



# SUBBIMATT

Sustainable, Biobased and Bio-Inspired  
Materials for Smart Technical Textiles

## Project Full Title

Sustainable, Biobased and Bio-Inspired Materials for Smart Technical Textiles

## Project Acronym

SUBBIMATT

## Grant Agreement Number

101129911

## Topic

HORIZON-CL4-2023-RESILIENCE-01-32

## Total cost and EU contribution

Total cost: 8 473 803.00 EURO | EU Contribution: 6 617 386.75 EURO

## Start date of the project

1st September 2024

## End date of the project

31 August 2028

## Project Coordinator

Centexbel (CTB)

## Project Website

<https://subbimatt.eu>



Co-funded by the  
European Union

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# SUBBIMATT: EU Initiative Pioneers Bio-Inspired Smart Technical Textiles for Future Energy Needs

1st September 2024 - The SUBBIMATT project - acronym of “Sustainable, Biobased, and Bio-Inspired Materials for Smart Technical Textiles” has officially commenced, initiating an important EU-funded initiative focused on developing innovative and sustainable smart textile materials. The project aims to address both current and future energy needs by leveraging biobased and bio-inspired technologies to create materials that combine sustainability with high functionality. Coordinated by the Centexbel, SUBBIMATT is part of the European Union’s Horizon Europe program under the call HORIZON-CL4-2023-RESILIENCE-01-TWO-STAGE and will run for four years, concluding on 31 August 2028.

The core objective of SUBBIMATT is to develop advanced smart textile materials (STMs) that integrate biobased components, such as debondable adhesives, bio-polyurethane, and negative thermoresponsive materials. These materials will be used to produce high-end coated fabrics, nanomembranes, and shape memory filaments, which will serve as the foundation for bio-inspired smart textiles capable of mechanical actuation, energy harvesting, and adjustable fabric openness. The innovative outcomes of SUBBIMATT will be demonstrated through three key applications: shape-morphing building envelopes, automotive interior textiles, and advanced garments with adaptable breathability. The project also aims to integrate elements such as sensors, batteries, and supercapacitors sourced from other European projects, thus enhancing the overall functionality of the demonstrators and showcasing inter-project synergies.

The SUBBIMATT project applies a Safe and Sustainable by Design (SSbD) framework, ensuring that the materials developed are not only innovative and functional but also environmentally safe and sustainable. By combining predictive modeling with experimental characterization, the project aims to optimize the performance, safety, and energy-harvesting capabilities of the smart textile materials and their applications.

The consortium behind SUBBIMATT is a diverse and multidisciplinary group of leading organizations from across Europe. The project is coordinated by the Centexbel and consists of 14 partners, including 3 SMEs and 4 large enterprises.

## CONTACTS

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