Superbark – Safe, sustainable and high performance adhesives and coatings

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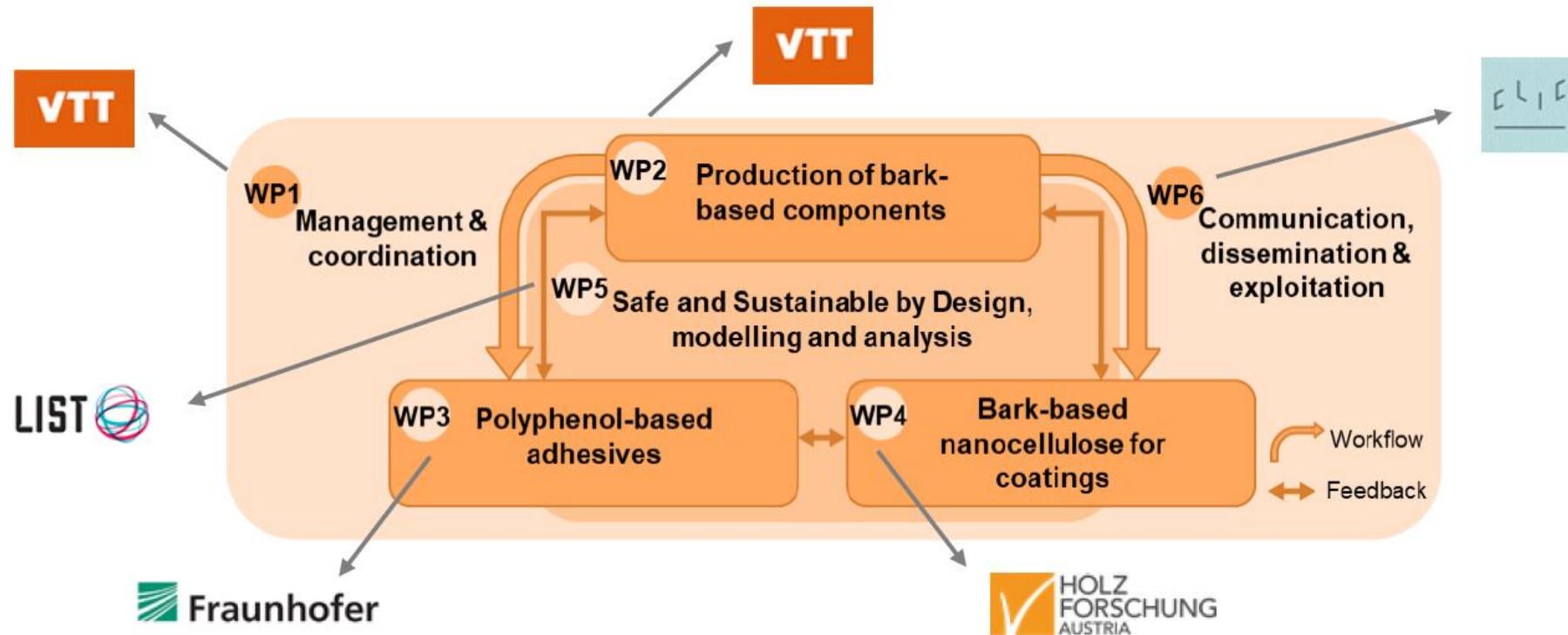
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Project objectives

- Development of 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.

- Application in wood: **Adhesives** for **plywood, particleboard and medium-density fibreboard**.

- Application in wood and paper: **Coatings for plywood and packaging paper**.

- Improve environmental and safety performance, alongside recyclability
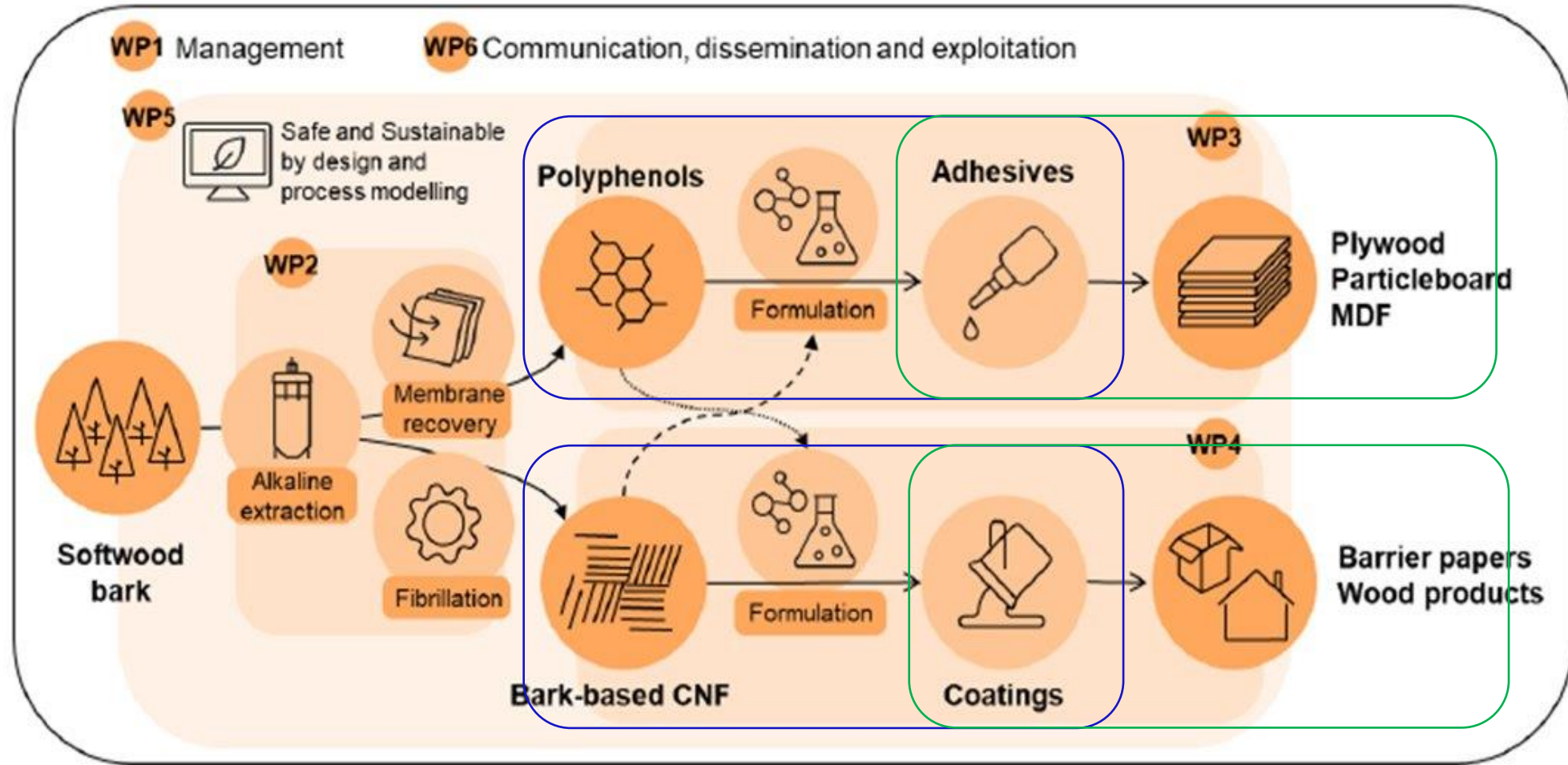
Project interactions

Figure 1. Visual representation of the work flow developed in SuperBark.

- 2 types of biobased extracted base components
- 4 types of adhesives for engineered wood products
- 1 coating for paper and cardboard materials
- 2 coatings for plywood for transportation and for outdoor structure

LCA computation challenges

LCI limitations at the chemical product level manufacturing

- Transfer of information from lab testing is often complicated; thus supporting the design phase is challenging

- Lack of available datasets on chemicals used to synthesize new molecules
  - Uncertainty on the process to produce the substances used by the chemists. → Use of proxy literature based reactions, however, the given synthesis may be outdated and no longer representative of the chemistry.
  - Use of proxy molecules may also introduce biases in the final results.

LCIA limitations

Missing CFs for chemical compounds emitted during final product manufacturing, use and disposal stage limit the assessment beyond supply chain impacts

Inventory data limitations at the final product level

- Need of transparent production data for the reference product

- Data sharing on the reference product manufacturing is complicated → incomplete or inaccurate process data, protected data

- Thus strong biases towards biobased alternatives risk being introduced without accurate primary data.

Thank you!

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