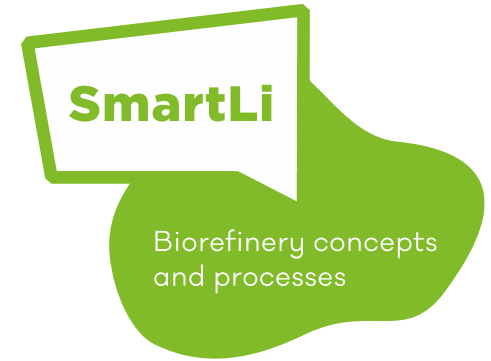


Integrated market orientation in technical R&D processes



Opportunities and challenges for environmentally friendly bio-based resins

05.09.2017, Miriam Lettner, Daniela Greiner, Tobias Stern, Franziska Hesser

WOOD
K PLUS



Solution Architect for Global Bioeconomy & Cleantech Opportunities



Bio-based Industries Consortium



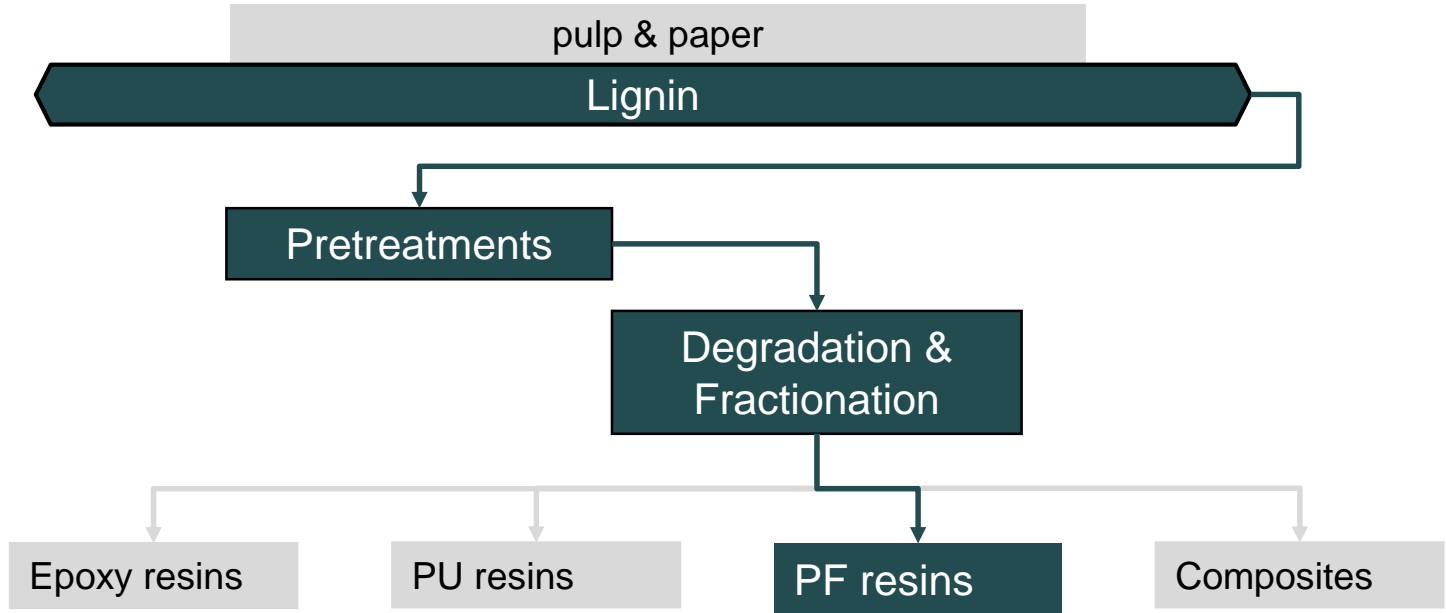
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Biorefinery concepts
and processes



SmartLi – Project overview & case study

Smart Technologies for the Conversion of Industrial Lignins into Sustainable Materials



➡ **Creating *new value chains* for the by-product lignin**

➡ **Develop *sustainable bio-based products***

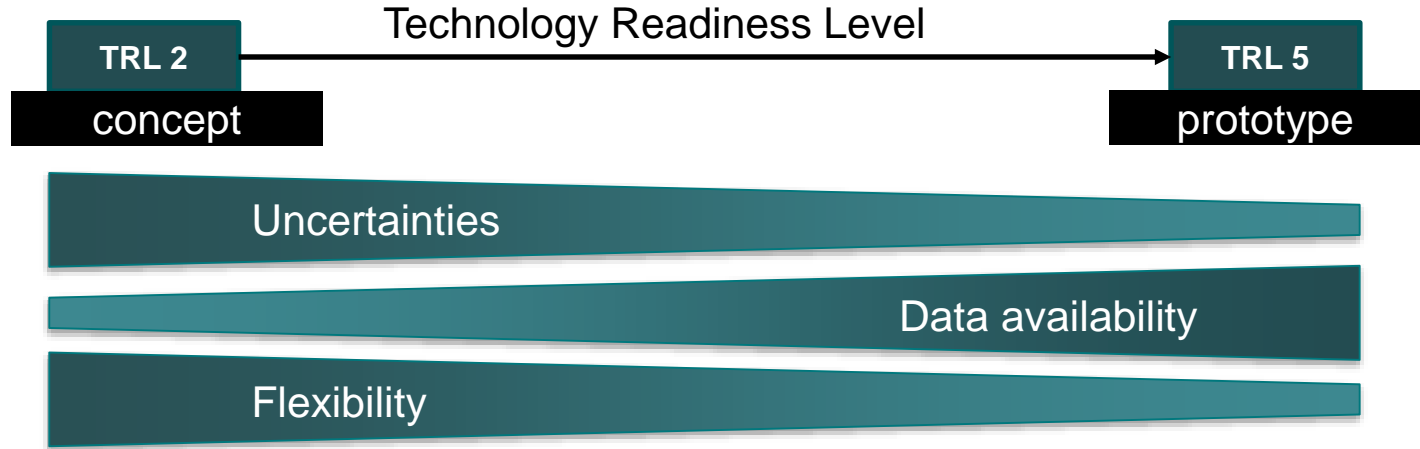
➡ **Lignin-based phenol-formaldehyde (LPF) resins**

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Biorefinery concepts
and processes



Integrated market orientation in technical R&D processes



Why integrate market orientation in R&D?

- **Identify challenges and opportunities** for the target products
- **Support R&D** process by providing information at early research stage
- **Enhance market diffusion** and stakeholder participation

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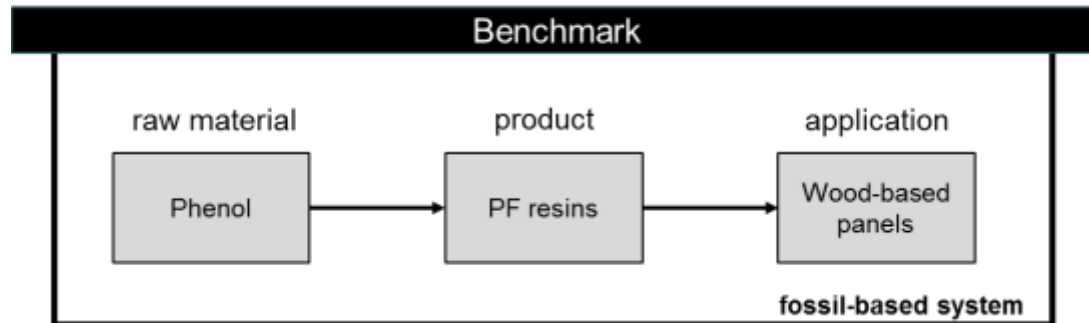
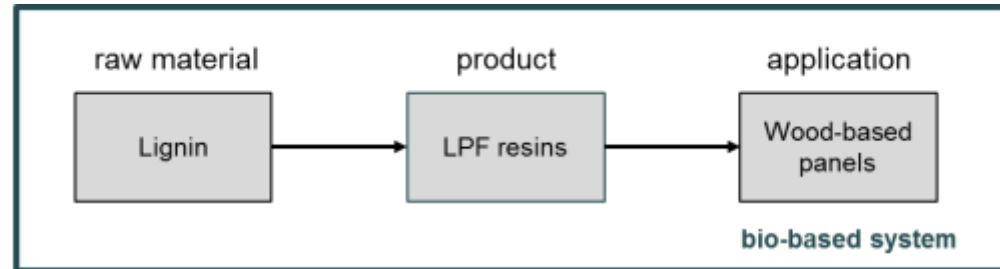
Biorefinery concepts
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Integrated market orientation in technical R&D processes

How to integrate market orientation in R&D?

- Definition of the system
- Technological, economic and environmental aspects
- Integration of stakeholders along the value chain

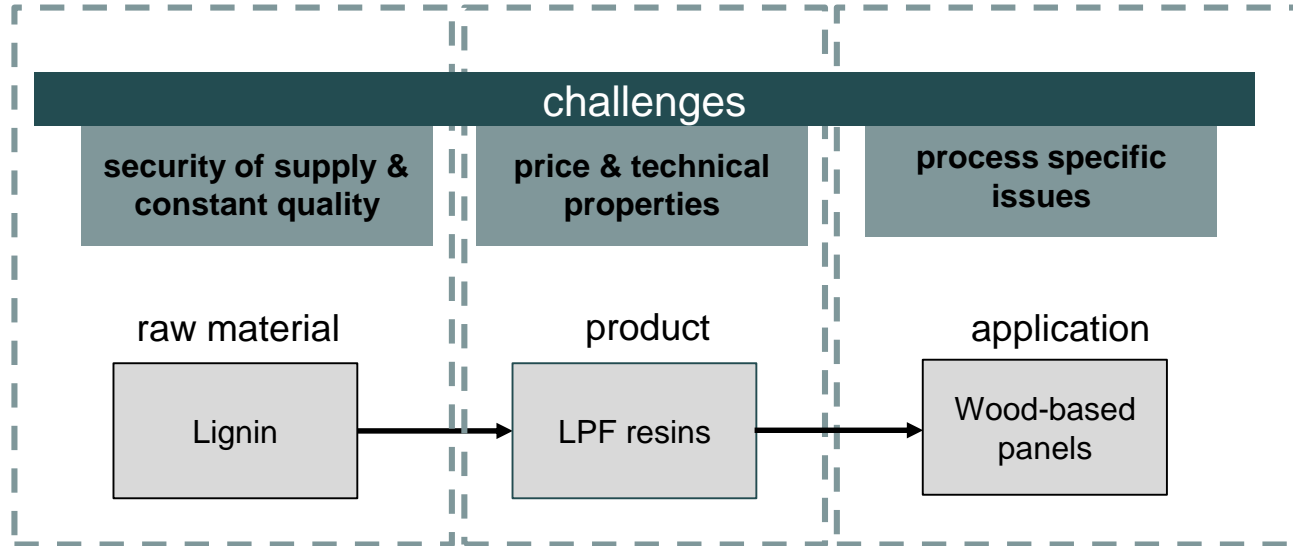


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Challenges and opportunities for bio-based resins

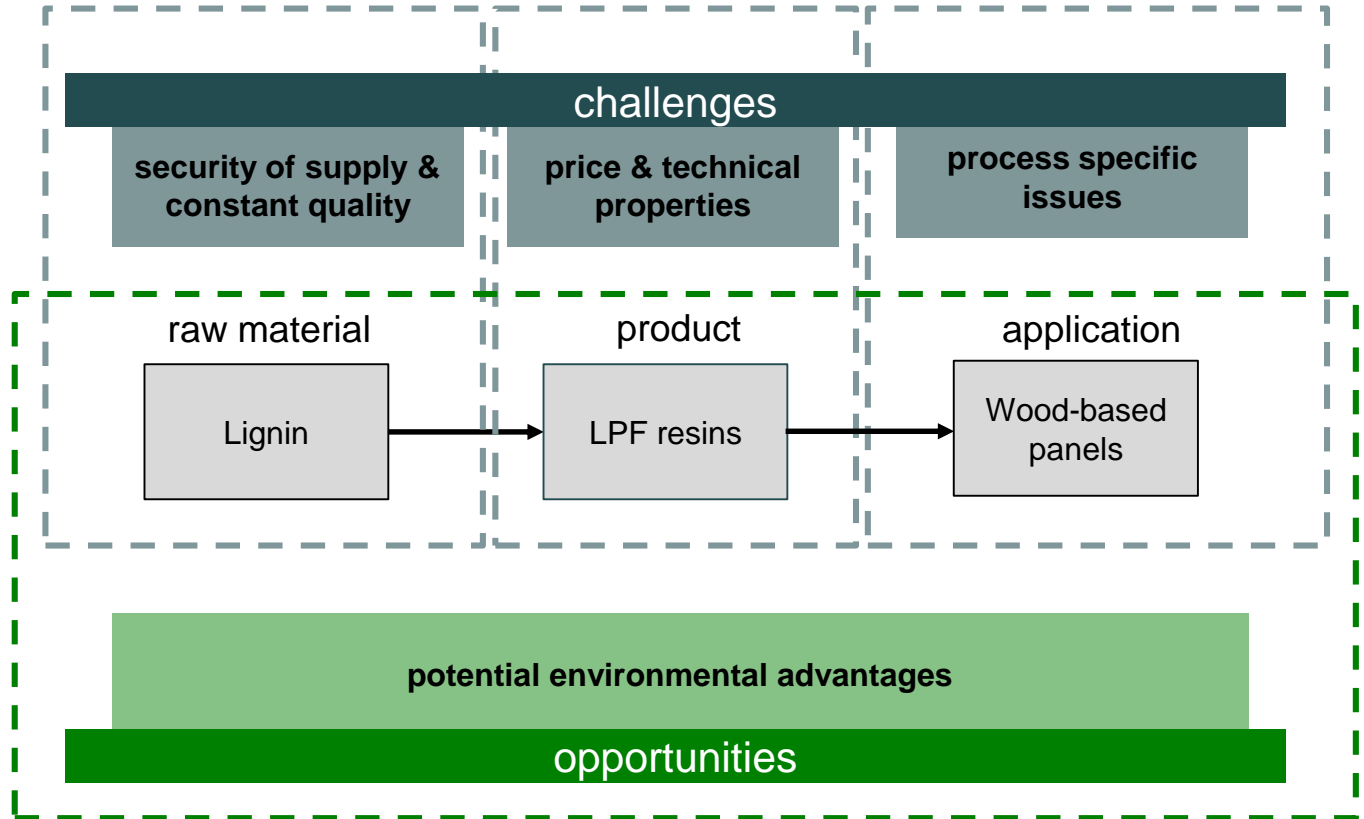


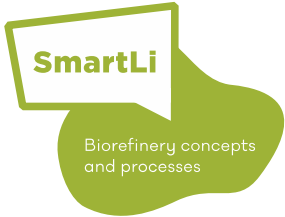
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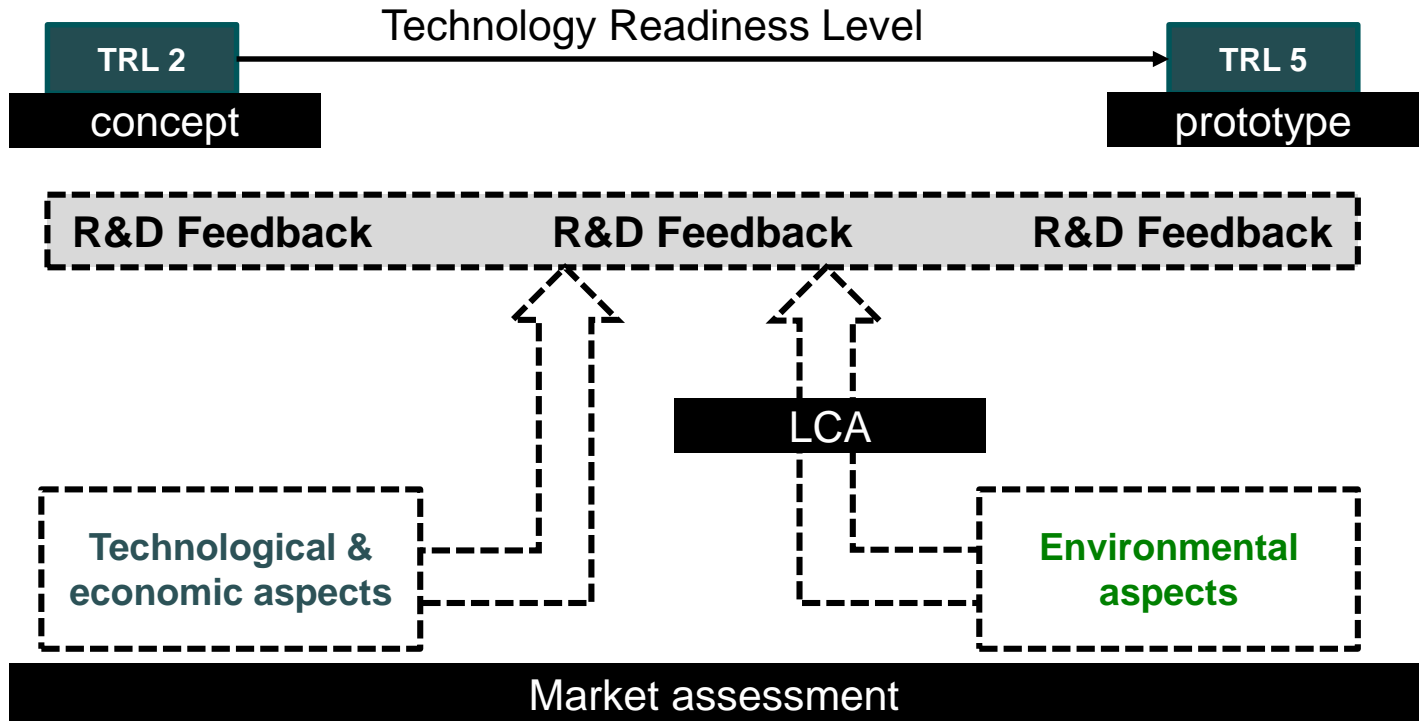


Challenges and opportunities for bio-based resins





Integrated market orientation in technical R&D processes



Integration of market assessment and Life Cycle Assessment



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Thank you!

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