CIRCUVANCE: Advancing Circular Polyurethane Insulation from Design to Industrial Adoption

Project Idea	Develop and demonstrate circular polyurethane insulation that meets construction needs, reduces material and energy use, and supports recovery, repeatable manufacture and viable commercial adoption.
Organization name, town and country	**CTT-INNOVATIONS**, Latchorzew (Poland)
Addressed topic(s)	HORIZON-CL4-2027-01-MAT-PROD-06: Circular innovative advanced materials: facilitating the transition from design to markets (RIA) (Innovative Advanced Materials for the EU and Made in Europe partnerships)

CTT-INNOVATIONS

Centrum Transferu Technologii - INNOVATIONS Sp. z o.o. (**CTTI**) is a Polish technology transfer and innovation company based in Latchorzew. Its activities include business planning, market research, technology transfer and the development of strategies for using research results. CTTI also provides environmental, economic and social life-cycle assessment, helping organisations evaluate technologies beyond their technical performance.

CILANTRO. Grant agreement 101223262. Period: 1 October 2025 to 30 September 2029.

RUBBIO. Grant agreement 101290652. Period: 1 May 2026 to 30 April 2030.

QUEEN. Grant agreement 10117814. Period: 1 November 2024 to 31 October 2028.

CIRCUVANCE

- CIRCUVANCE will develop and demonstrate a new circular polyurethane insulation material for one defined construction application. It will connect material design, repeatable manufacture, construction testing and recovery into a single development programme. The aim is to maintain the required insulation performance while reducing the need for virgin materials and improving material and energy efficiency across the product's life.

- The central innovation will be a material formulation designed to improve recovery after use. The formulation and recovery process will be developed together so that recovered ingredients meet the quality requirements for manufacturing new insulation. The proposal will identify the specific material change, explain how it improves recovery and provide preliminary evidence that it preserves the product's essential performance.
- The work will follow five connected steps:

1. Define the product and the customer's requirements.
2. Develop the circular material.
3. Demonstrate repeatable manufacture and use.
4. Recover and manufacture again.
5. Establish the route to industrial adoption.

Competences / type of partners sought

Partner type sought	Required competences and contribution
Advanced-materials research organisation	Develop the specific material feature that improves recovery while maintaining insulation performance. Work directly with the industrial formulator and recovery operator.
Industrial chemical supplier or formulator	Translate the material concept into a formulation suitable for repeatable manufacture. Define raw-material requirements and qualify recovered ingredients for use in new insulation.
Insulation-product manufacturer	Manufacture the selected product, establish quality requirements and assess the changes needed for industrial production. Support the planned three independent manufacturing batches.
Chemical-recovery developer or operator	Operate a recovery route compatible with the selected formulation. Produce recovered ingredients that meet the manufacturer's agreed requirements.
Construction-waste collection and preparation operator	Obtain, identify, separate and prepare suitable insulation waste. Develop practical collection, storage and transport arrangements with the recovery operator.
Construction company, product integrator or building owner	Define application and installation requirements, provide a relevant demonstration setting and assess whether the product offers sufficient value for adoption.

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