FreyZein

From Space to Everest: a Nanocellulose-based solution for performing thermal insulation padding.

The heroes of the story are Nanocellulose-based Aerogels. FreyZein's outstanding technology revolves around the creation of monomaterial solutions tailored for applications looking at extreme performance, encompassing loose paddings, battings, and nonwoven fabrics. These materials boast unparalleled thermal insulation capabilities while retaining the flexibility and breathability crucial for extreme environments like Everest or Space-a marvel of innovation?

What sets these thermal insulation materials embedding Aerogels apart is their ability to achieve equivalent or superior insulation performance with a fraction of the thickness and weight compared to traditional materials. But the enchantment doesn't end there. This breakthrough is environmentally conscious, reducing the consumption of water and petrochemicals, while championing recyclability and biodegradability-a vital consideration for sustainable applications, even in Space exploration. Moreover, these Aerogels exhibit additional attributes, such as antibacterial properties, transparency, and super-hydrophobicity, further enhancing their utility. They transcend mere insulation; they are multifaceted materials poised to redefine the landscape of thermal performing textiles.

USP

Cellulose-based monomaterial, biodegradable solutions, able to warrant the same softness, flexibility and breathability of a traditional padding, empowered with Aerogel's thermal insulation characteristics.

Target market

Outdoor and Sportswear.

Space connection

Aerogels are born looking at Space applications, Cellulose nano-engineered lightweight Aerogels are the sustainable evolution of those used in the 80s and 90s, potentially usable in composites and functional material solutions for the Aerospace industry and Space exploration: fabrics, films, coatings, membranes, foams, and in the future, 3D-printable.

Team

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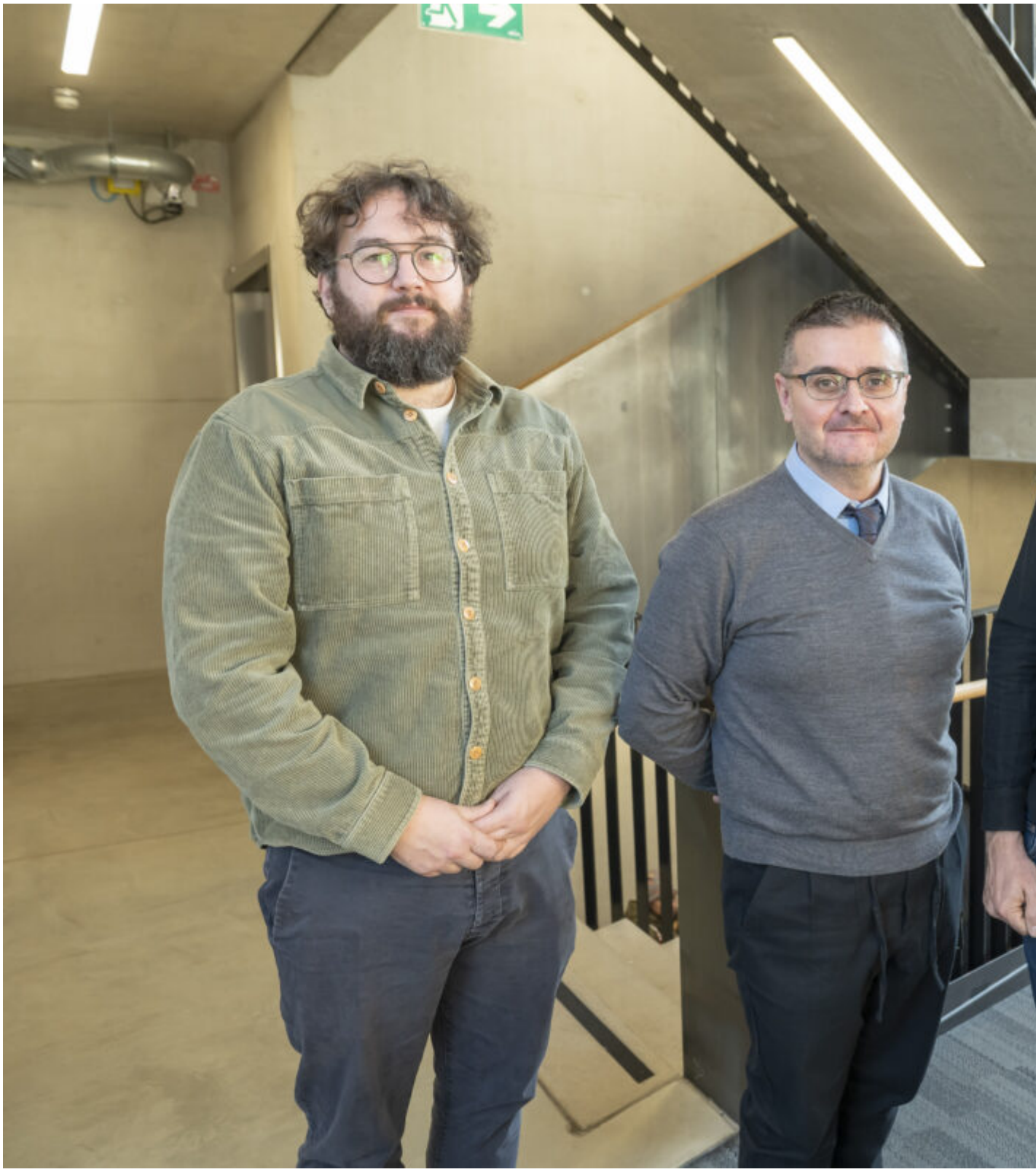

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