

Open Innovation Workshop

Early sustainability assessment in innovation process

Share good practices on anticipatory risk assessment, prospective, ex-ante LCA and more

Online meeting, May 14th (11:00-12:45)

Strong, resource-efficient, and competitive bio-based industries are driving the transition toward a sustainable bioeconomy, contributing to the climate neutrality target by 2050, and creating green jobs and sustainable economic growth.

Exploring biotechnological and other innovative solutions to obtain efficient and functional bio-based alternatives to fossil-based coatings, barriers, binders, and adhesives is strategic to remain competitive. Several sectors can benefit, such as transport, marine operations, construction, furniture, wood-based industry packaging, and others.

In our BIORING project, we are developing biobased coatings suitable for high-demanding sectors, combining high-performance and sustainability.

We are working to address safety and sustainability dimensions since the very early stages of the product design. In adopting an **anticipatory approach** in the evaluation of potential product development and life cycle impacts we are facing several challenges on issues concerning **key parameters and information, data gaps, assessment and foresight tools, process and design models**.

We are inviting experts on SSbD, LCA, chemicals, materials and process design & modelling, and data analytics for an open discussion on methods, tools, data and case studies that could help to address these challenges.

Let's discuss together!

Format: series of brief online workshops, first event planned on May 14th 2024

Click [here](#) to join the online meeting on May 14th, 11-12.45 (microsoft teams meeting)

Event information

Airi - Italian Association for Industrial Research: Elena Destro – destro@airi.it

The event is organized by the BIORING Consortium

www.bioring.eu

Agenda (h 11.00-12.45)

11.00: **Welcome**

11.05-11.35 **Introduction**

- **Nicole Dölker, The Spanish National Research Council (CSIC), Institute of Catalysis and Petrochemistry (ICP), BIORING project coordinator**
Bioring project at a glance
- **Jovita Moreno Vozmediano, Rey Juan Carlos University**
Highlights on application of LCA and sustainability approaches in Bioring
- **Cyrille Durand, TEMAS Solutions**
Highlights on application of assessment and foresight tools in Bioring
- **Vince Hop, Process Design Center**
Highlights on application of design and process modelling in Bioring

11.35- 12.20 **Discussion in small groups:** understand, discuss, find common views on the themes of the workshop, based on one or more of the following **guiding questions**.

Moderators and rapporteurs: Cyrille Durand (Temasol), Blanca Suarez Merino (Temasol), Jovita Moreno (URCJ), Vince Hop (PDC), Andrea Porcari (Airi), Elena Destro (Airi), Olmo Guagnetti (Airi), Blanca Araujo (Exportun).

GROUP TABLE 1: Challenges of early assessment

1. **How to do early safety and sustainability assessment** at the early stage of the innovation process, when the available information is scarce and also when there might still be many concepts/ideas about how to make the final product?
2. How to **follow-up** on this early assessment and **provide guidance** along the innovation process on improving the safety and sustainability of the end product?
3. How to make an **LCA**, with the **most realistic model of manufacturing, use and end of life**, when the product has never been produced and has not reached the market?
4. How to manage **data gaps** (safety and environmental indicators not available, missing information on new chemicals...)?

GROUP TABLE 2: Assessment & foresight tools

5. What are the most significant **key parameters and information** to consider in impacts evaluation, from an anticipatory perspective?
6. How and which **tools and approaches** to adopt, to integrate information in an organic and strategic way, toward optimized scalability of your development and production processes (including qualitative to quantitative approaches)?
7. Which **foresight tools** can provide a **screen level safety and sustainability assessment** at the early stage of the R&D process?
8. **How to integrate the different tools in a comprehensive and effective SSbD framework?**

GROUP TABLE 3: Process and design modelling

9. How to **model and anticipate** chemical synthesis and production, toward improved efficiency and reduced use of resources?
10. How to add missing components into a **physical property database?**
11. The difference in the implementation and validation of **open-source software** (e.g. DWSIM) **compared to paid software** (e.g. Aspen plus)?

12.20- 12.45 **Wrap up, comments and closing remarks**

List of participants

- Thomas Chamberlain, [University of Leeds](#) & [SABYDOMA project](#)
- Vrishali Subramanian, Lya Hernandez, [National Institute for Public Health and the Environment \(RIVM\)](#)
- Shiva Noori, [YAGHMA](#) & [BIORADAR project](#)
- Anne Van Den Oever, [Vrije Universiteit Brussel](#) & [Prospective LCA Network](#)
- Nils Thonemann, [University of Leiden](#) & [Prospective LCA Network](#)
- Christoph Olscher, [University of Natural Resources and Life Sciences \(BOKU\)](#)
- Claudia Bianchi, [Politecnico di Milano](#)
- Giampaolo Campana, [Università di Bologna](#)
- Julio Gomez Cordon, [AVANZARE](#) & [ThermoFire project](#)
- James Sherwood, [University of York](#) & [CHAMPION project](#)
- Lisa Pizzol, Danail Hristozov, Arianna Livieri, [GreenDecision](#)
- Pieter Deckers, Athraa Al-saadi, Robin Neven, [Normec OWS](#)
- Sayara Saliyeva, [Fraunhofer Institute for Environmental, Safety, and Energy Technology UMSICHT](#)
- Tomas Rydberg, Emma Strömberg, Rosella Telaretti Leggieri, [Swedish Environmental Research Institute \(IVL\)](#)
- Panagiotis Isigonis, Federico Busio, [Luxembourg Institute of Science and Technology \(LIST\)](#)
- Isabel Rodrigues, Leire Barruetabeña, [GAIKER](#)
- David Wilde, Inma Sánchez Cantero, [LEITAT](#)

BIORING partners

- Nicole Dölker, [The Spanish National Research Council \(CSIC\)](#) - Coordinator
- Elena Destro, Olmo Guagnetti, Andrea Porcari, [Airi – Italian Association for Industrial Research](#)
- Blanca Araujo, [Exportun](#)
- Vince Hop, [Process Design Center \(PDC\)](#)
- Blanca Suarez Merino, [TEMAS Solutions](#)
- Jovita Moreno Vozmediano, [Rey Juan Carlos University \(URJC\)](#)
- Cyrille Durand, [TEMAS Solutions](#)
- Valentina Dami, [Colorobbia Consulting](#)

