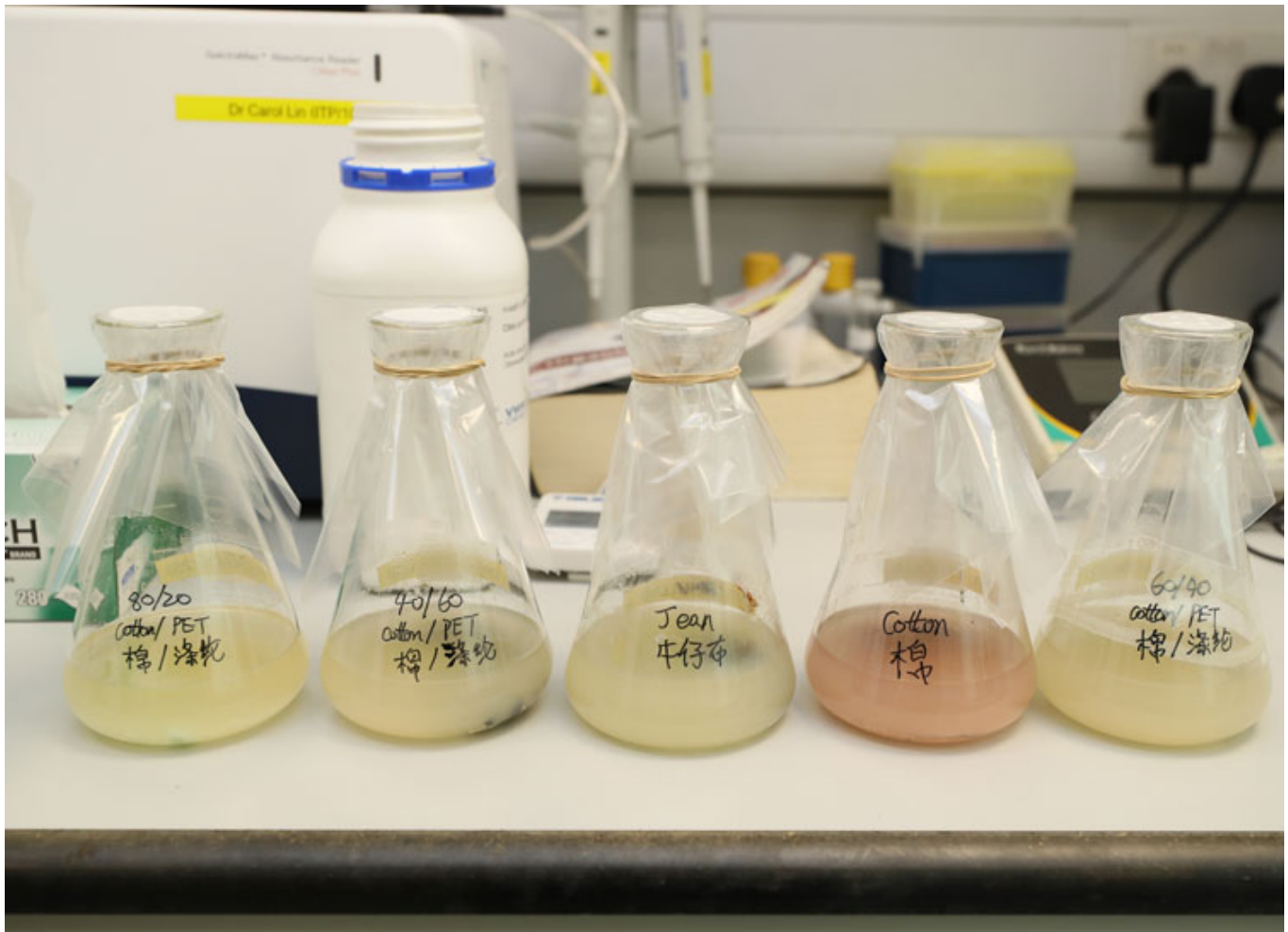




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Breakthrough claimed in textile recycling

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HONG KONG – A significant breakthrough has been announced by the H&M Foundation and Hong Kong researchers in a four-year project to chemically recycle polyester and cotton blended textiles into new polyester fabrics and yarns without any quality loss.

The joint-partners say this new fibre-to-fibre recycling process – developed as part of a €30M funded project – is another major step towards closed-loop textile processing.

Non-profit H&M Foundation and The Hong Kong Research Institute of Textiles and Apparel (HKRITA) claims to have found a ‘groundbreaking’ solution to recycle blended polyester and cotton textiles through a new chemical recycling process.

Crucially, it is claimed, the new technique does not negatively impact on fibre quality and the intention is to scale up the process and make it available to the global fashion industry at large.

“For too long the fashion industry has not been able to properly recycle its products,” says Erik Bang, Program Manager at H&M Foundation. “This very encouraging breakthrough on separation and recycling of textile blends has the potential to change that. It is the customers’ collecting of old garments that have enabled this important research lead by The Hong Kong Research Institute of Textiles and Apparel. We are very excited to now start to scale-up this technology and prove commercial viability.”

The aim of the four-year partnership was to find at least one ready technology to recycle clothes made from blended textiles – a notoriously difficult problem. However, just one year into the project, HKRITA says that together with Ehime University and Shinshu University in Japan, it 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 per cent of a so-called ‘biodegradable green chemical’, to self-separate cotton and polyester blends. This fibre-to-fibre recycling method is said to be cost effective, and there’s no secondary pollution to the environment.

“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 breakthrough in the pursuit of a fashion industry operating within the planetary boundaries,” said 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 during the four-year collaboration (2016 – 2020), which makes it one of the biggest and most comprehensive efforts ever for textile recycling.

Next, the technology will be scaled up and tested further to prove commercial viability. When finalised, the technology will be licensed widely to ensure broad market access and maximum impact. It will benefit the environment as well as people and communities.

To date the H&M Foundation has donated €2.4 million to HKRITA.