

TECHNOLOGICAL BREAKTHROUGH: SUCCESSFUL METHOD FOUND FOR RECYCLING BLEND TEXTILES INTO NEW FIBERS

The four-year innovative partnership between the non-profit H&M Foundation and The Hong Kong Research Institute of Textiles and Apparel (HKRITA) finds groundbreaking solutions to recycle blend textiles into new fabrics and yarns – without any quality loss – through a hydrothermal (chemical) process. The technology will be scaled up and made available to the global fashion industry. The finding is a major breakthrough in the journey towards a closed loop for textiles.

“For too long the fashion industry has not been able to properly recycle its products, since there’s no commercially viable separation, sorting, and recycling technology available for the most popular materials such as cotton and polyester blends. This very encouraging finding has the potential to change that. We are very excited to develop this technology and scale it beyond the laboratory, which will benefit the global environment, people and communities,” says **Erik Bang, Innovation Lead at H&M Foundation.**

The aim of the Closed-Loop Apparel Recycling Eco-System Program is to find at least one ready technology to recycle clothes made from blend textiles, within the four-year project period. One year into the partnership, HKRITA has together with Ehime University and Shinshu University in Japan, successfully developed a hydrothermal (chemical) process to fully separate and recycle cotton and polyester blends. The recovered polyester material can be reused directly, without any quality loss. The hydrothermal process uses only heat, water and less than 5% biodegradable green chemical, to self-separate cotton and polyester blends. This fibre-to-fibre recycling method is cost effective, and there’s no secondary pollution to the environment, ensuring the life of the recycled material is prolonged in a sustainable way. The technology will be licensed widely to ensure broad market access and maximum impact.

“By being able to upcycle used textiles into new high value textiles, we no longer need to solely rely on virgin materials to dress a growing world population. This is a major breakthrough in the pursuit of a fashion industry operating within the planetary boundaries,” says **Edwin Keh, Chief Executive Officer of The Hong Kong Research Institute of Textiles and Apparel (HKRITA).**

The H&M Foundation initiated the partnership with HKRITA in September 2016. It is backed by an estimated 5.8 million euros of funding, with HKRITA conducting the research and work to commercialise the outcomes. The Innovation and Technology Fund of the Hong Kong SAR Government also provides additional substantial funding and support. The total project investment is estimated to around 30 million euros during the four-year collaboration (2016-2020), which makes it one of the biggest and most comprehensive efforts ever for textile recycling.

It is H&M’s customers’ engagement that have enabled this important research, as the exact financial contribution is determined by the annual surplus from H&M’s global in-store garment collecting program, which is donated to H&M Foundation. To date the H&M Foundation has donated 2.4 million euros to HKRITA.

The collaboration is part of H&M Foundation’s commitment within its focus area Planet, which initiatives all have the aim to safeguard not only the planet but also the living conditions for people and communities around the world.

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H&M Foundation is a non-profit global foundation, privately funded by the Stefan Persson family, founders and main owners of H&Mgroup. Its mission is to drive long lasting positive change and improve living conditions by investing in people, communities and innovative ideas. Through partnerships with organizations around the globe, the H&M Foundation drives change within four focus areas; Education, Water, Equality and Planet. In addition to this, the Foundation can also provide emergency relief. Since 2013, the Stefan Persson family has donated 1.3 billion Swedish krona (\$177 million/€144 million) to the Foundation. Learn more at hmfoundation.com

The Hong Kong Research Institute of Textiles and Apparel was established in 2006 and is a publicly funded applied research center. It is one of five applied research centers sponsored by the Innovation and Technology Fund (ITF) of the Hong Kong Special Administrative Region Government. HKRITA engages in applied mid- and down-stream research to support the textile and apparel industries, to drive sustainable improvements, and to drive improvements for society.

The Innovation and Technology Fund (ITF), administered by the [Innovation and Technology Commission](http://www.itf.gov.hk), aims to increase the added value, productivity and competitiveness of our economic activities. The Government hopes that, through the ITF, Hong Kong companies could be encouraged and assisted to upgrade their technological level and introduce innovative ideas to their businesses.