Press Release:

Launch of EU-Funded BIOARC Project to Develop Bio-Based and Locally Rooted Construction Materials Using Sunflower, Rice, Wheat and Hops Residues

June 11th, 2025 (Munich) – A new Horizon Europe project, BIOARC, brings together twelve partners from eight European countries to turn agricultural by-products into high-performance **bio-based building materials**. The project's activities were launched with a Kick Off Meeting in Munich on 5–6 June 2025, hosted by the project's coordinator – Technical University of Munich (TUM).

Running for 36 months from May 2025, the BIOARC consortium will develop four innovative construction products: **insulation boards**, **construction panels**, **acoustic panels** and **modular partition walls**. These will be prototyped and tested in real-life demonstration settings, including full-scale mock-ups and community pavilions located in four European bioregions that cultivate the four crops targeted by the project. Specifically, agricultural residues from sunflowers (France), hops (Germany), wheat (Poland) and rice (Italy) will be transformed into high-performance materials using a bio-mineralisation process based on microbial calcification.

In each of the bioregions, BIOARC will engage local communities, farmers, designers and policymakers to co-create the materials, ensuring cultural relevance and public acceptance. A unique role – the **Bioregional Weaver** – will be embedded locally to ensure that each prototype reflects the aesthetic, ecological and economic context of the region. This role will be assumed by designer and material researcher **Carolin Schelkle**, who will immerse herself into these local networks through month-long residencies in each of the project's bioregions.

At the core of BIOARC is CrescoBind™, a proprietary bio-fabrication technology developed by UK-based **Cresco Biotech**. Natural bacteria "grow" a stone-like mineral binder around agricultural fibres, turning loose by-products into solid building panels at ambient temperature, without high-heat manufacturing or synthetic binders.

BIOARC contributes to the **New European Bauhaus** (NEB) initiative by integrating bio-based materials into regenerative architecture and sustainable urban design. Moreover, BIOARC aligns with EU goals under the European Green Deal and Energy Performance of Buildings Directive, setting a benchmark for regenerative architecture in Europe and beyond.

The highlight of the two-day Kick Off Meeting, which was opened by architect and professor **Niklas Fanelsa** from TUM and the Atelier Fanelsa, was a series of keynotes and strategic discussions by the project's four Advisory Board members: Dr **Anne Holsten** of Bauhaus Earth; **Leon Seefeld**, a bioregional weaving and regeneration expert; **Arild Eriksen**, architect, urban designer and writer from Fragment; and **Chrissie Muhr**, architect, researcher and curator. In addition, **Anna Eiglsperger** of the Bavarian Bioeconomy Council presented the work of her institution, which is highly relevant to the project.

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GENERAL INFORMATION

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