

Keyfacts



4
Years



4
Mio €



7
Countries



10
Partners



Contact:



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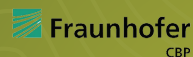


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Novel biobased Formulations for CIRCULAR Construction 2025 - 2028

CIRCULAR-C is a project funded by the European Union's Horizon Europe research and innovation programme. The project innovates the recycling of wood panels by introducing circular, sustainable and bio-based adhesives, coatings and functionalised fibres, as well as a digital product passport.

Tackling the issue of wood fibre contamina- tion

Persistent adhesive residues pose a significant challenge to sustainability, severely hindering recycling efforts. 60% of collected wood waste is contaminated with toxic adhesive residues.

Circular-C finds sustainable replacements for:

- fossil-based materials
- hazardous chemicals
- and non-debondable binders

This prevents effective material recovery and reduces the quality and value of recyclables. These issues can be solved using Circular-C technologies.



Circular-C's innovations along the value chain:

Generation



Sustainable feedstock selection and biorefining into key platform chemicals and tailored lignin

Formulation



Development of novel fibres, adhesives, nanocellulose, and biobased coatings for construction applications.

(Re)Assembly



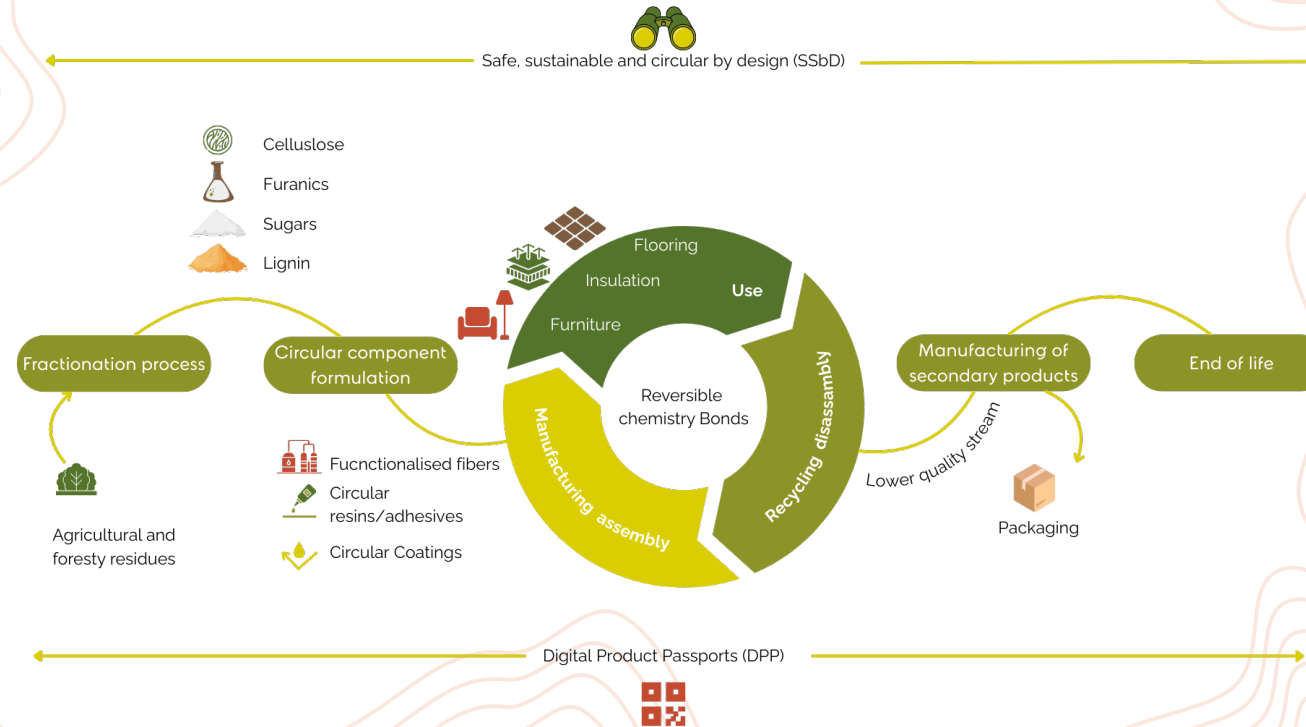
Integration of CIRCULAR-C materials in flooring, furniture, and insulation panels, including lignin-based insulating foams.

Disassembly & Recyclability



Smart design for circular use, enabling recovery, recycling, and secondary markets.

Project Overview



Novel Formulations:

- Thermoset Adhesives with Lignin, Furfural and Maleic Anhydride replacing petrochemicals in Phenol-Formaldehyde resins
- Thermoset Adhesives in which Maleic Anhydride from Furfural Production replaces Formaldehyd and Phenol
- Circular Coatings developed from Cellulose Pulp
- Cellulose-Based Functionalized Fibres
- Non-PU Insulation Foams based on Lignin