Alchemie's mission is to reduce the fashion industry's carbon emissions

What is the present status of Alchemie Technology? How many Endeavour machines are in production? Are there other solutions being developed?

Alchemie Technology, based in Cambridge, is a disruptive innovator of low energy, digital dyeing and finishing technology (also known as cleantech manufacturing solutions) which are significantly more sustainable than the highly polluting methods currently used by the textile industry. Founded in 2014 by Dr Alan Hudd, Alchemie's mission is to reduce the fashion industry's carbon emissions by more than 500 million tonnes and bring an end to pollution from textile dyeing and finishing. Its technology reduces energy consumption by over 85%, water by 95%, and eliminates the problem of contaminated wastewater emissions. It also makes it possible and cost-effective to dye fabric on-demand helping brands and manufacturers to hold less inventory and reduce waste.

Alchemie's Endeavour™ machine provides smart, low energy, waterless digital dyeing. The Endeavour dyeing process utilises Alchemie's proprietary jetting technology to penetrate nano droplets of dye deep into fabric fibres and infra-red energy to activate dye fixation; eliminating the water requirement and high energy fabric washing relied upon by traditional dyeing. The Endeavour is currently designed for polyester fabric and a cotton dyeing solution is under development.

Alchemie's Novara™ digital finishing solution utilises Alchemies unique jetting technology and digitally controlled nozzles to impregnate nano droplets of finishing chemistry, exactly where they are wanted on a fabric. For example, applying anti-odour on one side of the fabric, and (DWR) water repellent on the other side for outerwear. It uses 85% less energy and up to 50% less chemistry compared to the traditional method of immersing the entire fabric in a chemical bath.

There has been considerable interest in the new technology and Alchemie will soon have equipment in Turkey, China, and Taiwan, with markets including South America to follow. Alchemie has this month shipped an Endeavour machine to its customer, JSRTEX, in Taiwan, a leading textile manufacturing innovator in the region, to kickstart the sustainable dyeing revolution in Asia. Alchemie is also currently working with several major brands and plans to deliver a significant number of Endeavour and Novara machines to the textile market in Asia in the next two years, where most of the world's dyeing takes places, along with the USA and Europe. Alchemie has displayed its range of products across the world and is committed to enhancing the sustainability quotient of the fashion industry through innovative solutions that transform the energy consumption of textile dyeing and finishing.

How is Alchemie Technology adding 4.0 innovation into its product portfolio?

Endeavour and Novara are digitally controlled machines which allows the potential for integration with software such as 2d pattern cutting for products that are dyed and finished to shape and automated supply chain systems in industry 4.0 production facilities.

What is Alchemie's strategy with regard to sustainability and innovation?

"The fashion industry uses around 1.5 trillion litres of water annually, and around 50,000 tonnes of dye are being discharged into global water systems, including rivers, causing dreadful environmental damage. It's also responsible for up to 10 per cent of the world's carbon emissions. We're tackling

both environmental problems with technology that reduces wastewater by more than 95 per cent and energy used by more than 85 per cent," says Hudd.

"We're on a mission to get our technology adopted as fast as possible to reduce global carbon emissions by 3 percent. Brands are fundamental to making this happen as they can influence their supply chains to change. This needs the support of brands and manufacturers working together with the shared motivation to reduce the climate change damage caused by dyeing and finishing in the textile industry".

Where do you see Alchemie Technology progressing to over the next five years?

Given our mission to reduce the fashion industry's carbon emissions by more than 500 million tonnes and bring an end to pollution from textile dyeing and finishing our focus on creating a seismic shift from traditional to digital dyeing and finishing which means scaling the number of machines we can get into the market place so that clean digital technology is the norm.

6) What is your message to your customers?

Brands can make a difference very quickly — there isn't time for the market to be slow about adopting new technology that can make an immediate impact on climate change. We need brands to use their power to change the supply chain for the good of the planet.