



**NOVEL PACKAGING
SOLUTIONS**

woamy

A!
Aalto University

VTT

FinnCERES
Materials Cluster

BIO-BASED FOAMS FOR STRONG LIGHTWEIGHT STRUCTURES



Woamy Oy, FinnCERES (Aalto University, VTT) | Finland



Nina Pulkkis | nina.pulkkis@photino.fi

Bio-based foams combine low weight, strength, and protection for lightweight structures with high mechanical performance.

Plastic foams protect almost everything we ship, and almost none of it is recycled. Woamy, an Aalto University spin-off built on a decade of FinnCERES research, replaces them with a foam made from cellulose fibres. During extrusion the bubbles elongate and the fibres align with them, giving the material directional strength up to 40 times stronger in compression along the fibre orientation. Very little material carries a great deal of load. The foam is plastic-free, biodegradable and recyclable with paper, and it is thermo-mouldable: a heat press shapes it much like polystyrene. It already protects products for Finnish manufacturers in ceramics, design and medical technology.

