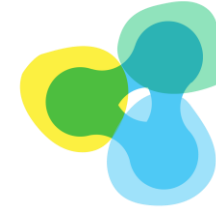




CIRCBUILT



New European Bauhaus
beautiful | sustainable | together



Welcome to NEB (New European Bauhaus) Networking Event

Bio-based construction materials - Insights from Innovative New European Bauhaus & Horizon Europe projects



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Notice of recording:

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The recording may be shared internally and/or externally.

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Our Speakers



Senior Researcher at VTT,
Coordinator of CIRCBUILT



Policy Officer at the European
Commission, NEB representative



Professorship of Architecture
Design at TUM,
Coordinator of BIOARC



Senior Researcher at Tecnalia,
Coordinator of INGUMA



State-certified expert in sound and
thermal insulation
Coordinator of BIO4EEB



Agenda

10:00 - Opening the Webinar and Practicalities – Amit, Margot and Kinga, VTT and EQY

10:05 am - **Borut Cink**, Policy Officer, **New European Bauhaus**

10:20 am – **Julia Ihls** from **BIOARC** - Bioregional mineralisation with agricultural resources for construction

10:35 am - **Amit Sonker** from **CIRCBUILT** – Circular Biobased Materials for the Built Environment

10:50 am - **Javier García Jaca** from **INGUMA** - Reducing the footprint of consumer products through public dialogue and innovative bio-based materials

11:05 am - Klaus Luig from **BIO4EEB** - BIO insulation materials for Enhancing the Energy performance of Buildings

11:20 am - Questions and Answers

11:30 – End of the webinar



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OUR PURPOSE

We bring together people,
business, science and technology,
**TO SOLVE THE WORLD'S
BIGGEST CHALLENGES,**
creating sustainable growth,
jobs and wellbeing.

VTT Technical Research Centre of Finland

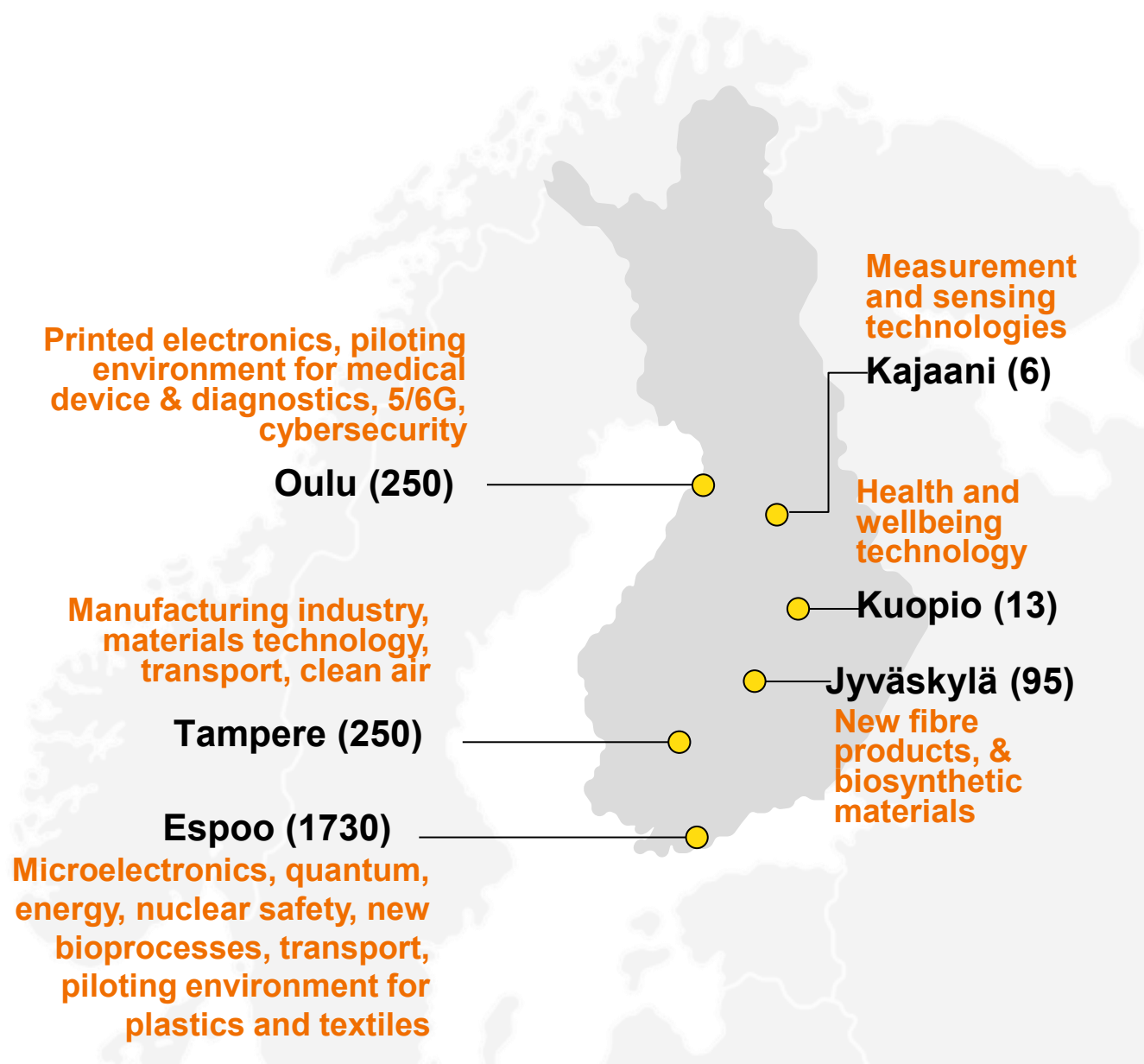
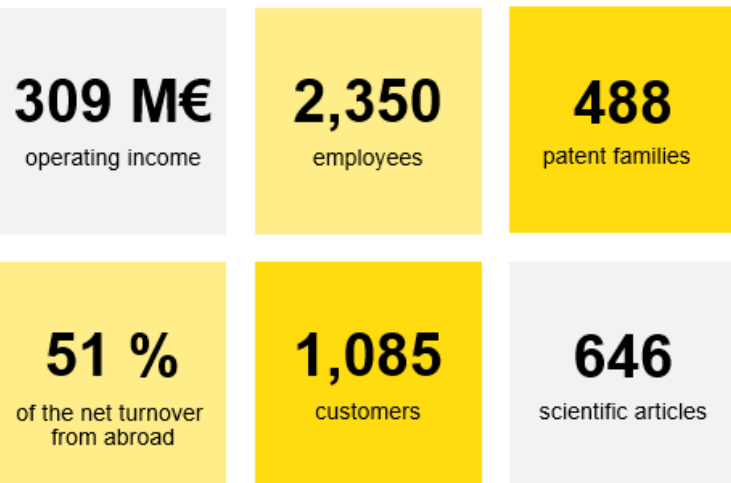


We have 22 R&D infrastructures and piloting facilities in 6 cities.

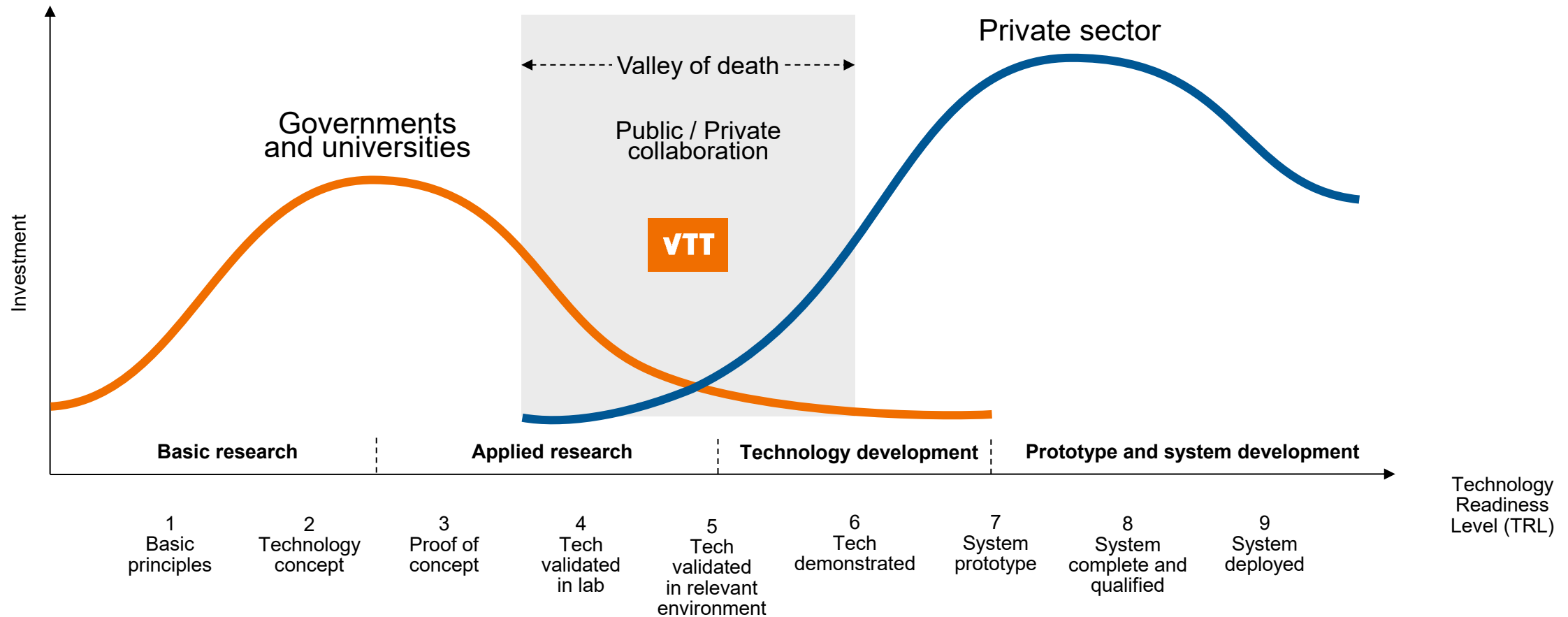
We extend our customers' research capabilities and broaden their knowledge base with our experts and top-notch technologies. We combine Finnish expertise with international research networks and markets.

Explore more at: vttresearch.com/techinfra

VTT' years 2025 in numbers



We help innovations cross the valley of death





NEB Initiative
1# Speaker: Borut Cink,
Policy Officer, New European
Bauhaus

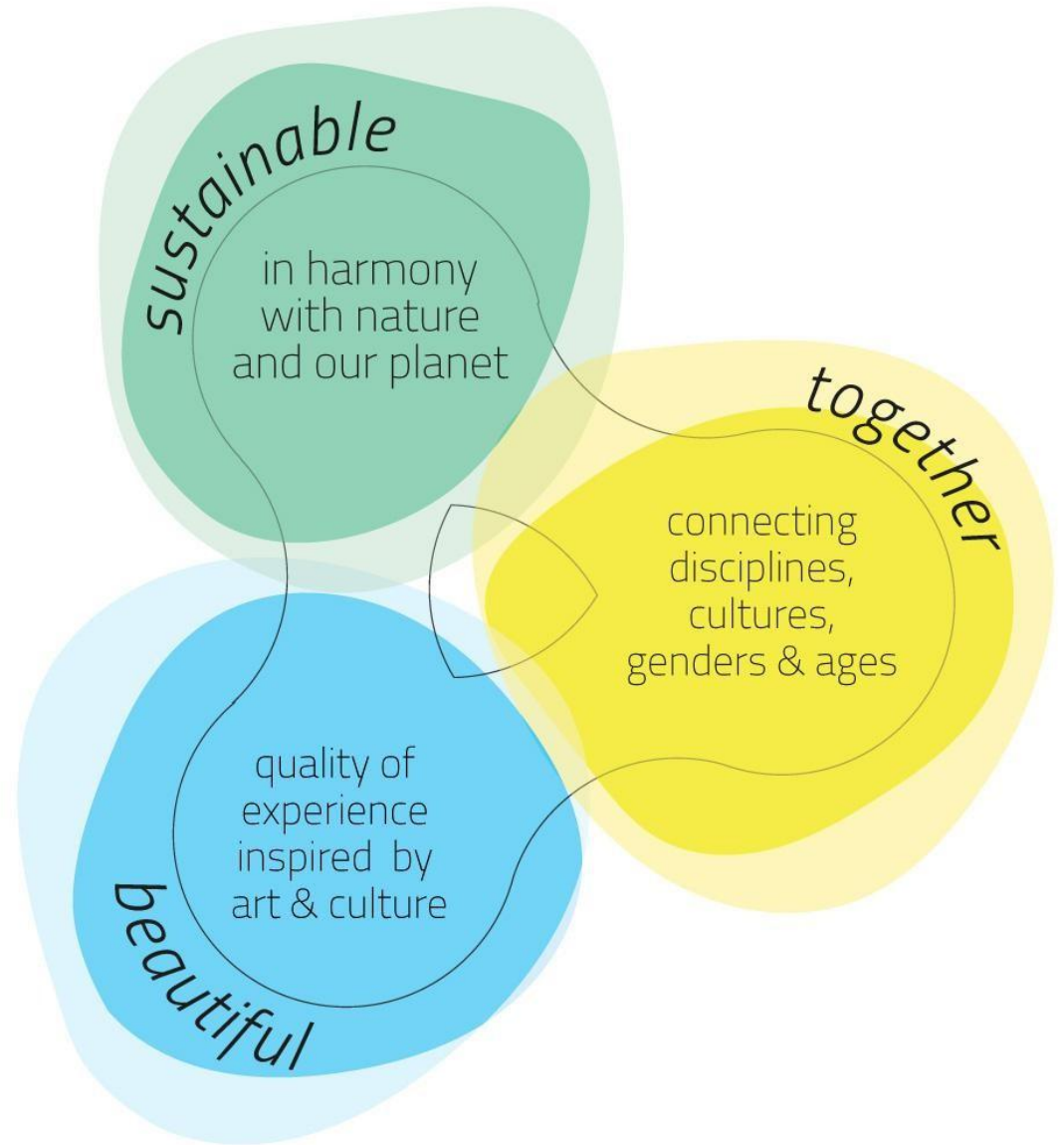


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NEW EUROPEAN BAUHAUS: FROM VISION TO IMPLEMENTATION

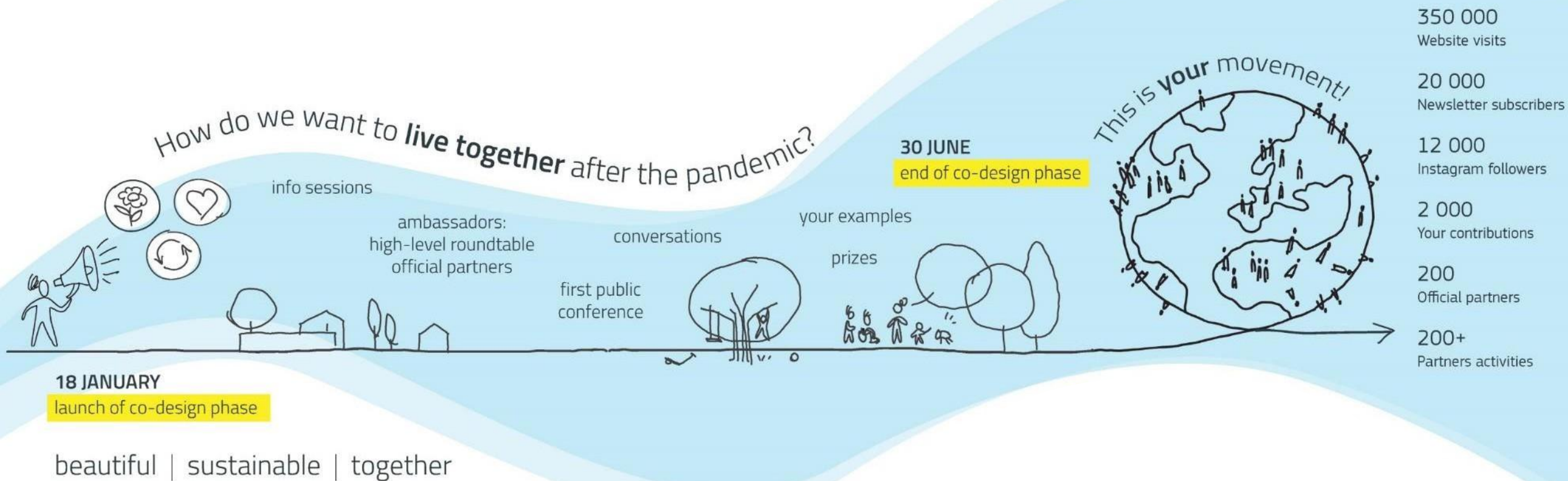
17 June 2026

Borut Cink
Joint Research Centre
European Commission



January – June 2021:

6 months of co-design open to all



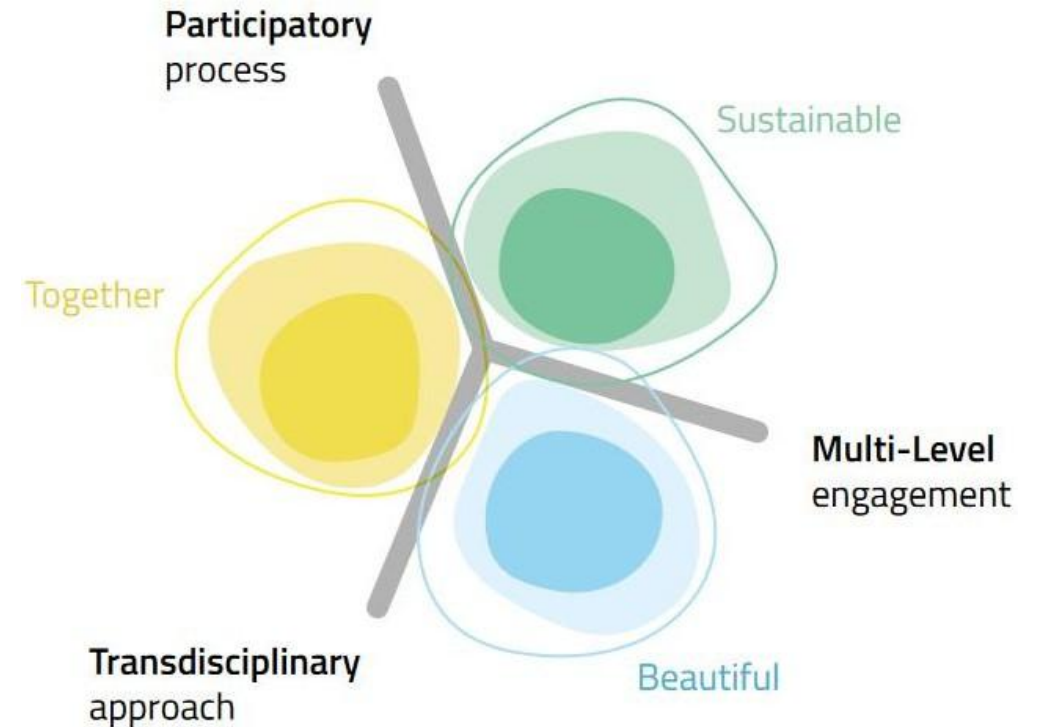
What is the New European Bauhaus?

The **New European Bauhaus (NEB)** is an initiative launched with the aim of translating **the European Green Deal** into tangible change on the ground that improves citizens' daily life and accelerates the green transition.

NEB promotes an **integrated approach** to the green and clean transition of our economies and societies, building on:

3 Values

3 Working Principles



A hand holding a vintage-style compass against a background of a forest and mountains. The compass is round with a brown leather-like cover and a white face with black markings. The hand is holding it from the bottom left, with the thumb and index finger visible. The background is a blurred landscape with green trees and a mountain peak in the distance.

NEB Compass

The NEB Compass: Your Navigation Tool

A framework that:

- Translates NEB values into concrete project criteria
- Identifies three levels of ambition for each value
- Provides pathways for project development
- Works as both assessment tool AND development guide

New European Bauhaus

3 Values × 3 Principles × 3 Ambition Levels

		Ambition I	Ambition II	Ambition III
Values	 Beautiful	to activate	to connect	to integrate
	 Sustainable	to repurpose	to close the loop	to regenerate
	 Together	to include	to consolidate	to transform
Principles	 Participatory	to consult	to co-develop	to self-govern
	 Multi-level	to work locally	to work across levels	to work globally
	 Transdisciplinary	to be multidisciplinary	to be interdisciplinary	to be beyond-disciplinary

What have we achieved since 2020?

- ✓ NEB Community across Europe
- ✓ Bottom-up initiatives and funding projects
- ✓ NEB objectives in EU programmes and policies, and within the European Commission
- ✓ Tools guidelines to support NEB projects (i.e. NEB Compass, Investment guidelines)
- ✓ Awareness, mobilisation, sharing of best practices

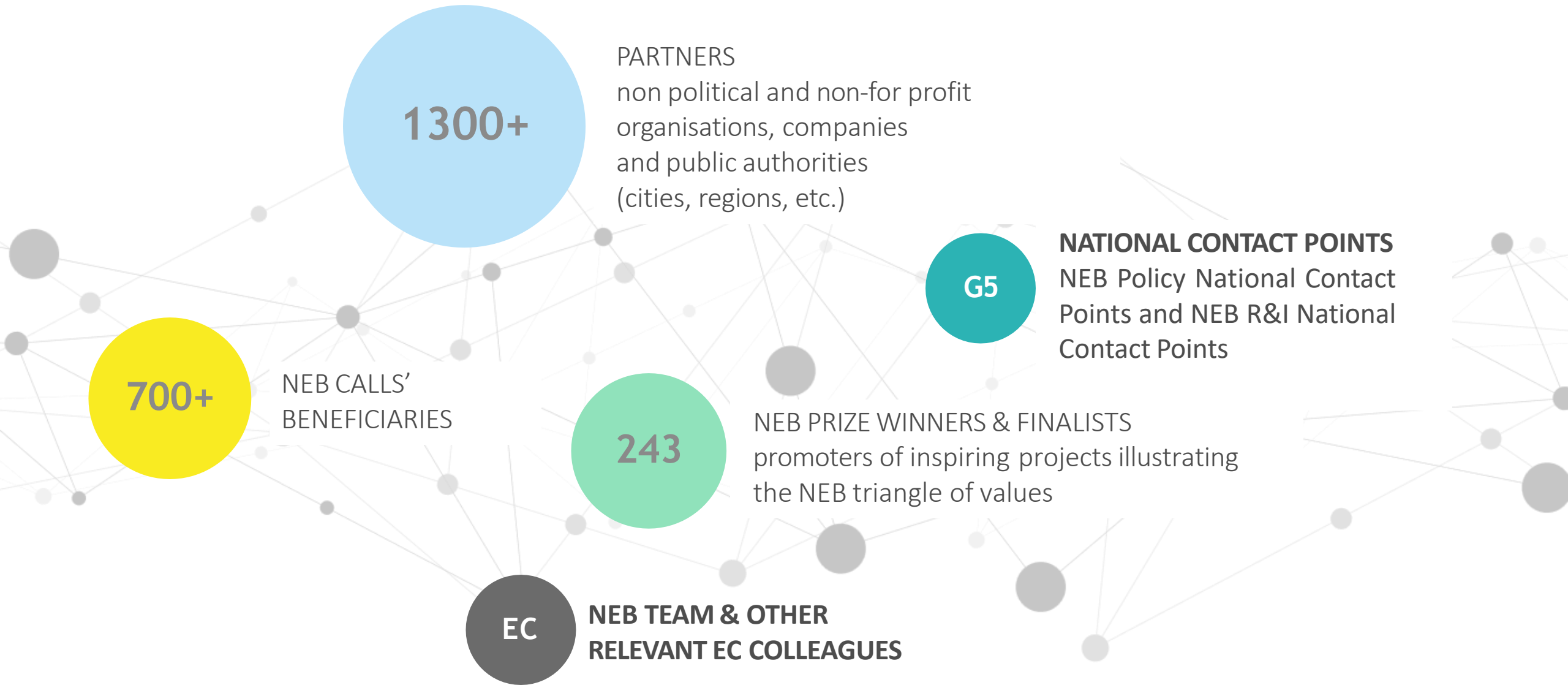
2,000
Members of the
NEB Community

700
projects

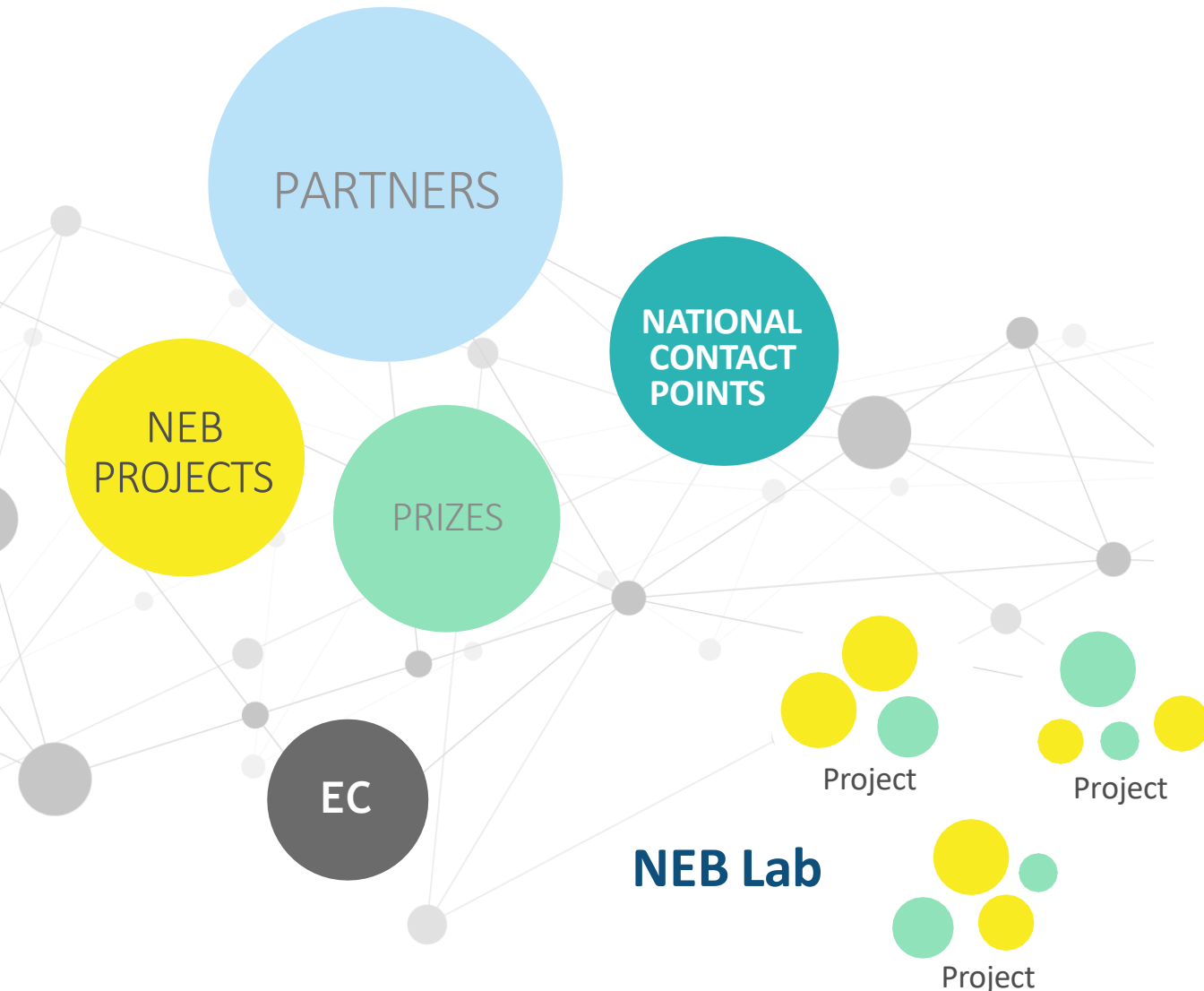
G
EU programmes
supporting NEB

EUR **557** million
from Horizon
Europe

A diverse NEB Community



NEB Community: NEB Labs



NEB Lab:

- **co-creation space** for the delivery of beautiful, sustainable, and inclusive projects.
- A **project-based structure** where teams self-organise to achieve tangible change in a specific place or context.
- In simple terms: thematic/working groups within wider NEB network

A NEB Local Chapters is a self-organised, place-based group of NEB Community members and external stakeholders



NEB Local Chapters

NEB Local Chapters allow for decentralising and delegating coordination roles in the community, as well as strengthening a multilevel approach.

A broad network of 27 NEB National Contact Points



- Established in October 2022
- Important partners of the Commission Services and its Executive Agencies in implementing the New European Bauhaus at national and local level
- Established, operated and financed under the responsibility of the Member States and supported by the European Commission

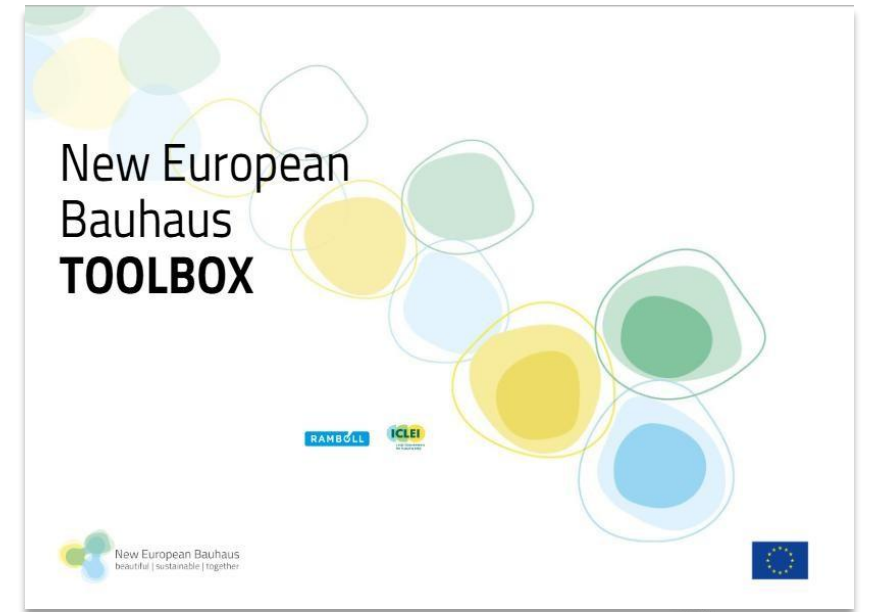
Core Functions:

- Inform and raise awareness
- Assist, advise (to stakeholders) and report (back to the Commission)
- Collaborate and co-create
- Learn, network, and build capacity

New European Bauhaus

Tools and guidelines to develop and scale up NEB solutions

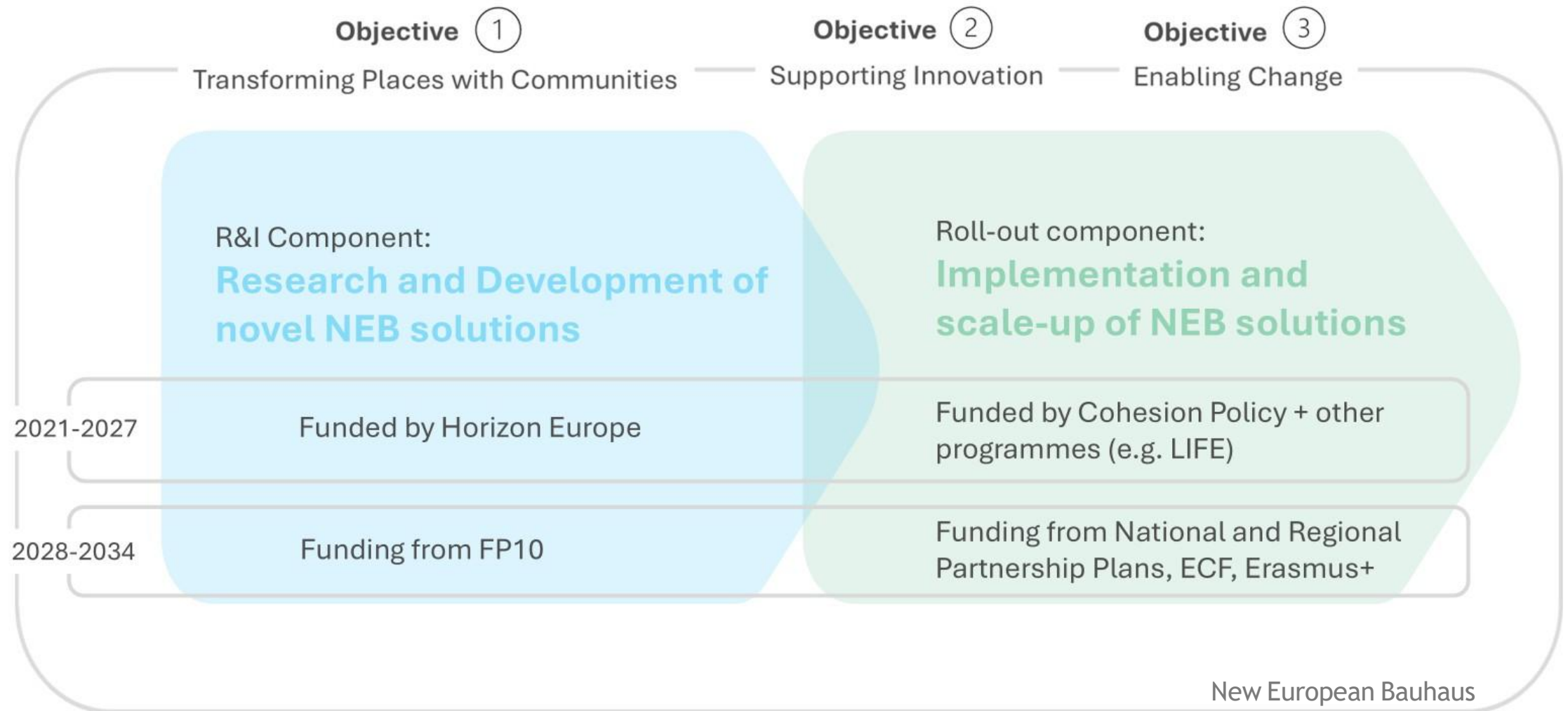
- [NEB Toolbox](#)
- [NEB Self-Assessment Method](#)
- [NEB Checklist](#)
- [NEB Investment Guidelines](#)
- [NEB Compass Self-Assessment Tool](#)
(developed by [EIT Community NEB](#))



By integrating **NEB objectives** in EU programmes and policies, and within the European Commission



Funding the NEB: the NEB Facility



NEB in current political priorities



Affordable Housing Package - 16 December 2025



- European Affordable Housing Plan
- European Housing Construction Strategy
- **Commission Communication on the New European Bauhaus: from vision to implementation, and proposal for Council Recommendation**
- Revised EU State aid rules

NEB Communication

Sets EU vision & priorities

Launches tools &

Mobilises EU funding & markets

Commission-led

NEB Recommendation

Invites MS to act

Embeds NEB in national/regional frameworks

Strengthens multilevel governance

Member State-owned

Key message

Together, they move NEB from inspiration
to systemic change.

New European Bauhaus

NFR Communication and proposal for Council Recommendation



Sustainability

Enhancing **circularity**, **sustainability** and **innovation in the built environment** by supporting the circular economy and bioeconomy, promoting research, scaling up innovative solutions and **reinforcing community resilience to natural disasters**



Participation

Empowering citizens through **participatory processes** to strengthen **democratic, inclusive** and **resilient** neighbourhoods



Education, arts & culture

Harnessing the transformative **power of education, arts and culture** to boost creativity and innovation for local transformation

Specific objective 1

Enhance circularity, sustainability and innovation in the built environment



Fostering innovative and sustainable solutions

Support the transition of the construction ecosystem towards low-carbon, circular and bio-based solutions, by:

- Developing a **NEB Label** to reward NEB projects and practices and increase their visibility with potential promoters and investors.
- Funding the development of **NEB demonstrators** for innovative solutions.
- **Supporting entrepreneurs and SMEs in NEB-relevant sectors**, helping them access funding to commercialise and scale up new solutions.

Specific objective 1

Inclusive, sustainable and quality-driven transformation of neighbourhoods

Boosting **resilience and preparedness to climate-related risks and natural disasters** of neighbourhoods by:

- ▶ Promoting **spatial planning** that integrates **low carbon, water-efficient, water resilient and nature-based solutions**
- ▶ **Capacity building and guidance**, from prevention to post-disaster recovery
- ▶ Promoting **AI-powered analytics** to enable data-driven decision-making

Promoting a **whole-life cycle approach to buildings** and prioritising a **better use of existing buildings through renovation or refurbishment** by:

- ▶ Providing **evidence and methodologies** on the decarbonisation of buildings and on prioritising the efficient use of the built environment.
- ▶ Fostering **procurement procedures that enable sustainable, inclusive and quality-led solutions.**

Specific objective 2

Empower citizens through participatory processes to build democratic, inclusive and resilient neighbourhoods



NEB is a catalyst for empowering citizens and mainstreaming democratic participation processes in local transformation projects

- Expand **democratic design and citizens' co-ownership** of urban and rural regeneration processes **through digital platforms, virtual reality and immersive digital environments** through Local Digital Twin and CitiVERSE
- Launch a 2026 edition of the **NEB Boost for Small Municipalities** to reward key local players for their contribution to building inclusive and sustainable societies
- Support local democracy through innovative community engagement and inclusive public spaces, fostering intergenerational connections
- Support **public authorities** in designing and implementing participatory processes

Specific objective 3

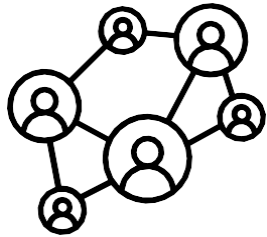
Harness the transformative power of education, arts and culture



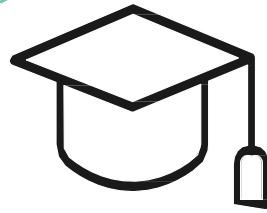
Culture and arts are a core feature of individual and communities' well-being and have the power to unleash creativity and innovation. NEB will foster the **interaction** of cultural professionals, artists and academics with engineers and entrepreneurs to provide new perspectives and co-create out-of-the box solutions.

- Promote **high-quality architecture** (Davos Process, Culture Compass)
- Integrate NEB values in **European Capitals of Culture**
- Support **artists' residencies** through the "Culture Moves Europe" Initiative
- Engage young people through the NEB Route of **DiscoverEU**

4 enablers



NEB COMMUNITY
AND GRASSROOTS
PARTICIPATION



THE NEB ACADEMY:
KNOWLEDGE,
SKILLS AND
BUSINESS
DEVELOPMENT

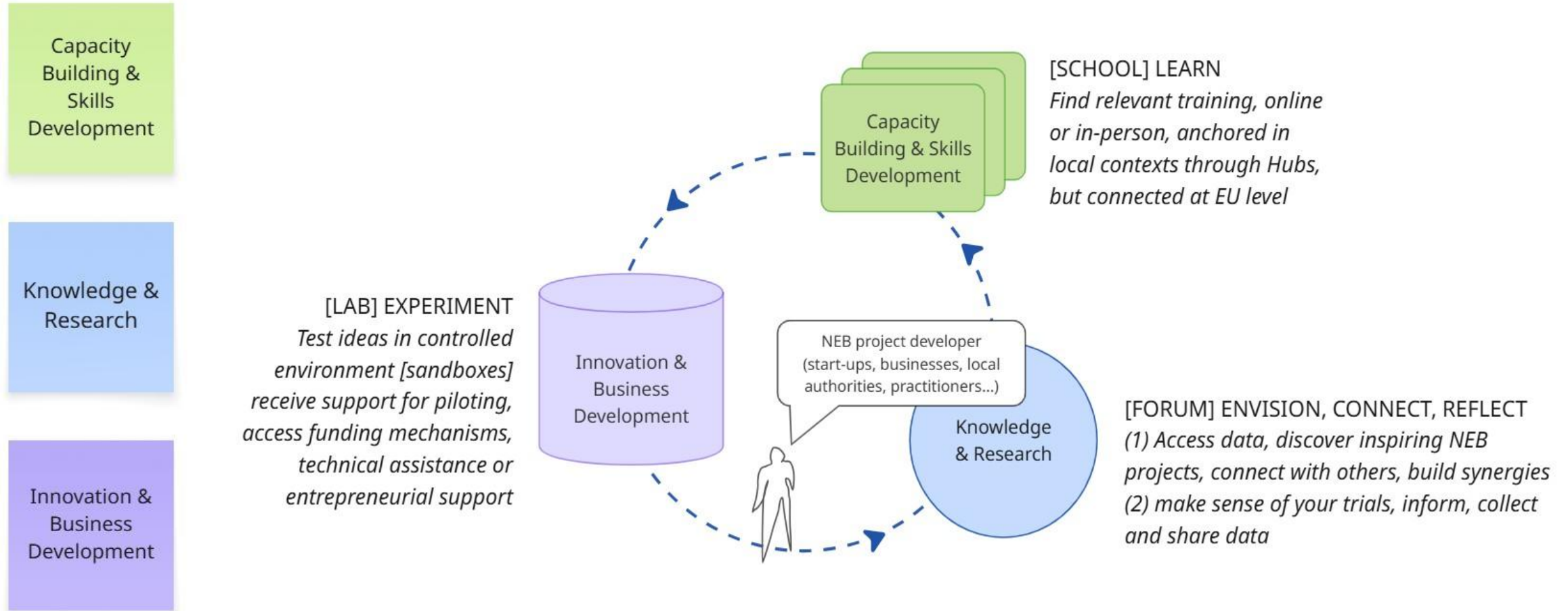


FUNDING AND
GOVERNANCE



INTERNATIONAL
DIMENSION

NEB Academy



New priorities

- *Shift from “initiative” to “delivery platform”*
- **Scaling & replication**
 - NEB Lighthouse projects, demonstrators
- **NEB Academy**
 - Skills, knowledge, innovation, business support
- **Market & investment focus**
 - NEB Label, Investment Guidelines, Advisory Hub, entrepreneurship
 - **Neighbourhood-level transformation**
 - Housing, resilience, public spaces
- **Expansion to new sectors**
 - Built environment first, but also textiles/fashion, crafts, agri-food...



Thank you!

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#NewEuropeanBauhaus





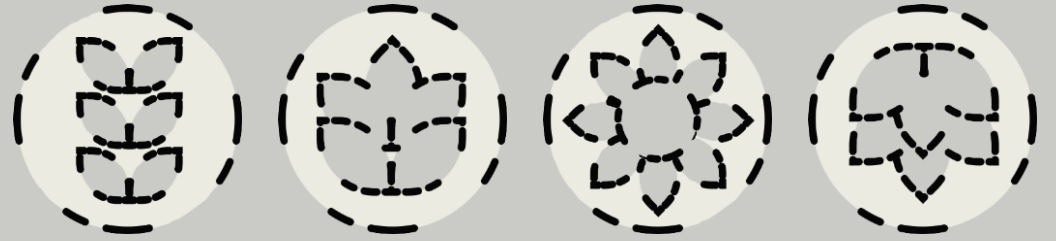
2# Speaker: Julia Ihls,
Project director - Technical
University of Munich (TUM)
Coordinator of BIOARC



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BIOARC

Bioregional mineralisation
with agricultural resources
for construction



**Funded by
the European Union**



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of Economic Affairs,
Education and Research EAER
**State Secretariat for Education,
Research and Innovation SERI**

EUROPEAN CUISINE



Rice
from Italy

Image: Raquel Carmona



Oil
from France

Image: Bonnie Kittle



Beer
from Germany

Image: Riegg h Partner



Bread
from Poland

Image: Ulta Gleiser

FOUR BIOREGIONS



Terre D'Acqua



Gers



Hallertau



Warmia

PROJECT AIM

Transforming agricultural secondary biomass into high-performance, fire-resistant building materials using biomineralisation, with a focus on sustainability across diverse biomass types.

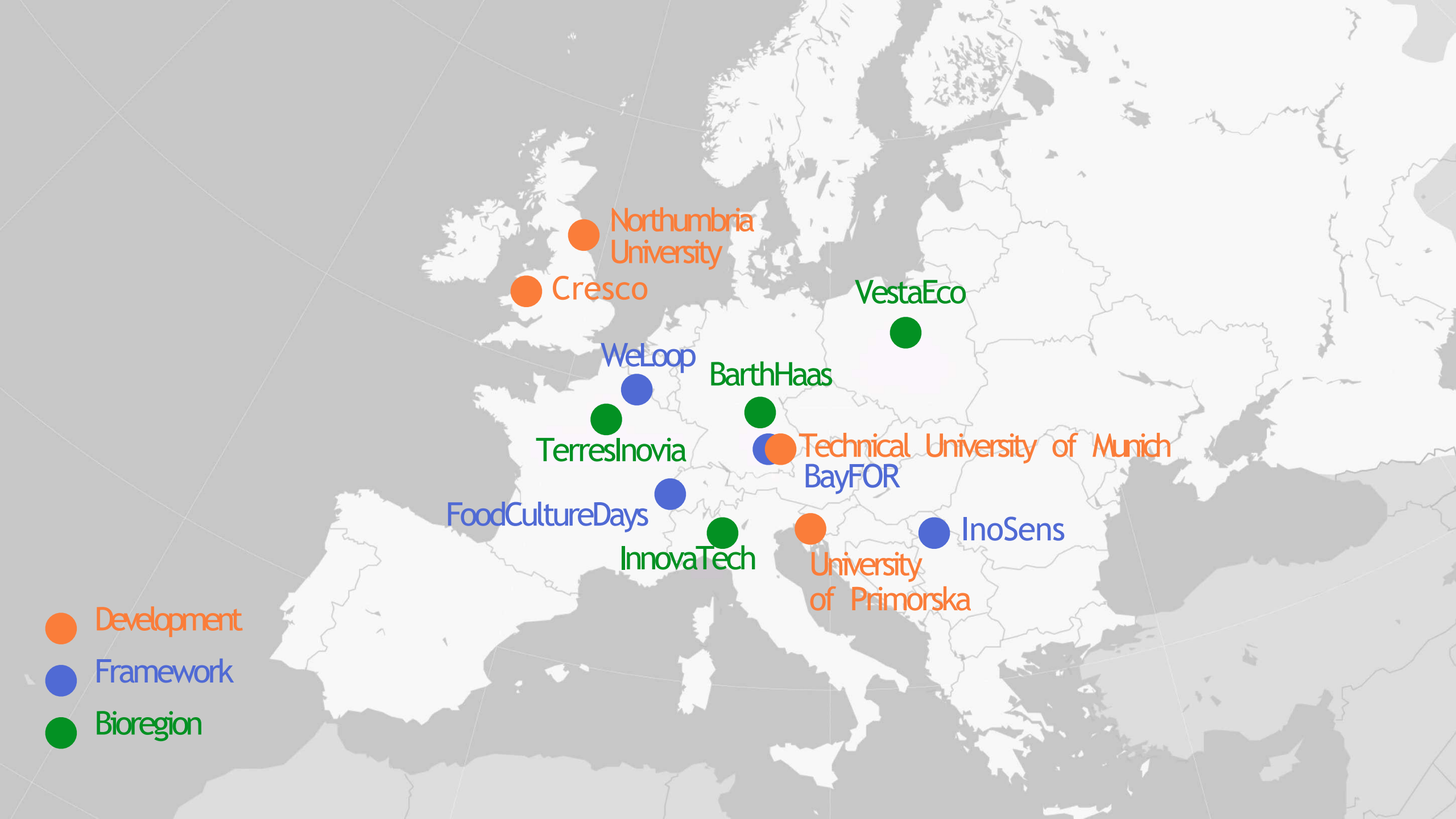
Expected Results

➤ Develop four distinct products – such as insulation boards, construction panels, acoustic panels, and partition walls – sourced from secondary biomass.

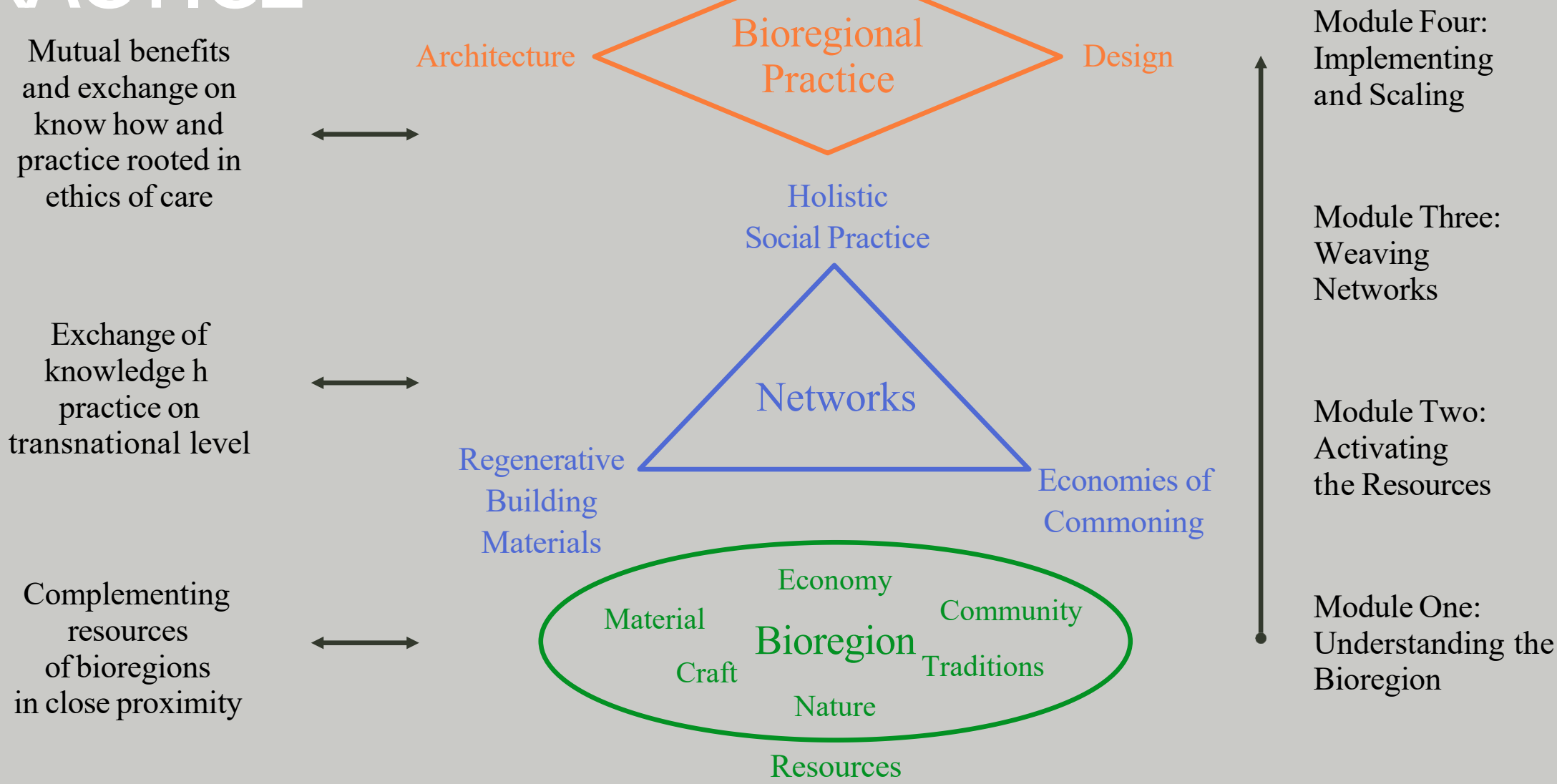
➤ Establish bioregional networks and supply chains to enable the ecological and economic scalability of biomass processing for

MICP

Image: Jennifer Zehner,
Anna Röhne, PVL, LS, Srs



BIOREGIONAL PRACTICE



AGGREGATES



R01
Rice Husks
(Traditional Milling)

outer shells of rice are removed during traditional milling



R02
Rice Husks
(Parboiling Process)

outer shells of rice are removed during milling after parboiling



R03
Rice Pellets
(Pressed after Milling)

pressed form of rice husks after rice milling, mainly used for animal bedding



R04
Rice Straw
(Harvest)

rice stalks left in the field after harvest



S01
Sunflower Hulls
(Oil Processing)

outer shells of sunflower seeds removed during dehulling for oil production



S02
Sunflower Pellets
(Oil Processing)

low-protein, fibrous sunflower press cake from oil production



S03
Sunflower Stalks
(Harvest)

sunflower stalks left in the field after harvest



W01
Wheat Fibers

short, coarse pieces of straw produced by cutting wheat straw after harvest



W02
Wheat Chips

fibers obtained by cutting and combing wheat straw after harvest



H01
Hop Stalks
(Pre-Fermentation)

shredded residues of hops, ensiled and stored at a biogas plant



H02
Hop Residue
(After Fermentation)

solid residue after biogas fermentation of ensiled hop stalks,



H03
Hop Stalks
(Shredded)

hop stalks dried using a biogas plant shredded in max 3 cm length

BINDER

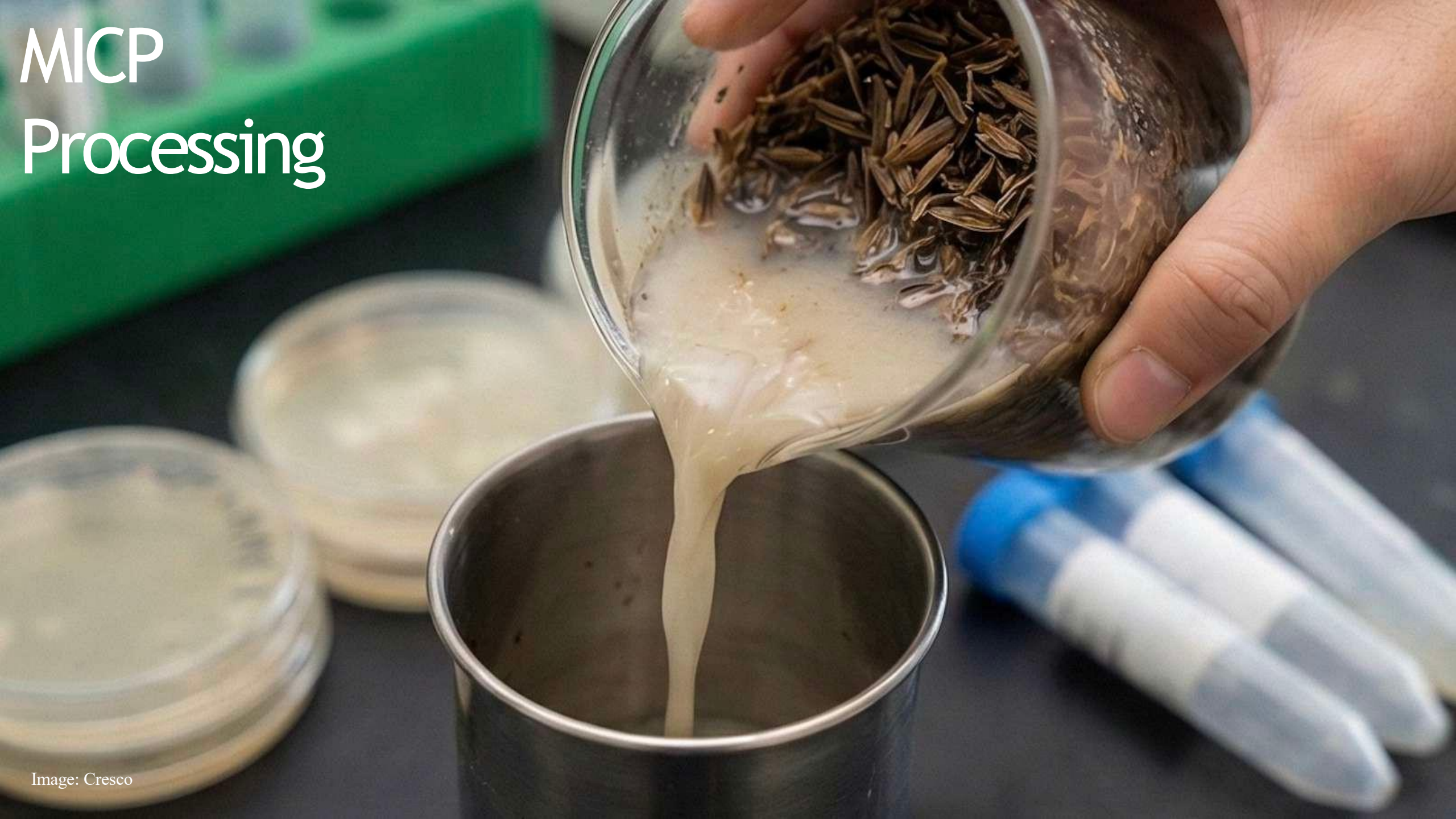
Isolating
Local Bacterias

All Images: Northumbria University / Thora Arnardottir

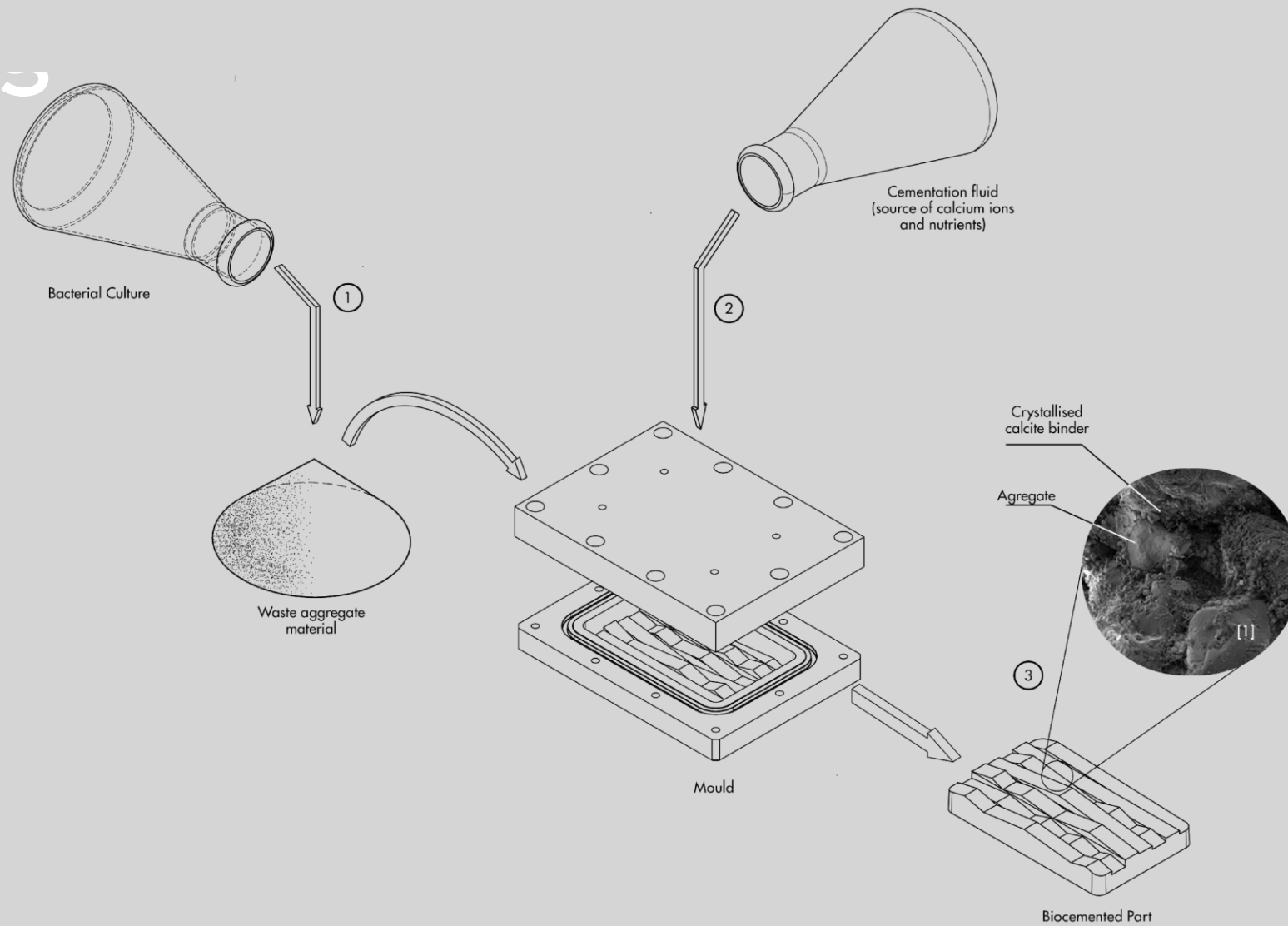
Developing
Test Bodies

Testing

MICP Processing



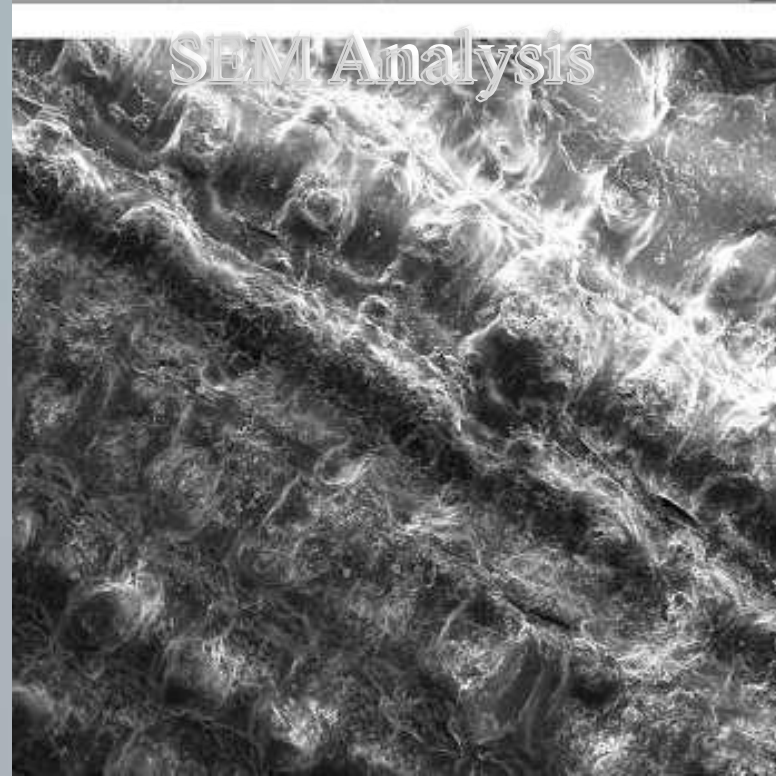
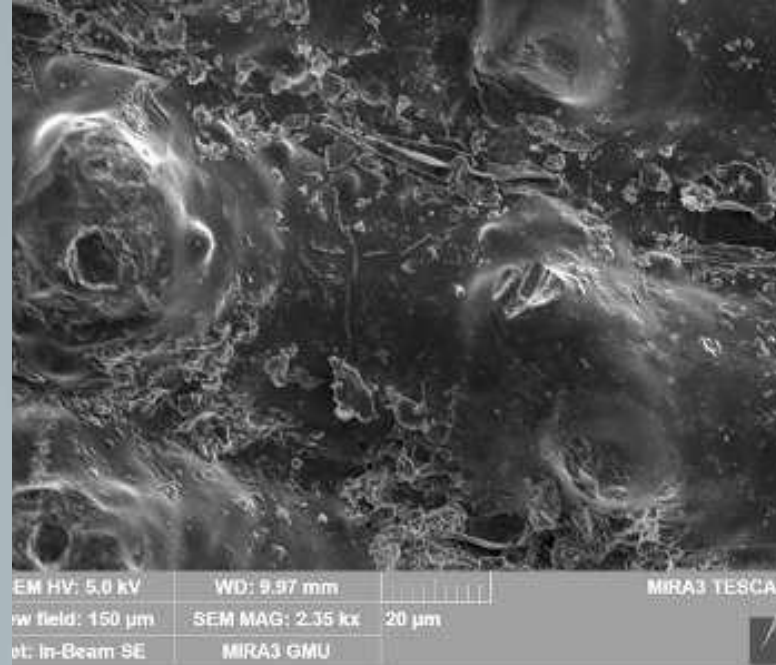
MICP Pro



MATERIAL ANALYSIS



Pretreatments



SEM Analysis



Validation

MATERIAL BOX



MATERIAL PALETTE



Insulation
Boards

Image: Carolin Schelkle, Vesta Eco



Partition
Walls

Image: Atelier LUMA



Acoustic
Panels

Image: onmatter



Construction
Boards

Image: Filip Dujardin



BIOREGIONAL WEAVING

Identifying and engaging
stakeholders along the
ecosystem

Video: TUM/Carolin Schelkle



Investigating
secondary biomasses

Photo: TUM/Carolin Schelkle



Configuring sustainable
value chains with local
stakeholders

Photo: TUM/Carolin Schelkle

AMBITION

1:1 Prototypes steering
legislative frameworks



Image: BauhausEarth

Piloting scalable
solutions



Image: HBBE

Demonstrators as Places
of Rural Commoning



Image: FoodCultureDays

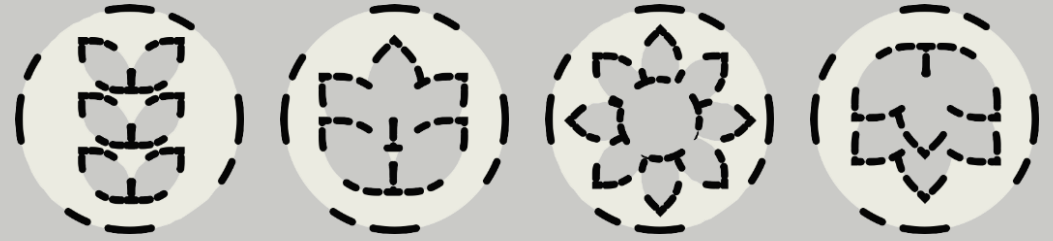
CONNECT WITH US

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↗ Julia Ihls
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↗ LinkedIn: BIOARC

↗ Instagram: [@bioarc.eu](https://www.instagram.com/bioarc.eu)





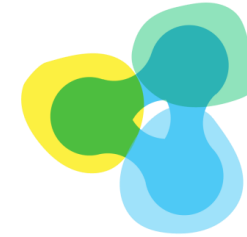
**3# Speaker: Amit Sonker,
Senior Researcher - VTT
Coordinator of CIRCBUILT**



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CIRCBUILT



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CIRcular biobased materials for the BUILT environment

Amit Sonker, CIRCBUILT Coordinator and Senior Scientist, amit.sonker@vtt.fi

Akio Yamamoto, Project Manager and Research Scientist, akio.yamamoto@vtt.fi

Minna Lahtinen, Lead, EU projects, Biomaterial Processing and Products,
minna.m.lahtinen@vtt.fi

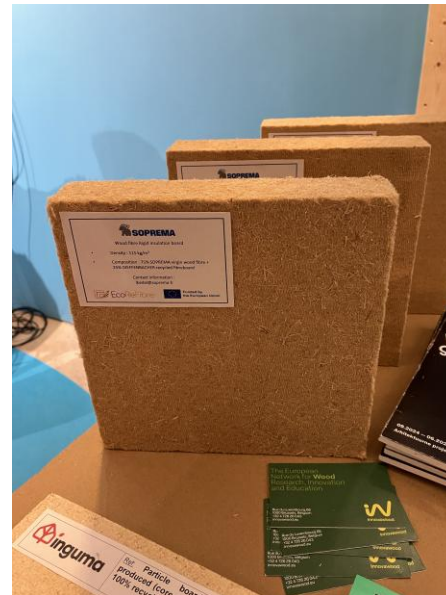
VTT Technical Research Centre of Finland



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NEB Festival in Brussels



New European Bauhaus and CIRCBUILT



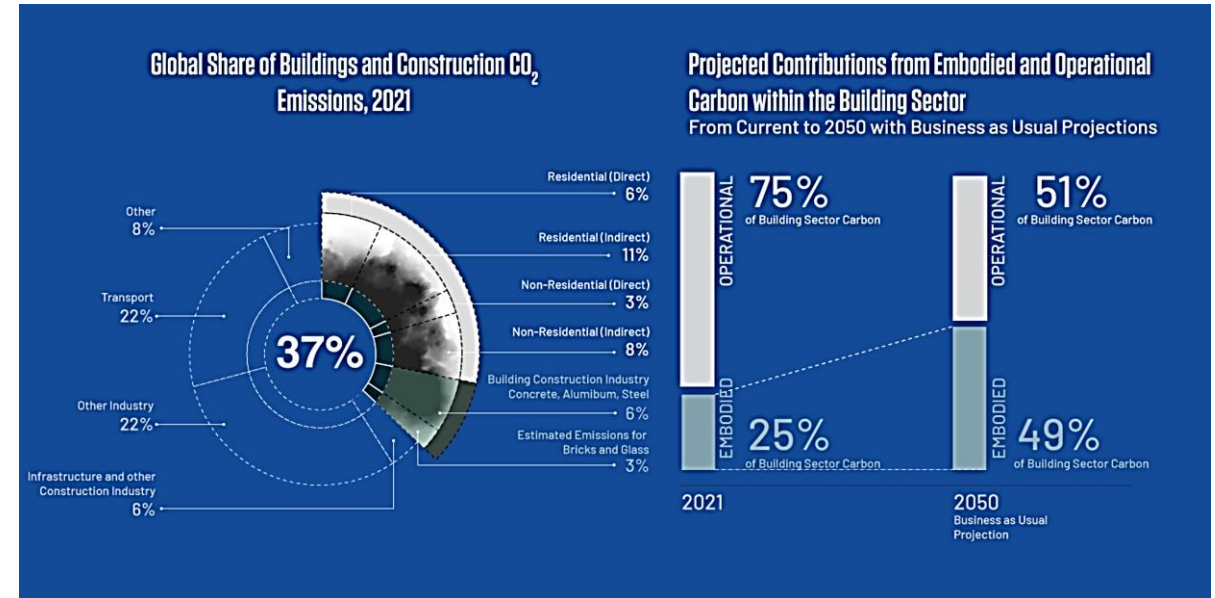
New European Bauhaus
beautiful | sustainable | together



NEB - policy and funding initiative driving a green transition in built environments that is enjoyable, attractive, and accessible for all. It ensures **sustainable**, **inclusive**, and **beautiful solutions**

CIRCBUILT addresses the **37% global emissions** from the building sector and aims to reduce environmental impact through innovative, circular bio-based construction materials sourced from secondary lignocellulosic residues.

Currently, most emissions come from operational energy (heating, cooling, electricity). By 2050, embodied carbon (from materials like concrete, steel, glass) will nearly equal operational carbon, highlighting the need for low-carbon emission materials and energy-efficient operations to meet climate goals

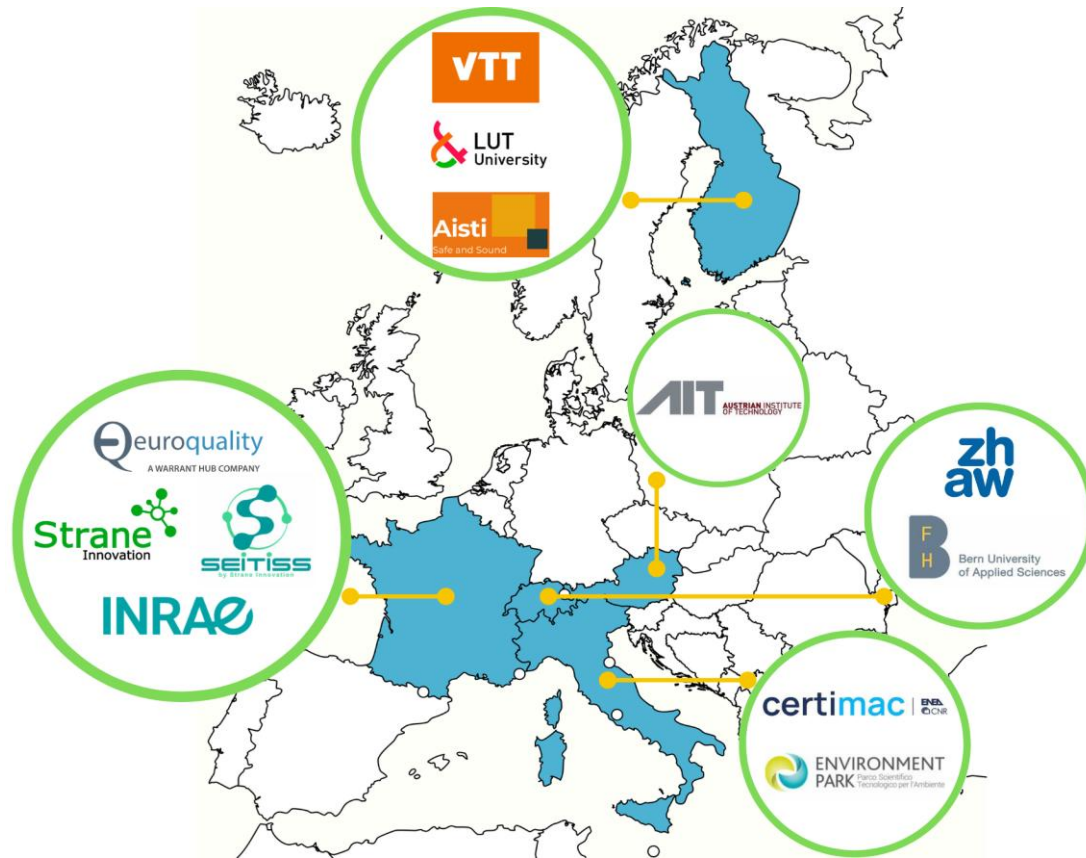


Adapted from "Tracking Clean Energy Progress" (IEA 2022)



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CIRCBUILT – Team and Partners



New European Bauhaus
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**Sustainable
Architecture**

Project Duration – May 2025-April 2028 (3 Years)

Funding – From EU (4M€) and Associated Partners (Switzerland) (1.5M€)



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CIRCBUILT – Overview and objectives

01.05.2025

M1

M3

M6

M12

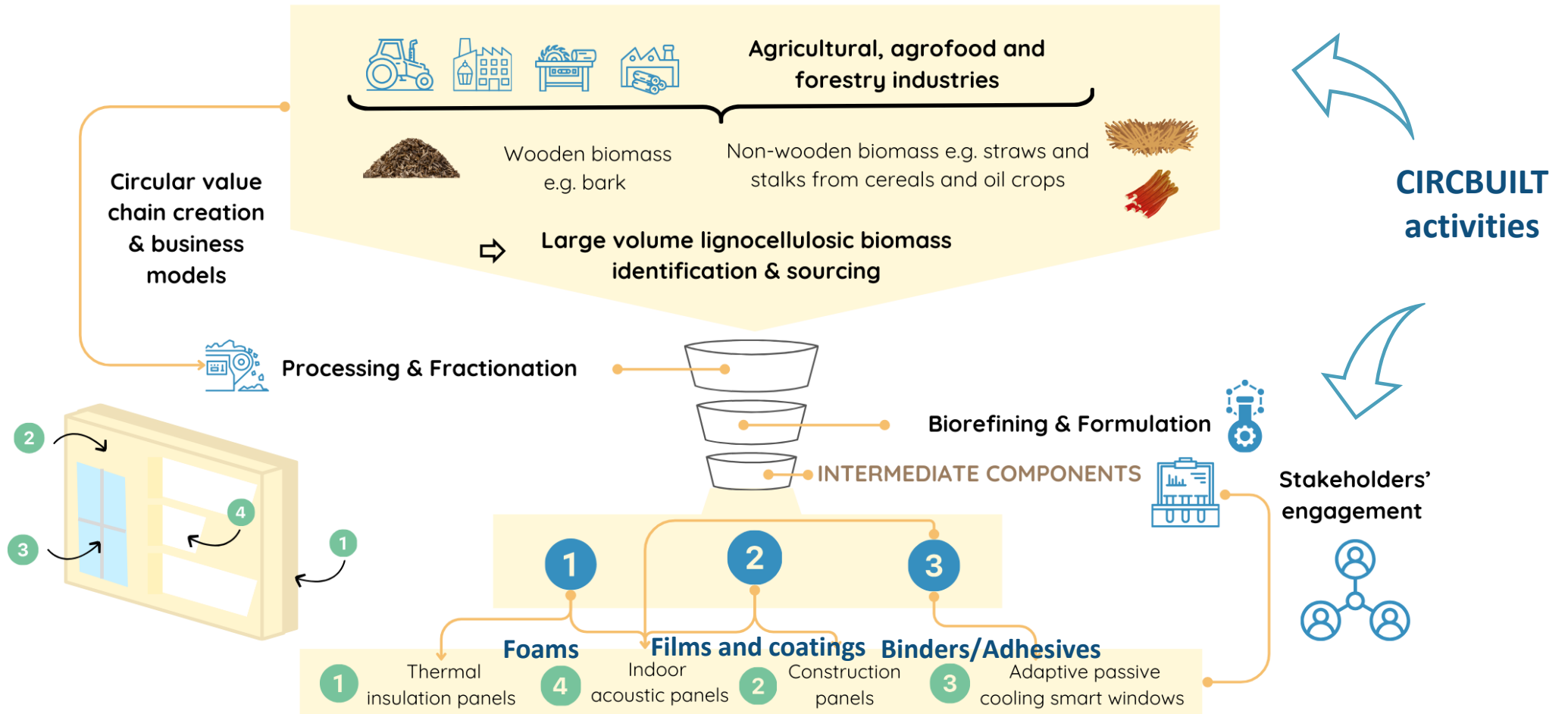
M18

M24

M30

M36

30.04.2028



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CIRCBUILT – Expected Results

1. Raw materials - Secondary Biobased Materials

2. Intermediate Components (IC)

IC1 Foam-formed materials

IC2 BioNIPU formaldehyde- & isocyanate-free adhesives

IC3 Nanocellulose films and coatings

P2 Construction Panels (Euroclass D)

Strategic developments

Establishment of European circular value chains in sustainable architecture

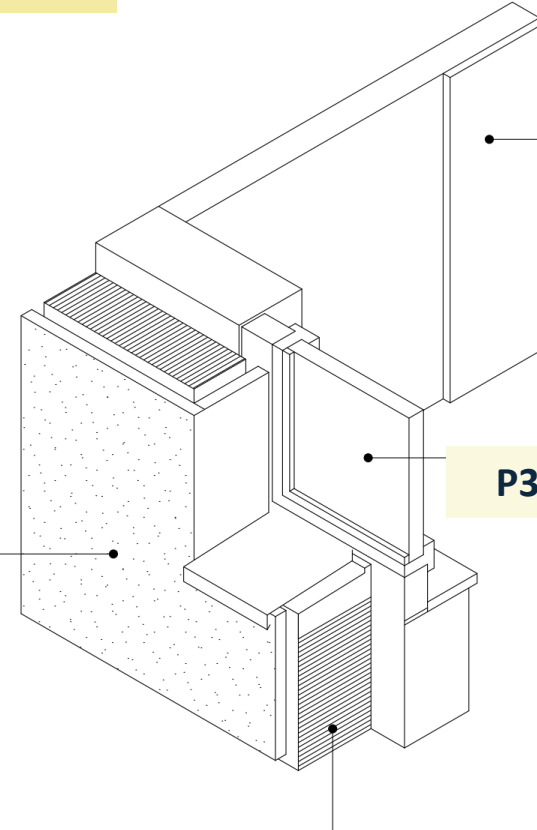
Strategy for reliable commercialisation and policy recommendation

3. Construction Products (P)

P4 Acoustic Panels
(comparable to Teno® tiles)

P3 Adaptive passive cooling windows

P1 Foam formed thermal insulation Panels (Euroclass C)



CIRCBUILT – Secondary biobased materials

Shortlisting of secondary biobased materials – Raw materials



Soybean hulls



Buckwheat hulls



Wheat straws



Flax shives



Waste wood-chips

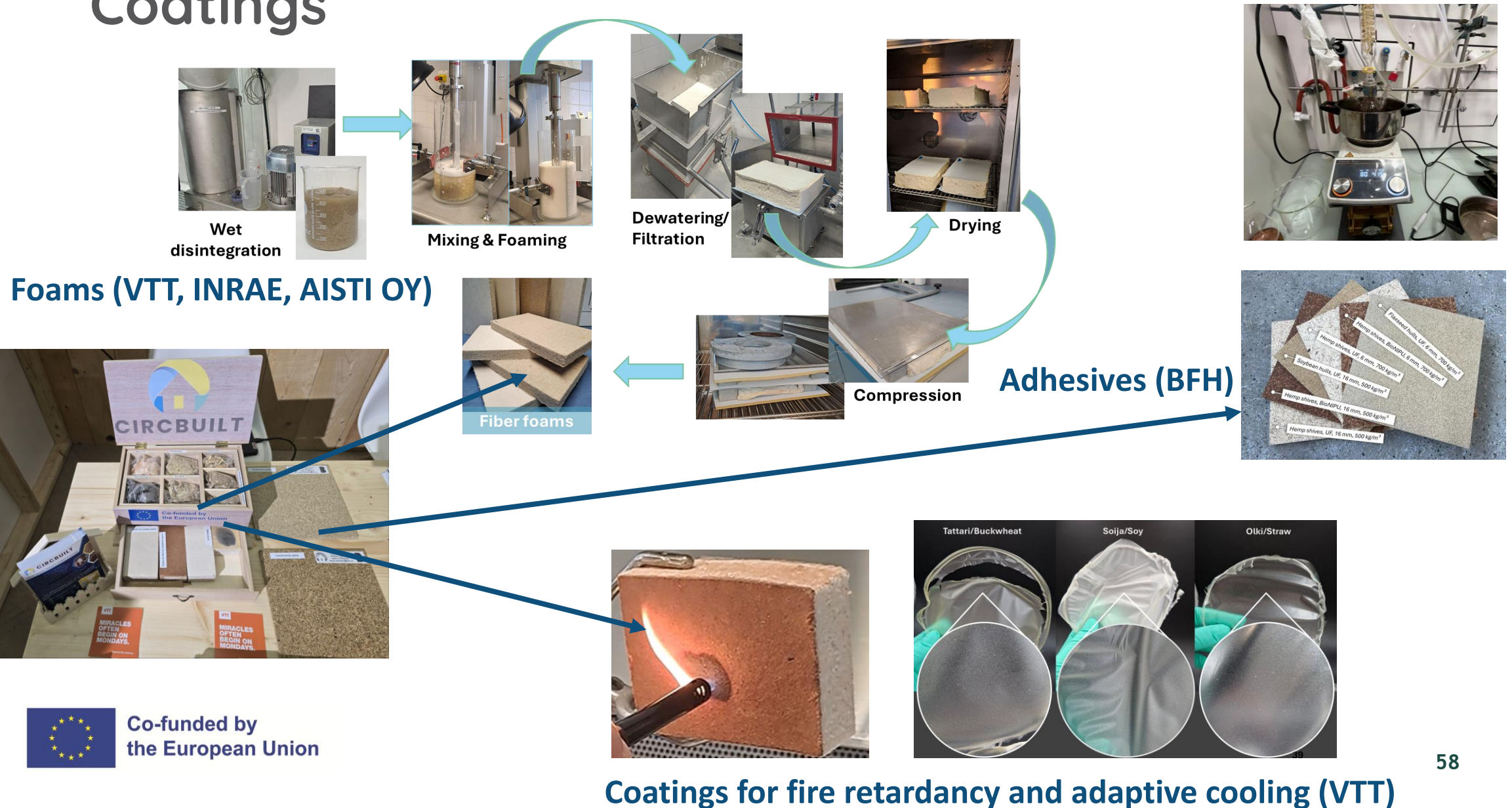
Parameters - Aspect Ratio, High-solid content processing etc.

Forestry sourcing for BioNIPU (Biobased non-toxic polyurethane via isocyanate free synthesis) adhesives

: Spruce
and Larch



Intermediate Components – Foams, Adhesives and Coatings



Intermediate Components – Foams, Adhesives and Coatings

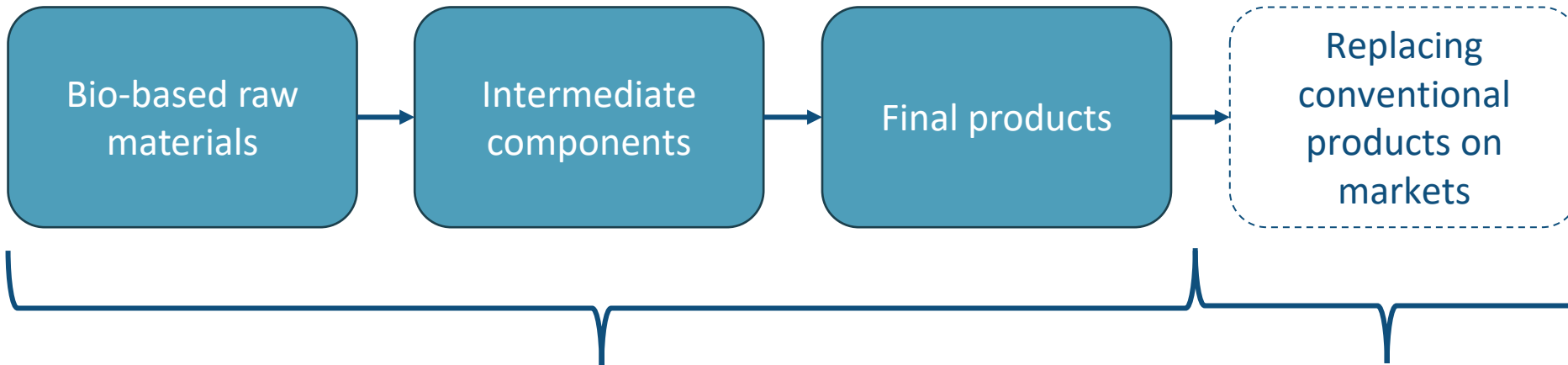
Foams for thermal insulation/Acoustic Panels

Construction Panel from Bio adhesives



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Carbon footprints and handprints



Lower carbon footprint of products

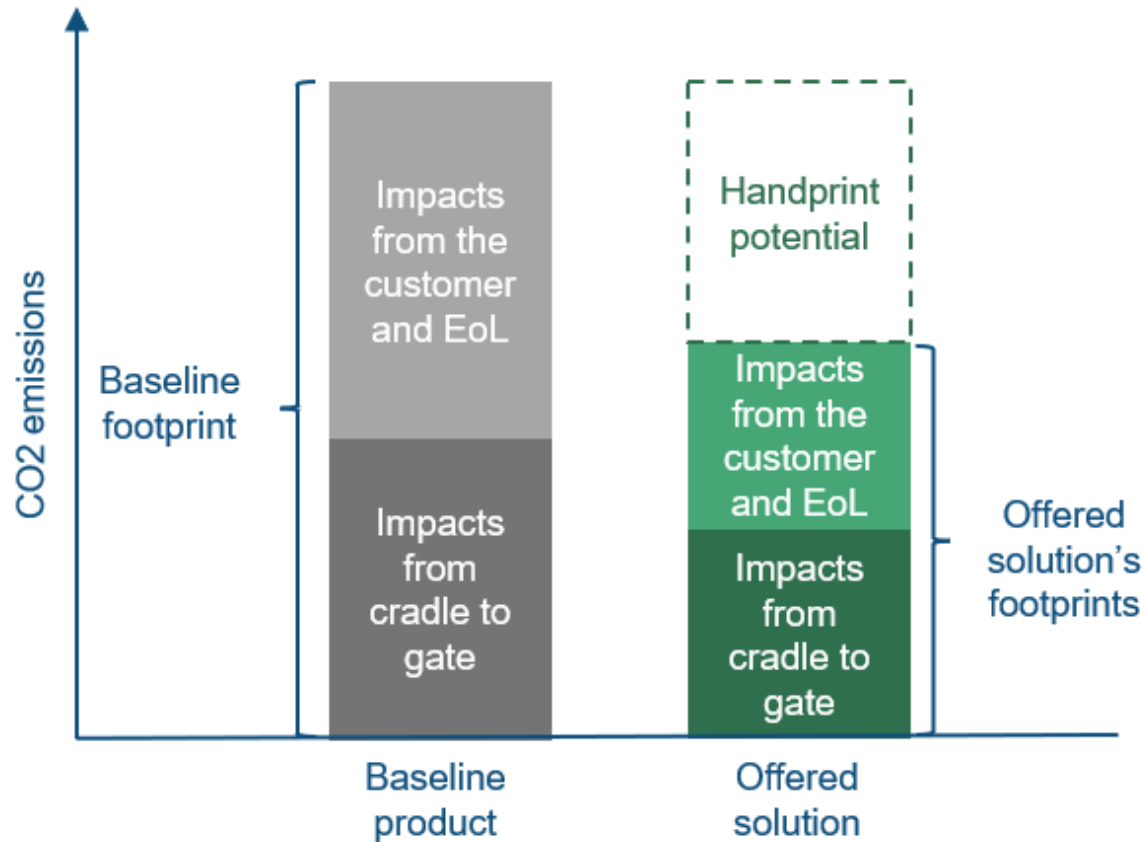
- Bio-based circular materials
- Circular product design
- Sustainable performance

Handprint

- Identify markets
- Achieve performance targets
- Replace fossil-based products



How is handprint calculated?



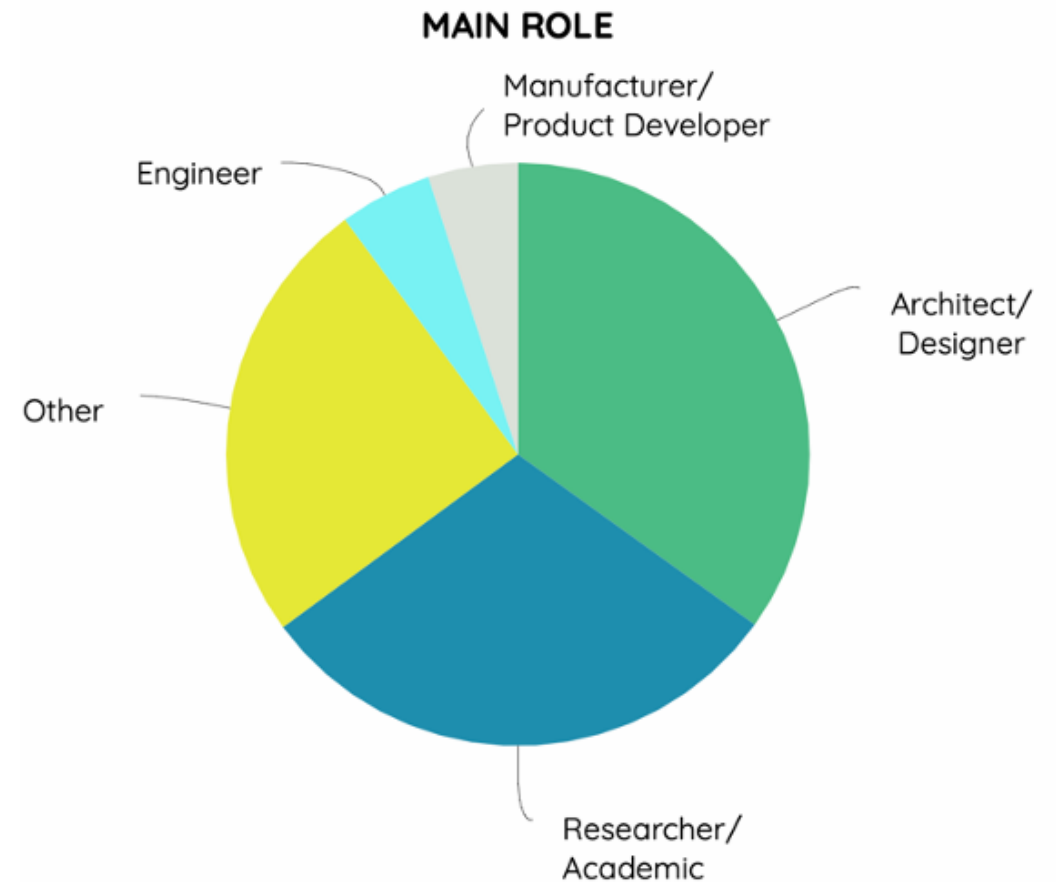
- **Handprint = difference between life cycle footprints of an offered and a baseline solution**



Important Outcomes

Stakeholder engagement – November

- First forum held in November 2025
- Launch of the survey early 2026
- Completed by 20 stakeholders*
- Results published in April 2026

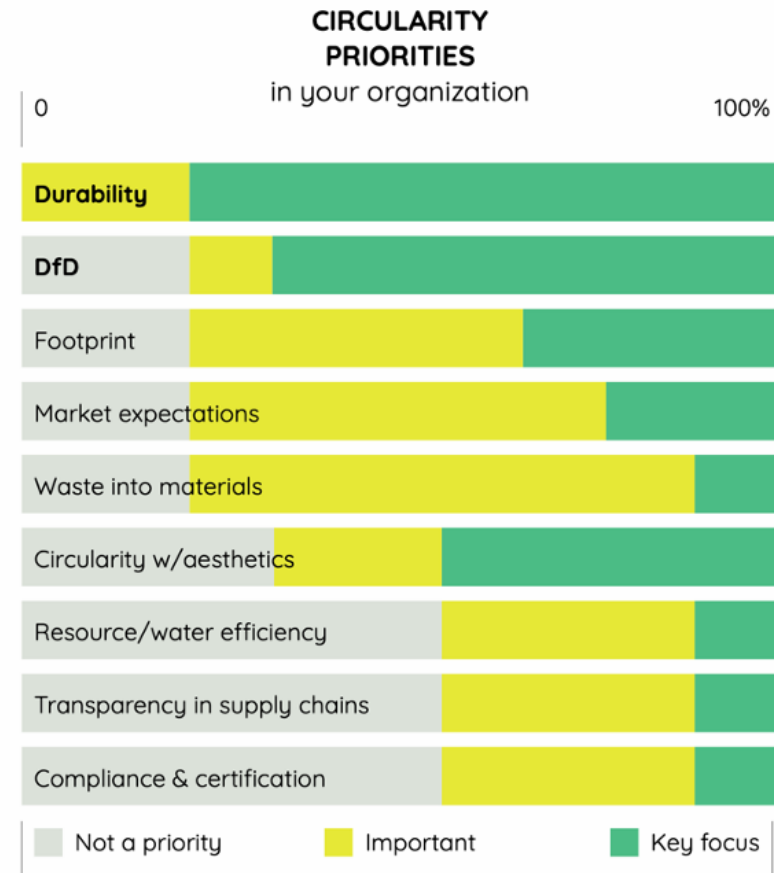


Link for full Survey - <https://circbuilt.eu/stakeholder-survey-results/>



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Survey results



Q21/ How central is circularity to your organization's plans for the next 3-5 years?

Demand of sustainable construction materials is still limited!

Reasons:

- Top priorities lie in the **durability** and **design for disassembly** of the material
- The main obstacles identified are the **cost, reliability,** and **regulation** of such products

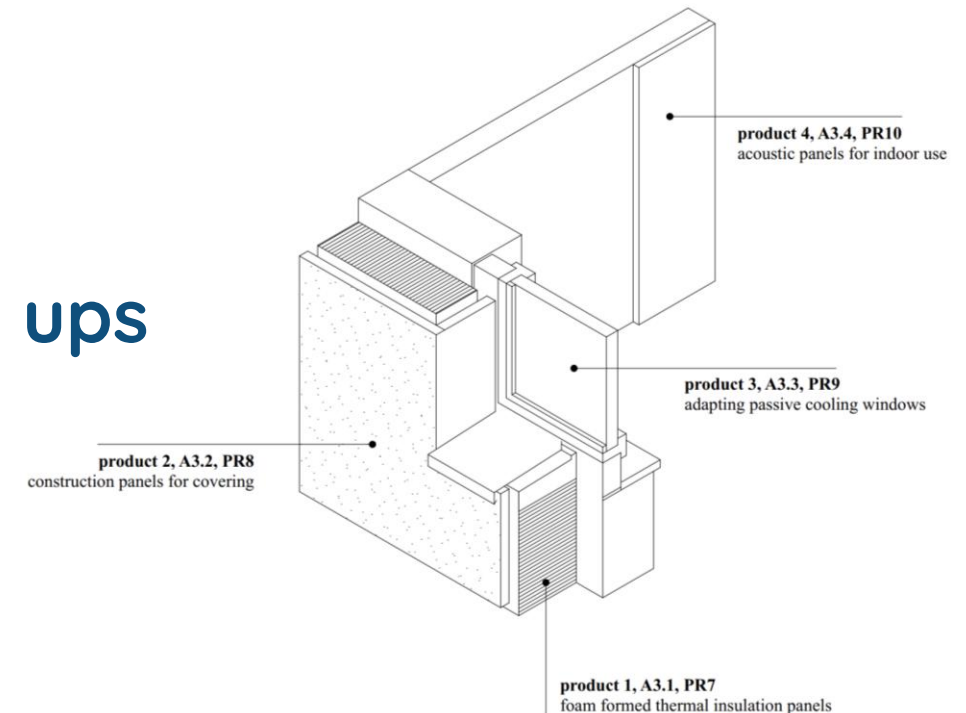
Link for full Survey - <https://circbuilt.eu/stakeholder-survey-results/>



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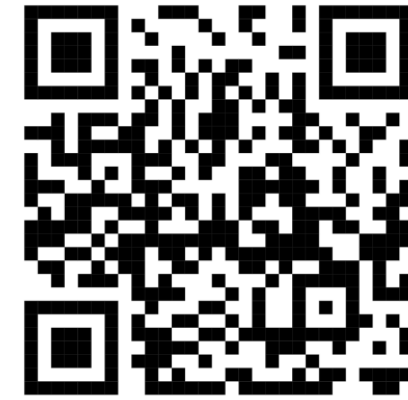
CIRCBUILT activities in the next 2 years

- Finalize the testing of intermediate components and optimization of recipes for upscaling
- Testing of products as per industrial standards
- Sustainability assessments
- Demonstration of products in mock ups



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Thank you and stay in touch!



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4# Speaker: Javier García Jaca,
Project Director – Tecnalia
Coordinator of INGUMA



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INGUMA – Bio based holistically created buildings

General overview

Dr. Javier Garcia Jaca (Tecnalia)
17 June 2026, Online-Meeting

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1




2027

REDUCING THE FOOTPRINT
OF CONSUMER PRODUCTS
THROUGH PUBLIC DIALOGUE
AND INNOVATIVE BIO-BASED
MATERIALS.

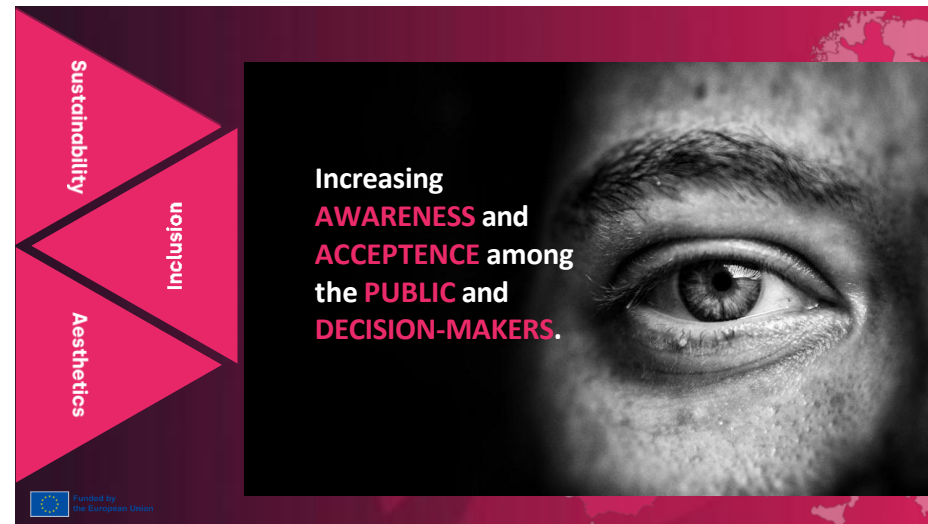
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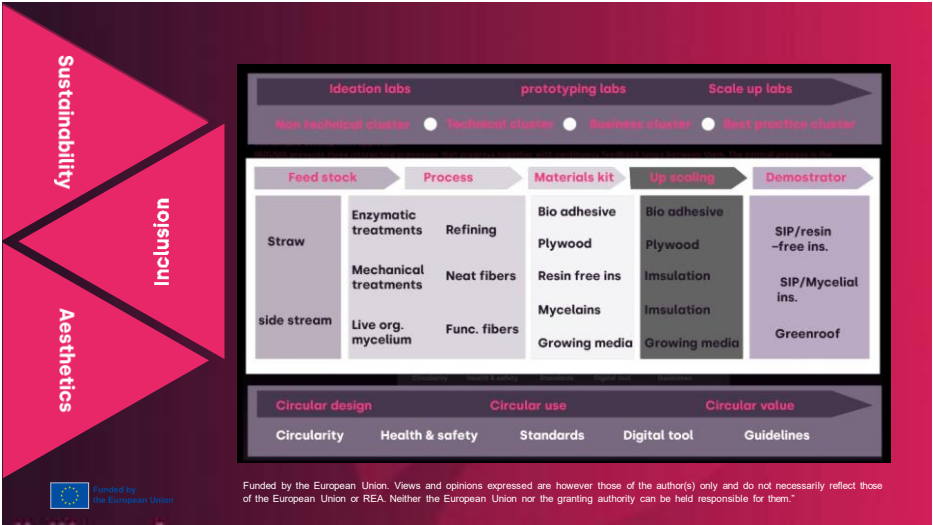
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3



4



5



4



7



8



9



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Collaboration

Thessaloniki

Hannover, LIGNA (FNR)

Quebec

C
CREATION

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Social Environment & Co-Creation

Inclusion

EXPERIENCES OF THE INCLIMA PROJECT - 2025

- POC selection: Assessing External Environment Impact before Strategizing in Quebec's Public Infrastructure Sector
- POC selected: Shana Ben-Merimee
Superintendent, Real Estate Liaison
Co-supervisors: Prof. Pierre Desrochers & Prof. Gabriel Jodanis
- JAN 07 / 2025

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Social Enviroment & Co-Creation

Inclusion



Funded by the European Union

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Development & Upscaling

Sustainability

Aesthetics



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Development & Upscaling

Bio-Based Adhesive

Sustainability

Aesthetics



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Development & Upscaling

Resin Lean Fibres for Insulation Board

Sustainability

Aesthetics

Technical Readiness Level: **6**



75% UF-resin reduction

80% processing yield

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16

Development & Upscaling

Sustainability

Aesthetics

TRL 7

Mycelium-Based thermal Insulation

HARD WOOD FIBRES

WOOD SAWDUST

FUNGAL STRAIN

Modulus of elasticity (MOE): 900 KPa

Density: 165 kg/m³

Thermal conductivity: 0.055 W/(mK)

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Development & Upscaling

Sustainability

Aesthetics

Resin-free lignocellulosic fibre-based Insulation Board (INACELL)

Recycled fibers allowed.

Recyclable in the paper or cardboard stream.

Both the product and process are patent-protected.

Technical Readiness Level: 6

Funded by the European Union

18



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20

Upscaling Pilot-Site, Donostia

Sustainability



 Funded by the European Union

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Demo of Solutions

Sustainability

Inclusion

Aesthetics



23

Demo of Solutions

Sustainability

Inclusion

Aesthetics

Preliminary design of the INGUMA installation

24

Communication, Dissemination, Exploitation

Sustainability

Inclusion

Aesthetics

Bio-Based, Holistically, Created, Buildings.

Green Sandwich Insulation Panel

CHANGE

INGUMA Kitboard

ed. cally.

INGUMA

FNR

United by the European Union

25



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5# Speaker: Klaus Luig
Director – 3L
Coordinator of BIO4EEB



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BIO4EEB 2026

3L Klaus Luig



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Circular and Bio-based Building Solutions

3L Klaus Luig



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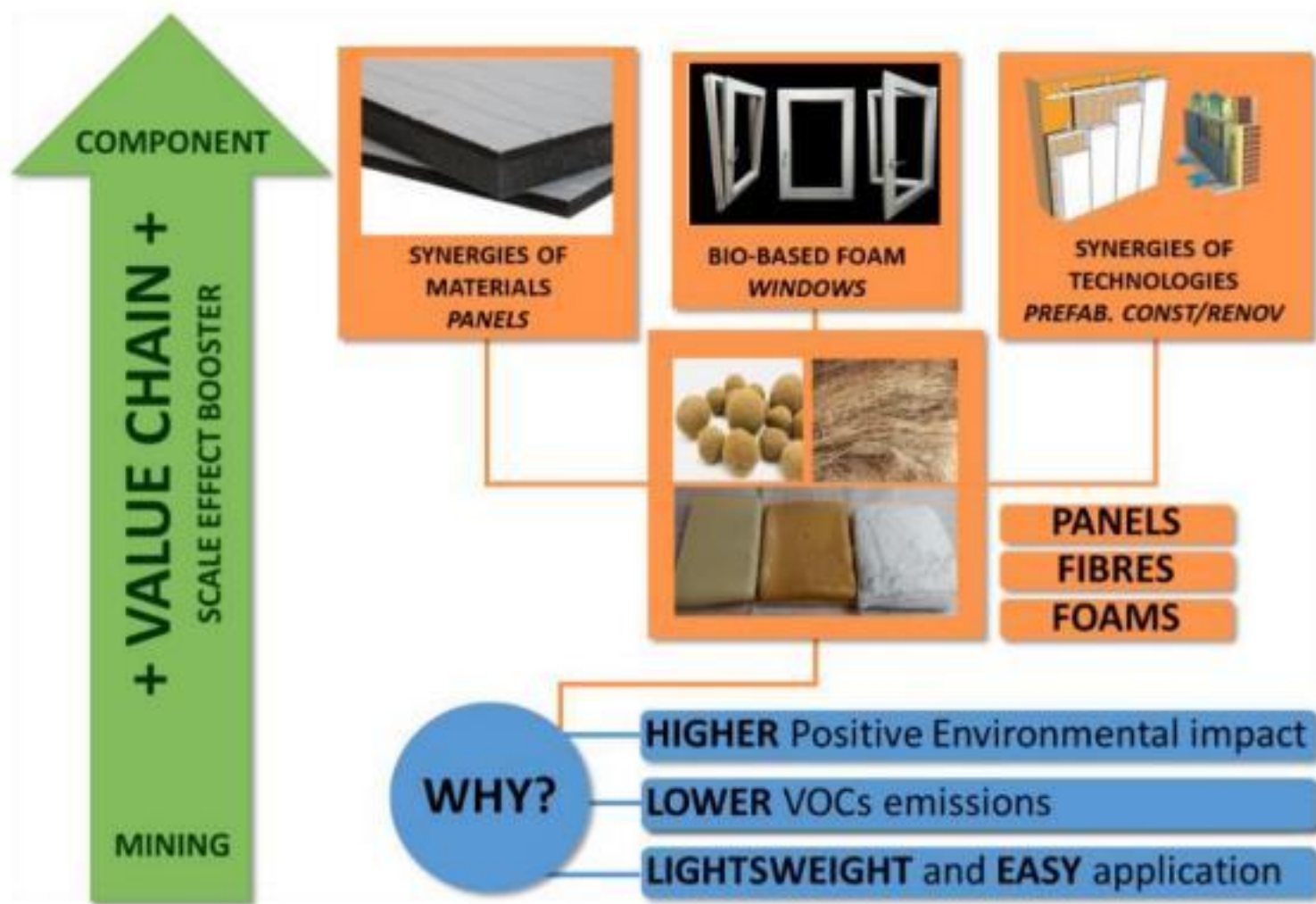


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1. Project INTRO
2. Scope and Objectives
3. Progress M18

Project INTRO BIO4EEB in a nutshell



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Wrap up

CONSORTIUM

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BIO4EEB

BIO Insulation materials for Enhancing the Energy performance of Buildings

Co-funded by the European Union

Follow us!

TECHNOLOGY

BIO4EEB aims to accelerate the development of bio-based insulation materials which comply with the most stringent environmental standards. The project involves a team of leading scientists of top-level research centres by focusing the utilization of natural and qualified bio-based materials.

In BIO4EEB a portfolio of non-hazardous, bio-based insulation solutions will be developed by the following:

- Polyurethane and fibres
- Composites of polyurethane
- Polyurethane and polyurethane
- Polyurethane and polyurethane
- Polyurethane and polyurethane

IMPACT

The study findings include the following key results:

- 30%** Reduction of the embodied energy and CO₂ of the product line
- 15%** Reduction of the total costs compared to existing solutions
- 20%** Improvement of thermal properties
- 5%** Reduction of the energy consumption of the building

DEMO-CASES

5 Real demo-cases have been selected to demonstrate the potential of bio-based insulation materials in different building types and climates. The selected cases are:

1. Multifamily, multi-story residential building in Lithuania
2. Residential building in the Netherlands
3. Multifamily residential building in the Netherlands
4. Residential building in the Netherlands
5. Multifamily residential building in the Netherlands

PARTNERS

BIO4EEB is a project of the European Union, involving a consortium of partners from 18 European countries. The consortium is led by the European Union, with partners from Austria, Belgium, Bulgaria, Czech Republic, France, Germany, Hungary, Italy, Lithuania, The Netherlands, and Spain. The consortium is working on the development of bio-based insulation materials and their application in different building types. The consortium is also working on the development of bio-based insulation materials and their application in different building types.

The BIO4EEB Mission – the bio-based game changer

The target is to support residential building's construction performance extraordinary at all three hierarchical levels of construction parts simultaneously (building, component, material) by creating an amplified environmental impact and reducing additionally VOC emissions.

BIO4EEB will apply non-hazardous bio-based materials as e.g., Posidonia and various bio-based foams to develop and to proof the marketability of smart components for external and internal use as material application, pre-fab panels or windows.

The efficiency and effectiveness raises the market acceptance and establishes a unique selling proposition including a seven years RoI!

The BIO4EEB Mission – the bio-based game changer

BIO4EEB closes the increasing gap of insulation material shortage caused by the regular growing demand and the mismatch caused by lacking production potential and the outcome of the current energy crisis by boosting the use of available bio-based qualified materials as alternative solutions.

The objective is to substitute using fossil resources for components and replace them at a comparable price value positioning.

New business models utilizing the complete economic value chain open the market for bio-based BIO4EEB solutions and products uplifting the generic bio-based material use and qualifying their application at a circular economy approach for creating a much greener EU building and construction industry real estate stock.

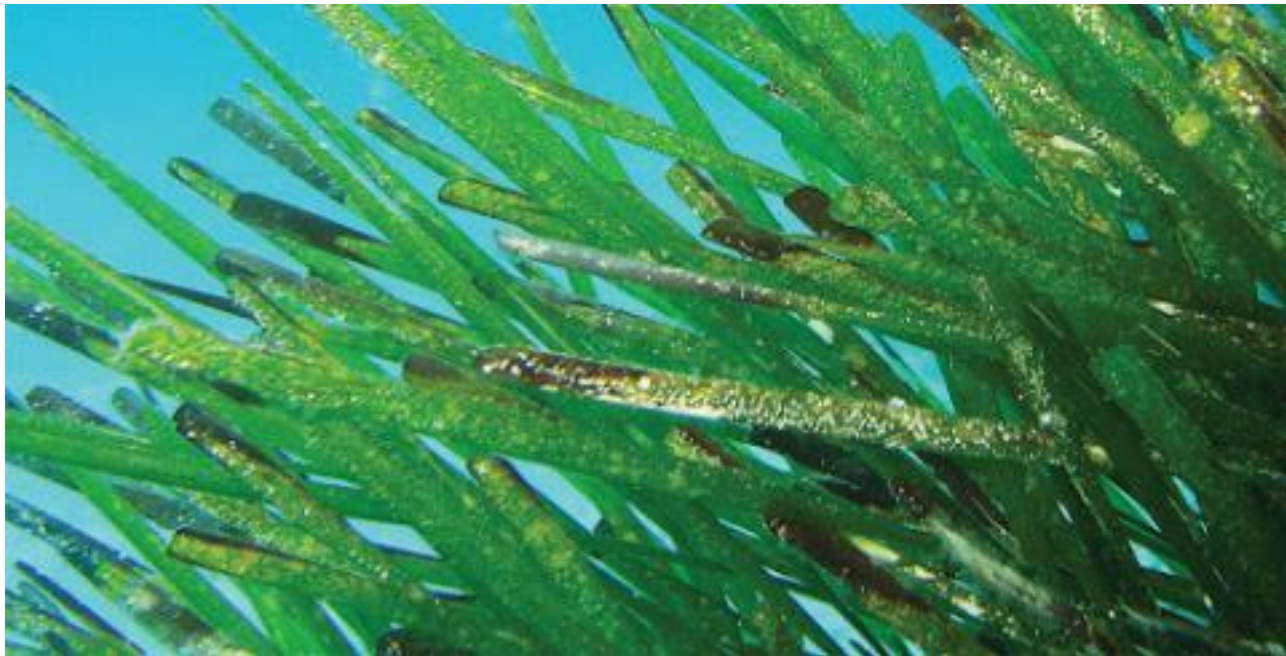


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Waste to Wonder



Challenges e.g. Posidonia

The material is natural and does not contain any additives. The thermal conductivity of the insulation material is 0.039 W/(m K) . And this value is retained even if the fibers absorb more than three times their own weight in water vapor.

They can buffer the moisture and gradually release it again. With a specific heat storage capacity of over 2500 J/(kg K) , the potential Posidonia solution achieves excellent summer thermal protection that is up to 300% higher than the values of all other insulation materials.

Thanks to its high silicate content, the material is non-flammable and therefore has fire behavior according to building material class B2. The absence of proteins ensures resistance to rotting and high mold resistance.

Thanks to its resource-saving processing, Posidonia thermal insulation has the lowest primary energy consumption of all insulation; 99.9% less than mineral insulation materials. Numerous awards speak for the high ecological quality.

Challenges and prejudices e.g. Posidonia

- Higher Initial Costs
- Limited Availability and Supply Chain Issues
- Ownership of waste bias
- Performance and Durability Concerns
- Regulatory and Certification Hurdles
- Lack of Awareness and Education
- Cultural and Industry Resistance
- Technical Challenges
- Life Cycle Assessment (LCA) and Environmental Impact
- S-LCA and SRL analysis integration
- Market Demand and Consumer Perception of materials
- Investment and Innovation

BIO4EEB addresses these challenges simultaneously applying a multifaceted approach, including policy support, industry collaboration, focused research and development, and efforts to raise awareness and educate stakeholders about the benefits and potential of bio-based building materials.

Demo Cases



Real demo cases

Five real demo cases were selected representing 3 climate zones (Continental, Mediterranean and Oceanic) and 5 different building typologies: 1) Multifamily multistorey residential refurbishment in Lithuania; 2) Historical/protected single family residential refurbishment in Spain; 3) Single family residential refurbishment / new construction in Germany; 4) Rural single family residential refurbishment in Czech Republic and 5) Multifamily multistorey residential new construction in France. More details around each of these demo cases is provided in the following sections.

5 REAL DEMO CASES



Virtual demo cases

The virtual demo-cases will serve as a test-bed of assessing several different technological solutions and their potential environmental, economical and social impact. The selected virtual demo cases are representing parts of the European residential building stock with high replicability potential. Together with the real demo cases they cover the main residential building types (by size, historical protected status, age etc.) from the dominant climates (Middle European Continental, Oceanic, Mediterranean Climate). The demo cases were selected by relying on the TABULA-Episcopo building typology.

3 VIRTUAL DEMO CASES

The 5 Objective SCOPE

Objective 1: Development of affordable user centric envelope solutions aligned with market needs, and applicability to different building typology.

Objective 2: Development of new environment friendly, lightweight and cost-effective bio-based insulation materials and their adaptability for improving ventilated façades for building and renovation to go near nZEB standards.

Objective 3: Demonstration of the circularity, adaptability of the BIO4EEB solutions for an easy installation in real operational environment and their replicability using virtual demo cases.

The 5 Objective SCOPE

Objective 4: Development of multicriteria and multi-stakeholder platform for improving the decision-making process for selecting the best energy efficient renovation strategy and promoting building stock renovation.

Objective 5: Facilitate the development of the BIO4EEB solutions through synergies with existing relevant Open Innovation Test Beds (OITBs) and to improve the project dissemination & communication through clustering with sister projects as well as to extent the BIO4EEB outcomes to Latin American construction market sectors.



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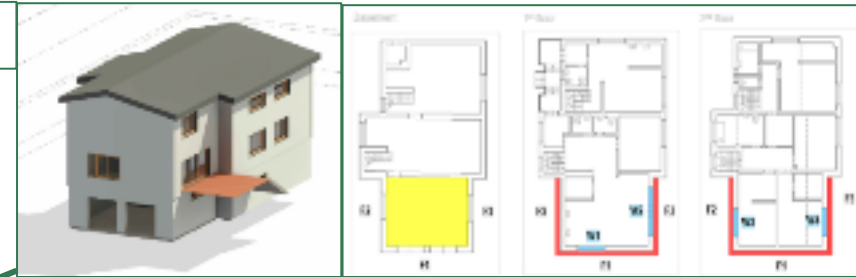
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WP4 | T4.2 Demonstration in real demo-cases

GERMANY



LITHUANIA



FRANCE



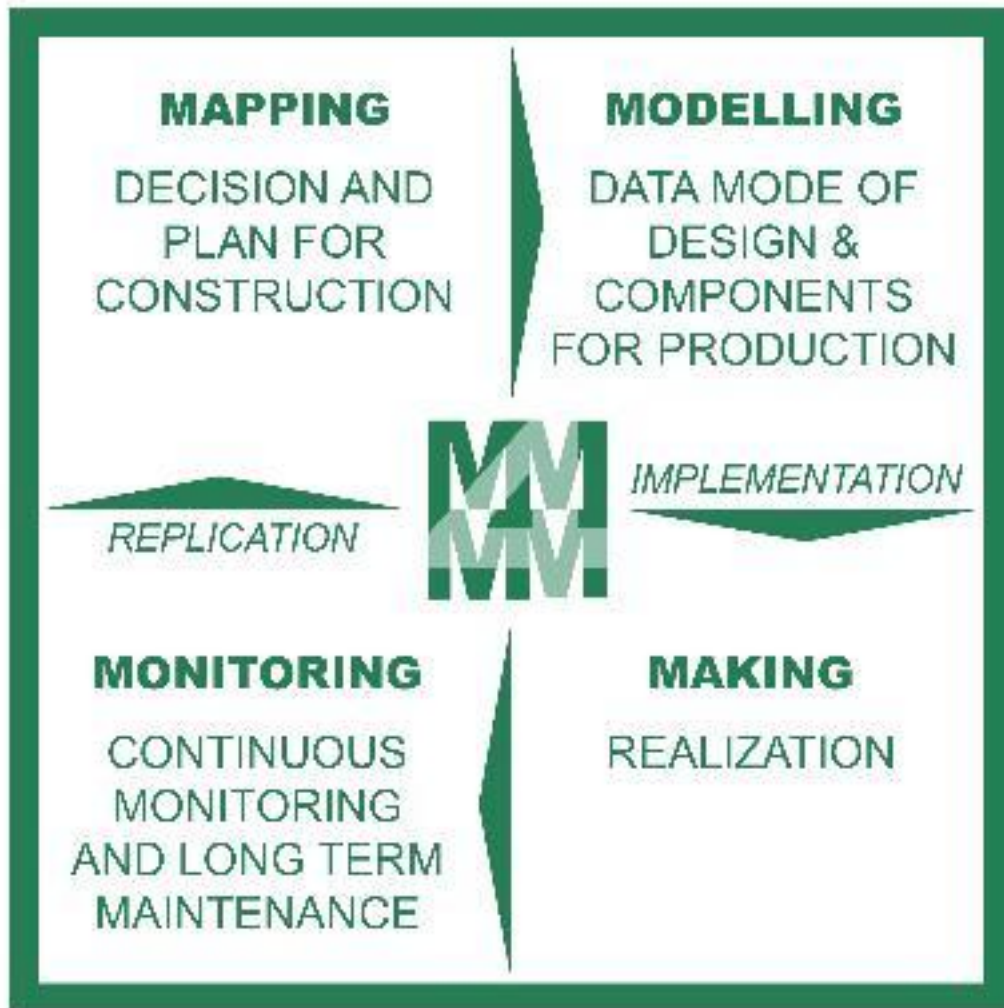
CZECH
REPUBLIC



SPAIN



WP4 | 4M approach



WP4 | T4.2 Demonstration in real demo-cases

DEMO PROGRESSION

DATA COLLECTION, KPI SELECTION, MONITORING PLAN
PRE-MONITORING, DESIGN VALIDATION
CONSTRUCTION PROCESS
MONITORING AND CONCLUSIONS

GERMANY

LITHUANIA

FRANCE

SPAIN

CZECH
REPUBLIC



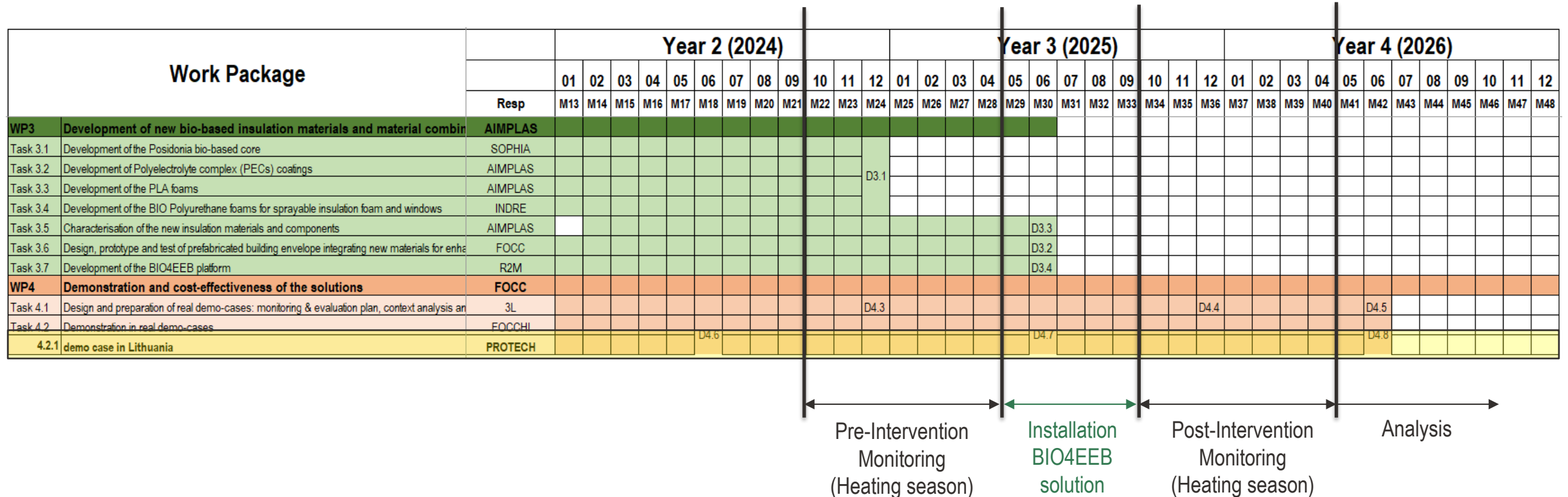
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WP4 | T4.2 Demonstration in real demo-cases

Schedule of demo-case in Lithuania (sample)



WP6 | T6.2 Local open events



LT

Event title: Seminar for the Chairmen and Administrators of Communities of Residents of Multifamily Buildings
Date: 20th November 2023
Location: Meeting hall of the Vilnius City Municipality Council
 40 attendees



FR

Physical event:
 Inauguration CYNEO
Date: 28th November 2023
Vitual Event title:
 Expérimentation biosourcée aux Halles des Ardoines
Date: 6th December 2023



CZ

[Link here!](#)

Event title: Demonstrační project Brežany II
Date: 28th November 2023
 24 attendees



DE

[Link here!](#)

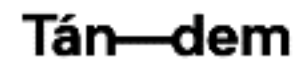
Event title: Deutsches Demonstrationsvorhaben
Date: 14th December 2023
 23 attendees



ES

[Link here!](#)

Event title: BIO4EEB EN ESPAÑA
Date: 29th January 2024
 Over 50 attendees



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Q&As session



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