

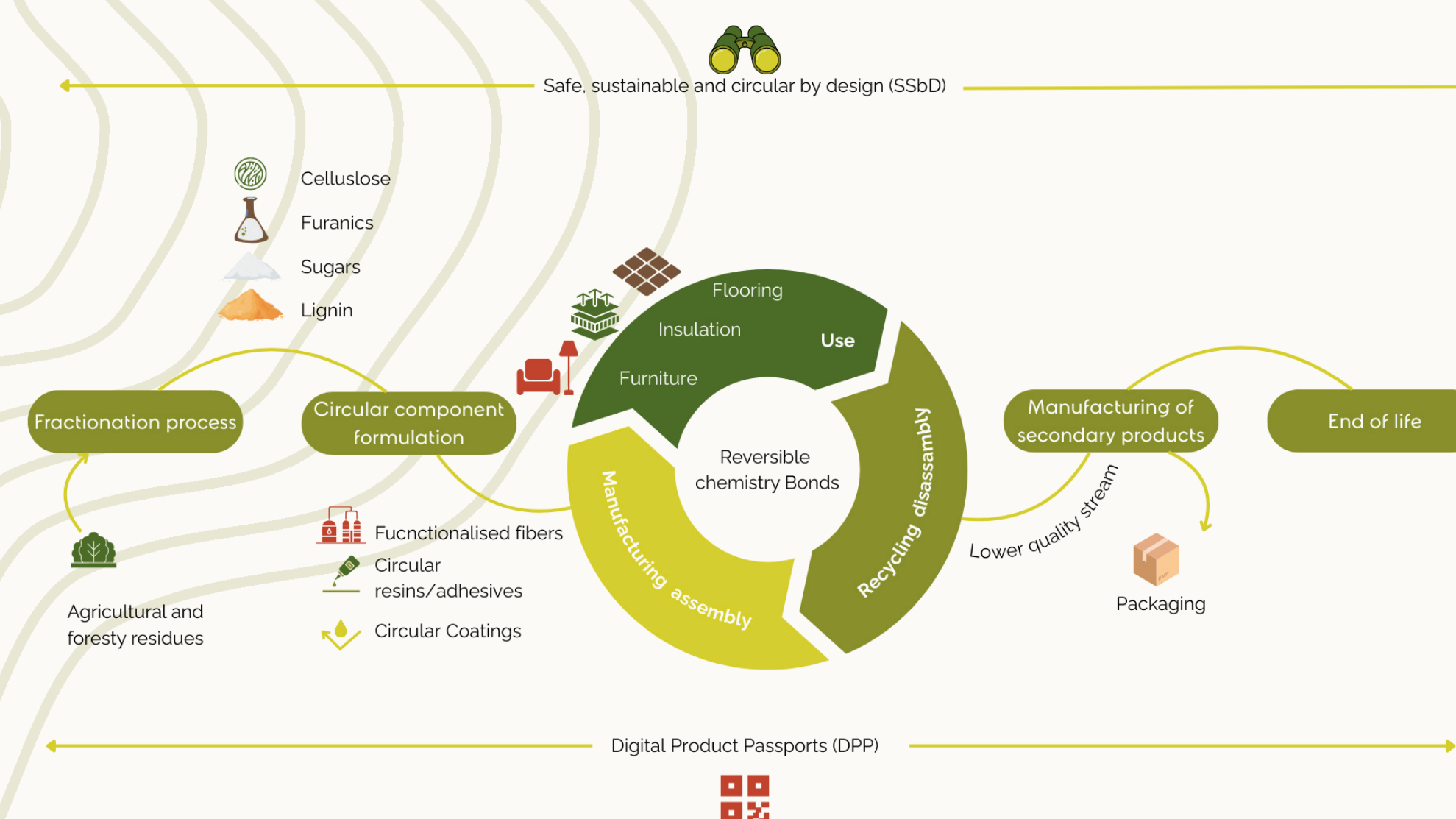
NOVEL BIOBASED FORMULATIONS FOR CIRCULAR CONSTRUCTION



Key Facts



Overview



Partners



Our Ambition

To enhance the recyclability and circularity of wood-based construction materials, such as wood panels. To this end, we are developing novel, bio-based components like coatings and functionalised fibres as well as thermo-reversible and thermo-set adhesives to enhance recyclability of construction end products. The project will also introduce a digital product passport to strengthen transparency further and pave the way for safe recycling and reduce reliance on virgin wood in the European building industry. We make construction materials safer and more sustainable by reducing the use of hazardous chemicals and cutting greenhouse gas emissions compared with fossil-based alternatives.

What makes us unique

we combine renewable raw materials, reversible chemical bonds, improved recyclability and digital tools that help to track materials throughout their life cycle. Our chemical solutions include high-quality functionalised cellulosic fibers, thermoset adhesives, thermoreversible adhesives, and recyclable coatings with high bio-based content and improved circularity. Our formulations draw on lignin, furfural, and maleic anhydride, while our coating routes include phosphorylated micro- and nanocellulose and a lignin-nanocellulose hybrid with tailored properties.

Products and Application

All of our chemical components will undergo validation and testing to assess their performance in relevant application contexts, such as floor panels, furniture panels and insulation panels, under real-world manufacturing conditions. This enables us to evaluate factors such as recyclability, disassembly, fire resistance and low emissions in realistic usage scenarios, and subsequently supply manufacturers with these components. We also explore secondary market routes with moulded cellulose items, speciality papers, packaging, tissue paper and graphic paper. Furthermore, we examine thermal end-of-life processes such as combustion, pyrolysis, and gasification to maximise circularity across the entire lifecycle.

