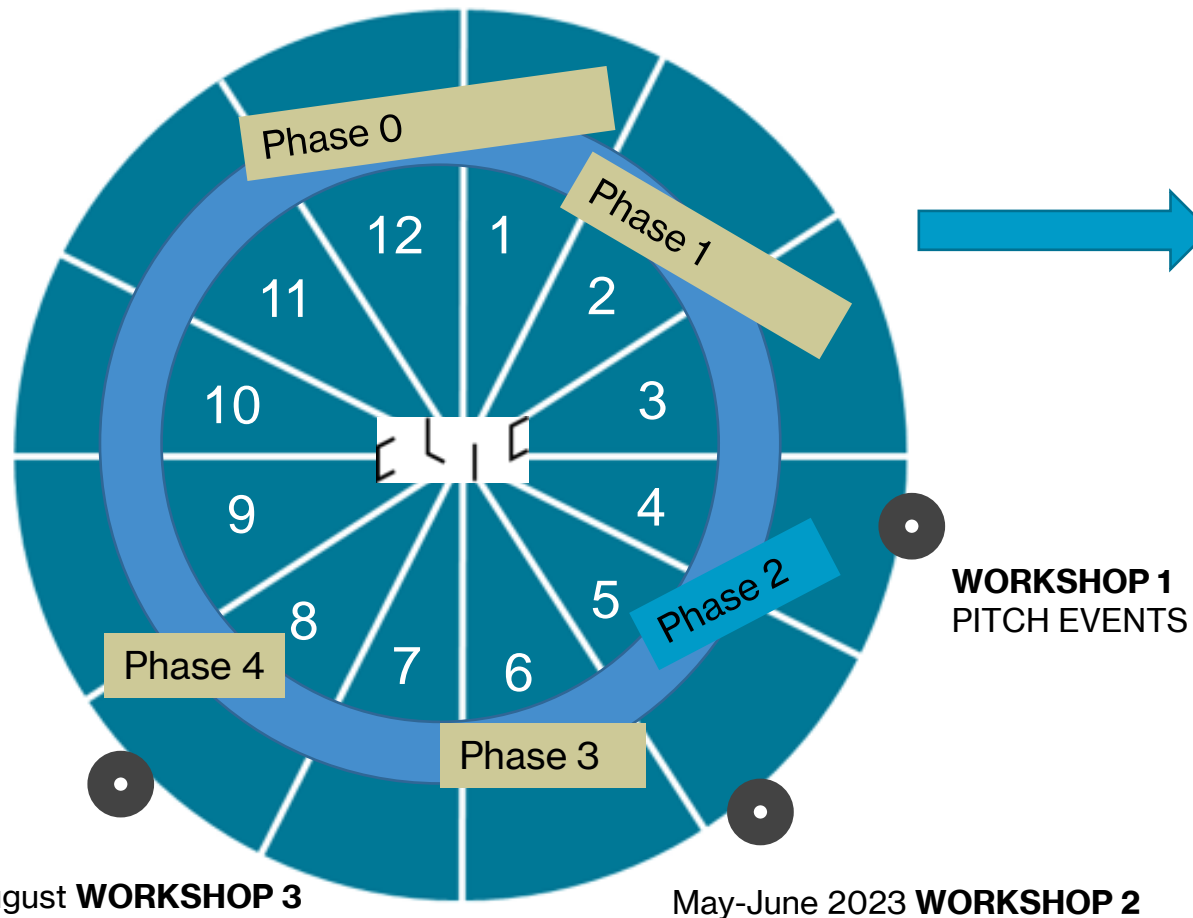


ProjectBooster 2023

Bioeconomy and 4Recycling



ProjectBooster 2023 - Process and Timetable



Phase 0 Identify and formulate focus Areas and Sub-themes & challenges with companies – Nov 2022-Jan 2023: SRIA work and discussions within Theme Groups, GreenE2 and 4Recycling ecosystem, cross-cutting theme Urban solutions

Phase 1 Pitch themes informed & pitch info events to **research teams & research organizations** FEB-MAR 2023
PITCH INFO SESSION TO RESEARCHERS 9.3. 10-12

Phase 2 From Challenges to Project Initiatives

WORKSHOP 1 - PITCHING EVENT Teams

Research institutes pitch their research ideas for solving the formulated challenges

Companies meet after the pitching session to decide on research topics

✓ Energy theme & GreenE2 ecosystem, 17.4.2023

✓ Bioeconomy & 4Recycling, 20.4.2023

✓ Circular economy, 25.4.2023

✓ Cross-cutting themes and Urban solutions, 27.4.2023

Phase 3 Content Development, by invitation

WORKSHOP 2 – depending on theme May-June 2023

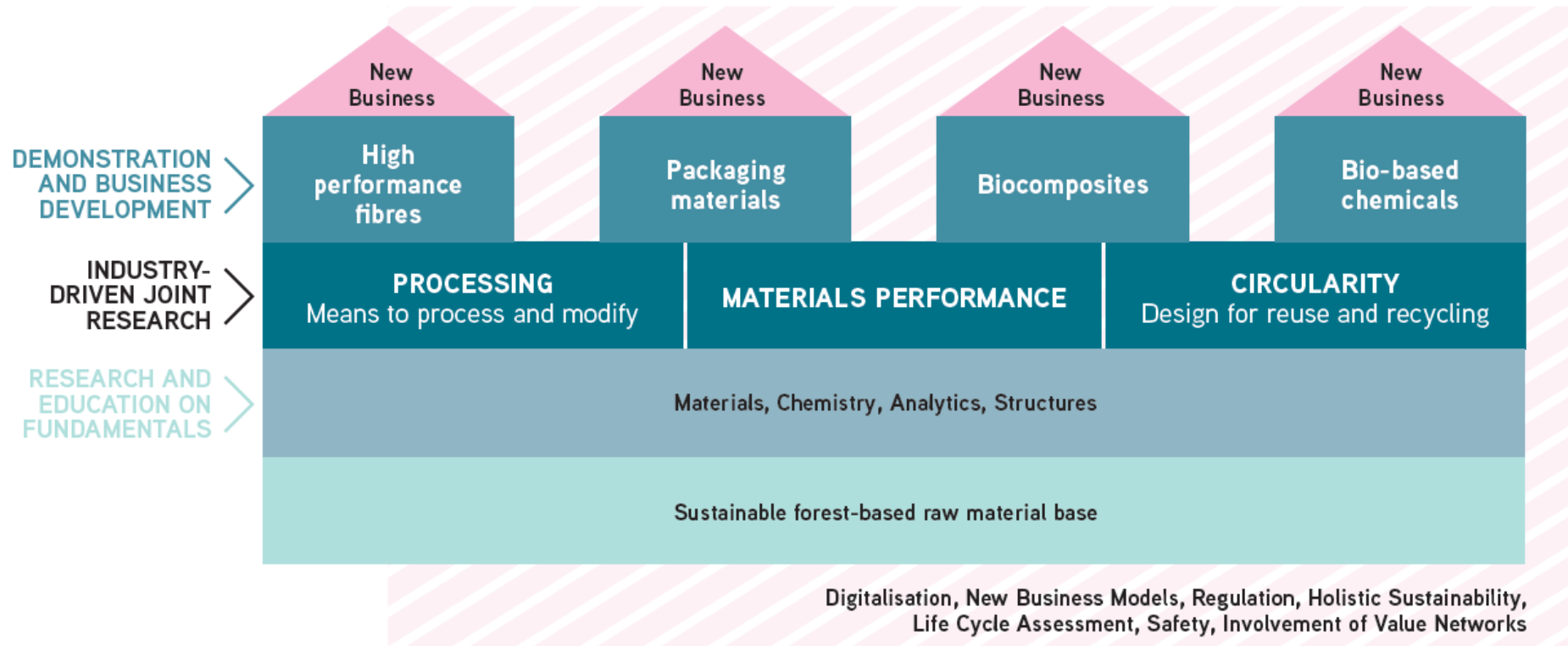
Phase 4 Preliminary R&D&I project planning, by invitation

WORKSHOP 3 – August 2023 in Eteläranta

Bioeconomy SRIA



BUILDING BUSINESS IN FOREST-BASED BIOECONOMY BASED ON THE WORLD LEADING COMPETENCES



4 Recycling focus areas

SYSTEMIC CHALLENGE

that stems from diversified waste material streams

**FUNCTIONAL
BIO-BASED AND
CIRCULAR SOLUTIONS
FOR
RETAIL PACKAGING**



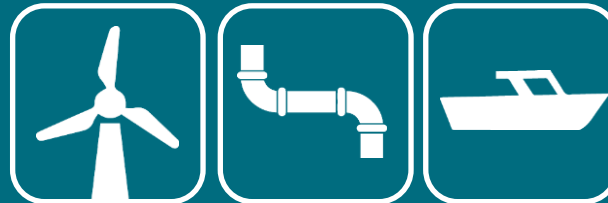
**RECYCLING
TECHNOLOGIES FOR
RETAIL PACKAGING**



**PLASTICS AND
COMPOSITES IN
CONSTRUCTION
INDUSTRY**



**RECYCLING OF BULKY
FIBRE-REINFORCED
PLASTIC PRODUCTS
AND INDUSTRIAL
SIDE-STREAMS**



ProjectBooster Pitching topics

1. Open topic based on Bioeconomy SRIA
2. Fiber materials of future
3. Packaging
4. Renewable binders, coatings and bio-based glues

1. Open topic based on Bioeconomy SRIA

Totally new, bottom-up research openings implementing the jointly made CLIC's Strategic Research and Innovation agenda for Forest-based circular Bioeconomy

- Bioeconomy industry needs totally new research ideas on a mission to holistically sustainable use of forest-based biomass into higher value products, making more value of less amount of raw materials. Further, there is a need for new research openings to develop the role of biogenic carbon dioxide in the future raw material base and industry's value chains.

Linkage to the SRIA has to be identified: **Added value materials and chemicals from wood fibres**

2. Fiber materials of future

High performance fibres play an essential role in building competitiveness of Finnish bioeconomy industry. Applications like packaging, biocomposites, textiles and other new product areas would benefit of innovative ways to process, modify and to create new, enhanced functionalities or reactivity of fibres.

Industry is looking for ambitious and fresh low TRL-level research ideas which could be compiled into the public part of a Co-Innovation project. The ideas can be individual and come from different research partners, but when comprised into one Co-innovation project, they support each other and lead to even new material innovations. Analytics development can also be one part of the project. The research ideas can target for example:

- Creation of new functionalities, fibre modifications, and post-treatments
- New application areas for fibres
- New manufacturing methods where fibres and fibre-based materials are handled

This topic calls for collaborative initiative integrating several research ideas from different perspectives, and preliminary suggestions for collaboration are appreciated.

TRL levels expected in the start of the project are 1-3

3. Packaging

Changing regulation will introduce more ambitious targets for the prevention, reuse, and recycling of packaging and packaging waste.

Industry is interested in research ideas on packaging that is designed to be easily disintegrated or decomposed to materials for recycling.

- Firstly, this could involve research ideas exploring new biopolymers or modifying existing materials to improve their biodegradability or recyclability.
- Secondly, industry needs new research ideas on new packaging designs and formats that facilitate re-use or recycling and investigate the use of circular design principles such as simplicity, modularity and ease of disassembly or new formats such as collapsible or foldable packaging that can be compacted for recycling or disposal.
- Thirdly, industry needs new research ideas on recycling technologies and circular economy system solutions implementing the [RDI Roadmap of Recycling Technologies for Retail packaging](#) of the 4Recycling ecosystem.

LCAs and sustainability assessment of the developed concepts are considered an essential part of the research agenda.

4. Renewable binders, coatings and bio-based glues

Industry is looking for new research ideas for polymer dispersion and nanocellulose technologies for several application areas like renewable binders, coatings, nonwovens, and novel applications.

Furthermore, research ideas to improve compatibility of i.e.. binder with fibres or binder with pigments, could be addressed.

Industry is also interested in research ideas for bio-based, sustainable glues/adhesives.

Research ideas should lead to advanced formulations functioning in industrial/larger scale and serve the needs of the whole value chain, for instance in packaging.

- Expected TRL levels in the start of project are 2-6

- Pitching event on 20 April, 2023
- Industry evaluation sessions for companies
 - 28 April and 12 May, 2023

Aila Maijanen
CLIC Innovation Oy
Head of Bioeconomy
0503751182