Engage4BIO

3D Printing with BIOPASTE

The Project

Turning wet seaweed waste into sustainable bioprinted material

- Addresses improper disposal of wet seaweed waste, a byproduct of sodium alginate extraction
- Untreated seaweed emits methane and hydrogen sulfide, posing environmental and health risks
- Risks include air and water pollution, dead zones in oceans, and soil contamination
- Repurposes waste into a biodegradable, 100% natural material
- Process: dry → shred → powder → BIOPASTE for 3D printing
- Output used for temporary structures, installations, and eco-conscious objects
- Demonstrates circular economy by giving industrial waste a second life
- Featured in:
    - Design for Cooler Planet 2024, Aalto University
    - New Order of Fashion, Dutch Design Week 2024
- Merges environmental impact reduction with material innovation and design

Designer – Mattia Anderle

- Originally from a small village in northern Italy
- Passionate about inventing solutions to improve lives since childhood
- Studied Industrial Design at an Art Lyceum and Product & Visual Design at IUAV Venice
- Focused on biomaterials, especially seaweed-based alternatives
- Currently pursuing advanced studies at Aalto University
    - Specializes in Biomaterial Innovation and 3D printing technologies
- Explores design at the intersection of sustainability, technology, and craftsmanship

Engage4BIO

> “Multi-stakeholder engagement to strengthen regional bioeconomy value-chains”

Consortium :

ZSI

WAGENINGEN UNIVERSITY & RESEARCH

APRE Agenzia per la Promozione della Ricerca Europea

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