

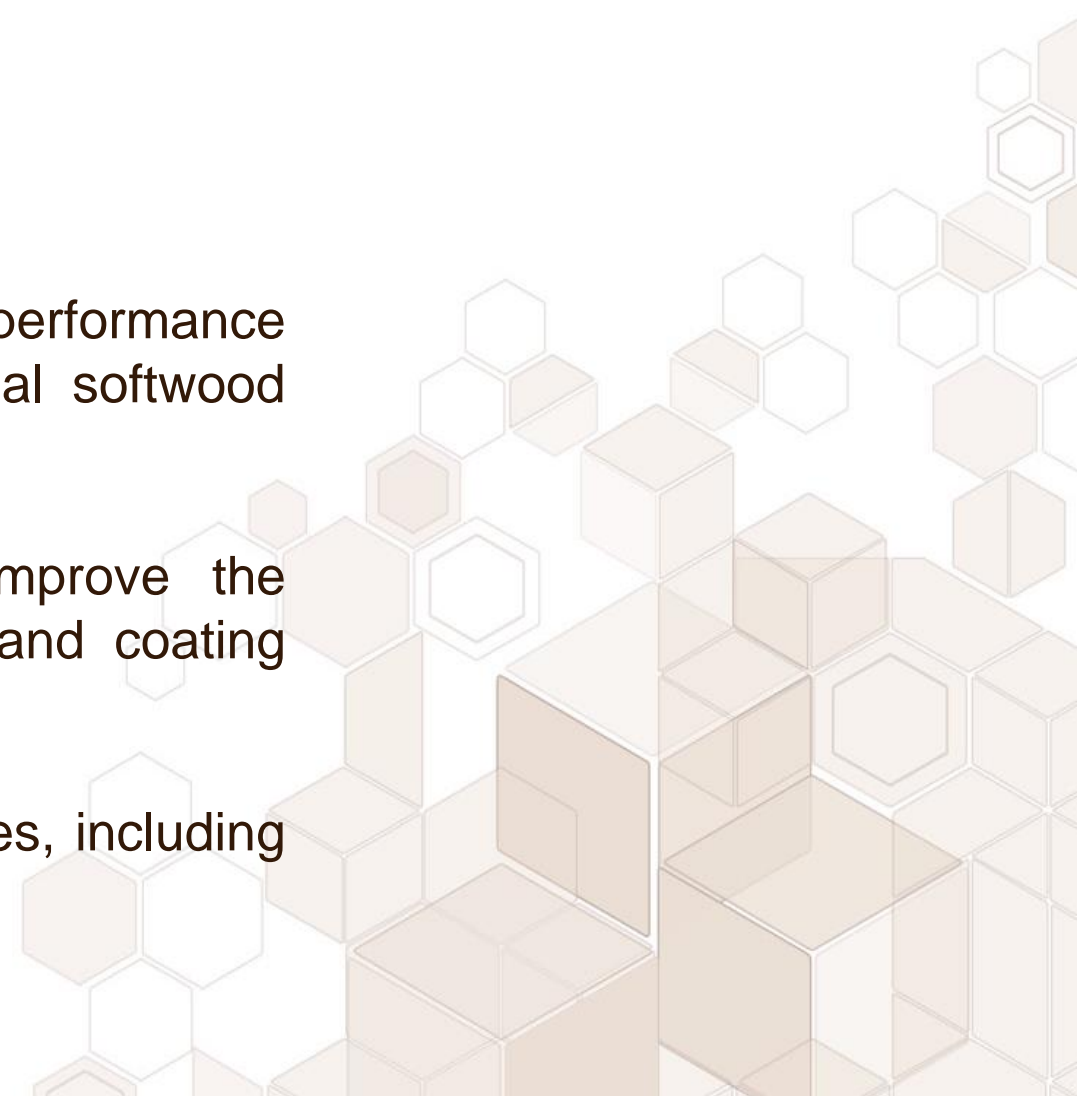
SuperBark – Safe, sustainable and high performance adhesives and coatings

Project Description

SuperBark aims to develop safe, sustainable, and high-performance >95% bio-based adhesives and coatings from industrial softwood bark, that is a major side stream from the forest industry.

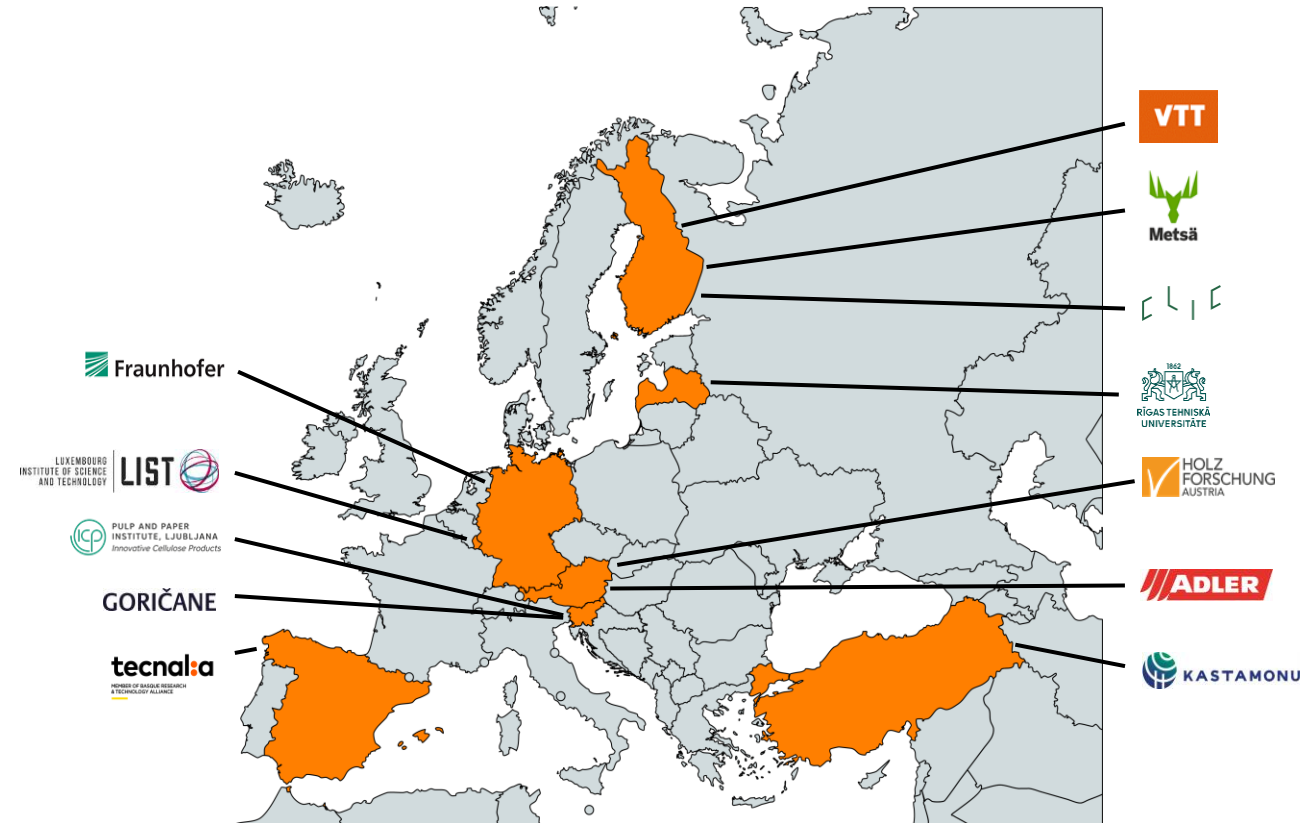
The four-year project (Sept 2023-Aug 2027) will improve the sustainability, health, and safety profiles of adhesive and coating products compared to fossil-based solutions.

The project results will be applied in a range of industries, including furniture, construction, transport, and packaging.



Consortium

- Funded by: Circular Bio-based Europe Joint Undertaking (CBE JU) under Horizon Europe
- Consortium: 12 partners from 8 countries
- Coordinator: VTT
- Budget: 4.5 M€
- Time frame: 09/2023-08/2027 (48 months)
- CLIC leads the communication, dissemination and exploitation activities



Objectives

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| <p>1 Produce bio-based components for adhesives and coatings from industrial softwood bark, using novel alkaline extraction and membrane-assisted separation technologies.</p> | <p>2 Develop adhesives with >95% bio-based content from polyphenols extracted from bark for plywood, particleboard and medium-density fibreboard.</p> | <p>3 Develop coatings with >95% bio-based content from bark-based cellulose nanofibrils and polyphenols for plywood and packaging paper.</p> |
| <p>4 Apply a Safe-and-Sustainable-by-Design framework to support the design of safe and sustainable adhesives and coatings using bark components.</p> | <p>5 Develop digital tools including process design, data analytics and system dynamics modelling to support the scale-up and market integration of the adhesives and coatings.</p> | <p>6 Communicate, disseminate and exploit the outcomes of the project to relevant stakeholders to increase awareness of the new technologies, products, and associated opportunities.</p> |

Impact



SuperBark will develop, test and validate at least four adhesive and three coating formulations with bio-based content of >95%. Industrial replication of the bark processing technologies will increase availability of bark-based components and diversify the bioproduct portfolio.

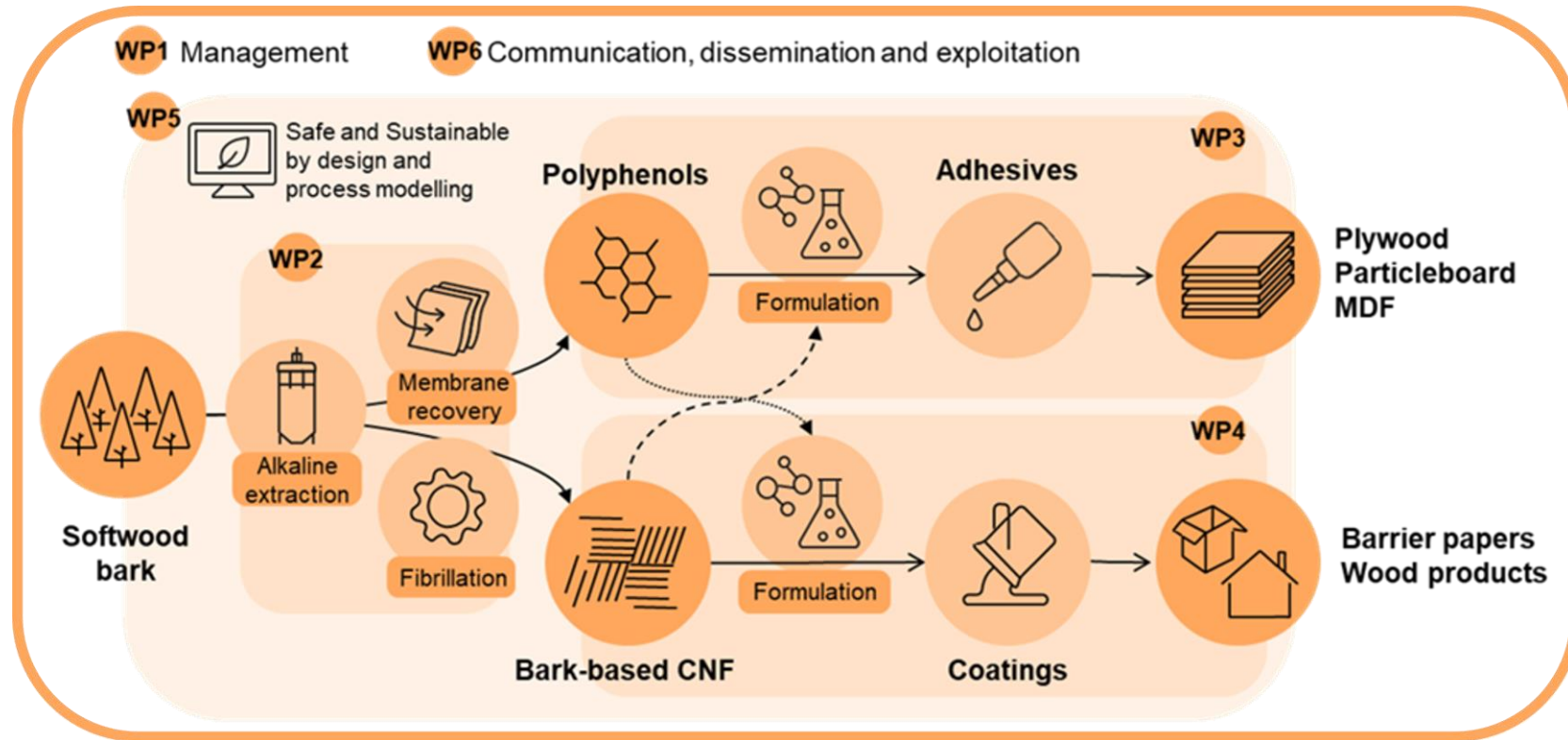


SuperBark will utilize bark residues that are typically combusted for energy generation to develop bio-based adhesives and coatings. The new bio-based products will be recyclable at the end of their service life, further improving their sustainable profile.



SuperBark products will reduce demand for harmful fossil-based chemicals and polymers. By replacing formaldehyde from adhesives and coatings with bark-based alternatives, public health will be improved as long-term consumer exposure to harmful chemicals is eliminated.

Methodology



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info@superbark.eu

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Contact

Marc Borrega

VTT Technical Research Centre of Finland Ltd

E-mail: marc.borrega@vtt.fi

Tel. +358 40 482 0837

www.superbark.eu info@superbark.eu

