BIORING
High-performance Biocoatings

Super Bark

Open Innovation Workshop

Anticipatory LCA to promote informed decision-making in bio-based product development

Online workshop, 4 December 2024, 11:00-13:00

Life Cycle Assessment, a widespread and essential tool for product sustainability and Ecodesign, is great value in research and innovation on biobased materials and products. LCA supports **understanding environmental impacts and integrating their assessment with other impacts**, such as costs, from the early stages of development and all along the life cycle. It is instrumental in optimizing process and product development, for comparing sustainability performances with fossil-based products, and for promoting sustainability approaches among stakeholders in the value and supply chain.

However, the implementation of LCA in research and product development at low TRL ("anticipatory" LCA) is hindered by limited **information and data gaps**, such as quality/purity of the raw material and final products, yields of the processes, risk and safety profiles of substances and by-products, energy demand at benchmark scale, etc.

During this workshop, the **BIORING** and **SuperBark** projects gather experts in material science, safety and sustainability assessment, modelling and LCA from research projects on biobased materials to discuss and compare approaches and strategies for effective LCA analysis.

KEY QUESTIONS

- How to best define and select **representative benchmark** materials for novel materials and products? Do they substitute an equivalent material (same function) or are they a new product?
- How to **collect data** on critical steps for novel biobased products and processes to estimate the environmental impacts along their entire life cycle? (e.g. background data for biomass waste collection and their transformation into platform molecules)
- What are the main **assumptions and uncertainties** in moving from lab scale to industrial scale, and from ex-ante LCA to full LCA?
- How to best use the LCA results to promote **informed decision-making** and sustainable development in the bio-based industry?

Who should attend? Research and Industry experts, partners of European and national research projects active on similar topics. This is an opportunity for knowledge exchange, helping to accelerate the development of sustainable bio-coatings for high performance industrial applications.

Info: info@bioring.eu - www.bioring.eu - www.superbark.eu

Register here

About **BIORING**: The project aims to develop biobased building blocks for novel high-performance biocoatings with enhanced thermomechanical performance, providing a viable alternative to existing fossil-based ones. Their recycling and biodegradability are tested in view of end-of-life (EoL) real scenarios.

About **SuperBark**: The project explores components in softwood bark to develop new bio-based adhesives and coatings for a range of industrial applications. SuperBark will improve the sustainability, health and safety profiles of adhesive and coating products compared to fossil-based solutions.

The project is supported by the Circular Bio-based Europe Joint Undertaking and its members.
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Circular Bio-based Europe Joint Undertaking
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Event outline (h 11.00-13.00)

11.00 **Welcome**

11.10-11.30 **Setting the scene**

- The BIORING and SuperBark approaches to sustainability assessment
  Nicole Dölker, The Spanish National Research Council (CSIC), BIORING project coordinator
  Marc Borrega, VTT Technical Research Centre of Finland , SuperBark project coordinator

- Applying (anticipatory) LCA in the early stage of materials development
  Cyrille Durand, TEMAS Solutions, BIORING
  Jovita Moreno Vozmediano, Rey Juan Carlos University, BIORING
  Federico Busio, Luxembourg Institute of Science and Technology (LIST), SuperBark

11.30-12.00 **Experiences & learning from other projects in the bio-based materials and coatings fields:**

- LIGNICOAT: Sustainable COATings based on LIGNIn resins and bio-additives with improved fire, corrosion and biological resistance
  Speaker: Léo Staccioli, ARDITEC

- THERMOFIRE : Bio-based fire-retardant thermoplastic composites reinforced with natural fibres
  Speaker: Yolanda Nuñez, CTME

- ZeroF: For safe & sustainablePFAS alternatives
  Speaker: Federico Busio, Luxembourg Institute of Science and Technology (LIST)

- FRACTION: Novel lignocellulose fractionation process for high purity lignin, hemicellulose and cellulose valorisation into added value products
  Speaker: Ana Díaz, GAIKER

12.00-12.50 **Open discussion:** understand, discuss, find common views on the themes of the workshop, taking advantage of one or more guiding questions.

12.50- 13.00 **Wrap up and conclusions**

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