

Project idea: Kiri wood as novel core material for composites

Call area: Advanced material research for enhanced lightweight performance

Contact

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Project Description

Kiri wood as an innovative, sustainable core material for composites with the focus on composites of rotor blades of wind turbines

Project Objectives

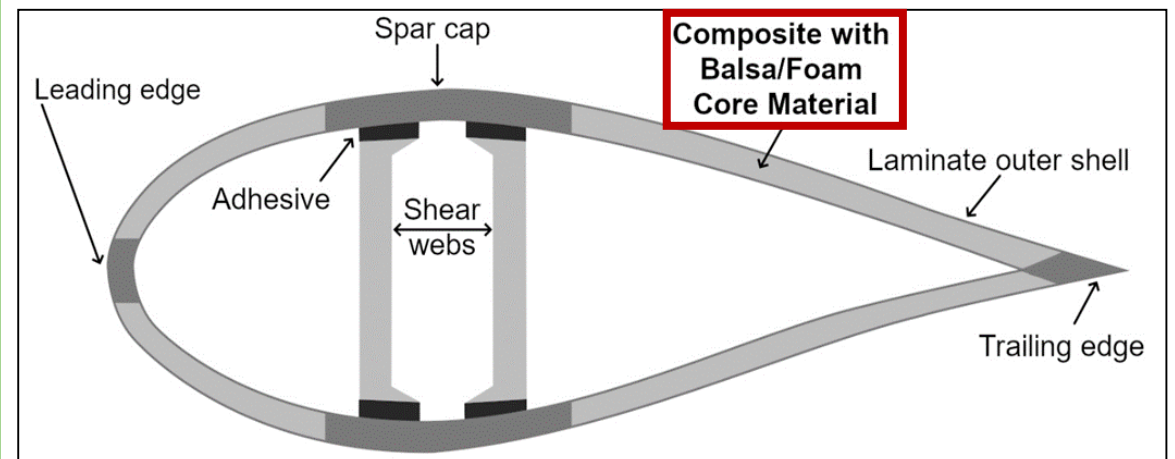
- introducing Kiri wood as a more sustainable core material for composites
- certification and testing in accordance with the requirements for core materials for composite materials
- prototypes construction based on composites with Kiri wood as core material (TRL 7/8)

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Problem, State of the Art, and Envisioned Solution

- composites of rotor blades of wind turbines have **wooden cores**
- these wooden cores must be light but strong → currently used: **Balsa wood or foams**
- Balsa wood has a strong regional focus on Ecuador and grows on land that was previously covered by tropical rainforest. Balsa wood has few suppliers and is expensive, foams are based on hydrocarbons



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Problem, State of the Art, and Envisioned Solution

there is a **need** for a novel, **more sustainable core material**, which:

- fulfils the requirements for core material in composites (of wind turbines)
- can be sourced from Europe
- is more cost-effective + available in bigger amounts

KiriCore

Kiri wood-based core material for composites



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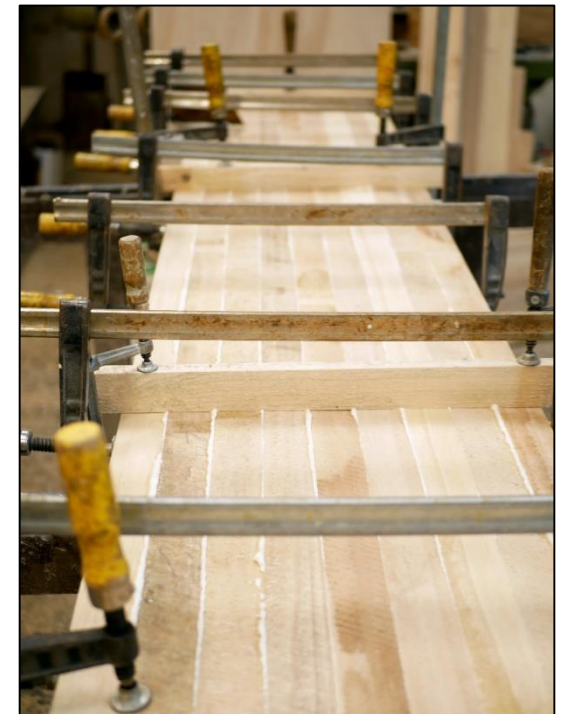
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Problem, State of the Art, and Envisioned Solution

TRL 5 already reached – more steps are needed:

- upscaling of supply chain and production
- certification and testing according to requirements in use environment
- construction of prototypes based on composites made from Kiri wood core material
- research regarding further advantages: lower resin uptake behavior, density sorting, etc.

core material market – ca. 180 million Euro alone in Europe for core materials (in wind sector), other areas of application: automotives or rail car sector



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Our Know-How...

- Kiri wood supply chain
- handling and processing of Kiri wood
- specifications needed for Kiri wood as core material
- related network: research facilities (IWES), end-user (e.g. wind turbine manufacturers)

We are looking for...

- composite manufacturers with need of new core materials and/or with need of new suppliers for core material
- end-user of composites with need of new, more sustainable core materials with an European supply chain
- certification organisations
- research organisations
- interested companies with new ideas for applications of Kiri wood