Contract No: **101123150-SNUG**

Title: **Innovative methodology based in circular economy and artificial intelligence to foster the transition to Sustainable and very high eNergy performance bUildinGs at a cost optimal level**

Duration: **01/11/2023-30/04/2027**

Abstract:

Buildings account for approximately 40% of the total energy consumption and greenhouse gas emissions in the European Union. Additionally, throughout their construction, use, renovation and demolition, buildings contribute to about 50% of extracted materials and over 35% of the EU's total waste generation.

SNUG is pioneering sustainable construction solutions, addressing the significant environmental impact of buildings. Through a groundbreaking methodology rooted in circular economy principles and artificial intelligence, SNUG supports architects and builders in selecting optimal thermal insulation materials for new construction or renovations according to building features and surroundings.

As part of the project, CHIMAR develops bio-based adhesives with high bio-based content, using natural raw materials such as tannin, lignin, and soy protein. The adhesives' performance is tested by producing lightweight particleboard panels from diverse biomass sources, including pine, lemon tree wood, Posidonia oceanica, hemp, rice husks, sunflower residues, and corn cobs.

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