the project has demonstrated an approach where post-consumer waste textiles are recycled with the IFC technology into new fibers and textiles with considerably lower environmental impact while fulfilling brand and consumer performance requirements. In collaboration with leading global brands Adidas and H&M, the regenerated New Cotton textiles were converted to apparel and launched to consumers in autumn 2022.

[www.newcottonproject.eu](http://www.newcottonproject.eu)