

MEDIA RELEASE

**Research collaboration brings sustainable, waterless dyeing technology to textiles industry**

**Melbourne, Tuesday 6 December 2022:** Advanced materials company Xefco is set to revolutionise the textiles industry with its new waterless dyeing and finishing solution – Ausora™.

Developed in collaboration with Deakin University and supported by funding from the Innovative Manufacturing Cooperative Research Centre (IMCRC), the patented technology eliminates the need for water by applying dyes and functional coatings to textiles using plasma-enhanced chemical vapour deposition.

Tom Hussey, CEO of Xefco, said in addition to saving water and preventing pollution, Ausora™ delivers an 86% reduction in energy consumption and an 88% reduction in chemical consumption compared with conventional wet processes.

“Dyeing and finishing textiles is the most unsustainable aspect of the fashion industry, accounting for 20% of global water pollution and 3% of global carbon emissions. Our collaboration with IMCRC, Deakin University and Proficiency Contracting has enabled us to address this challenge with a comprehensive solution for sustainably dyeing and finishing textiles.

“After successfully demonstrating the process, we are now scaling up to our roll to roll systems. We are currently setting up a pilot manufacturing facility at Deakin University’s ManuFutures in Geelong, which will enable us to refine the technology and facilitate commercial trials for customers in the new year.”

Dr Frank Chen, Research Fellow at Deakin University, said IMCRC’s collaborative model allowed Deakin to integrate with Xefco and Proficiency Contracting throughout the project effectively.

“By working as one team with one shared goal, we were able to address any challenges and harness our research expertise to advance the development of this exciting technology more quickly.

“And as a result, we have developed a unique atmospheric plasma coating system that reduces the cost, complexity and environmental impact of textile manufacturing by eliminating wet dyeing and finishing processes.”

Dr Matthew Young, IMCRC’s Manufacturing Innovation Manager, said the project outcomes had the potential to catalyse meaningful change within the textiles and fashion industries, and placed Australia at the forefront of research into advanced sustainable fabric coating processes, potentially extending the life of garments.

“The collaboration between Xefco, Deakin University and Proficiency Contracting demonstrates Australia’s enormous research capability and serves as an exemplar of how industry-led innovation is helping to solve some of our world’s most pressing challenges.

“Xefco’s technology will drive environmentally friendly and resource-efficient processes, reducing water consumption and pollution, and changing the way fabrics are dyed and finished in Australia and around the world.”

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**About IMCRC**

IMCRC is an independent and for-impact cooperative research centre with a successful, proven, and scalable model for catalysing research and business partnerships that drive transformative commercial outcomes for participating Australian manufacturers. IMCRC has successfully co-

invested in 71 R&D projects, catalysing more than \$240 million in transformative manufacturing research. More information is available at [www.imcrc.org/](http://www.imcrc.org/).

### **About Xefco**

Xefco is an Australian-owned company that creates innovative textile and coating technologies. Leveraging a global network of research partners, Xefco develops advanced manufacturing solutions and applies cutting edge materials science with a focus on functional improvements, sustainable manufacturing, and reduced resource consumption. Incorporated in 2018, Xefco's technologies are now used by some of the world's leading technical apparel and fashion brands, providing proven functional benefits, enhanced performance, comfort, and protection with reduced environmental impact. Xefco continues to expand its technology portfolio with a vision to create a more sustainable future for the textile and garment industries. [www.xefco.com](http://www.xefco.com)

### **About Deakin University**

Deakin is one of Australia's leading tertiary education providers, offering a personalised experience enhanced by world-class programs and innovative digital engagement. Deakin takes a connected approach to solving global challenges, translating high-quality research into powerful solutions, policies, and capabilities. [www.deakin.edu.au](http://www.deakin.edu.au)

### **About the Institute for Frontier Materials**

The Institute for Frontier Materials (IFM) at Deakin University is a vibrant, multicultural research institute, graduating more than 30 PhD students a year and training 80 research fellows at any given time. IFM addresses material challenges in the energy, mining, environment, health, transport, and manufacturing sectors. <https://ifm.deakin.edu.au>

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