

1 – My organization

Name of the organization: University Valahia of Targoviste, Romania

- Main areas of activity and expertise:** *Materials Engineering, Green Materials, Circular Economy – Recycling wastes From Construction and Demolition, Sustainable Buildings, Physico-chemical and mechanical diagnosis and treatment with nanomaterials of buildings surfaces, Conservation and Restoration of buildings from Cultural Heritage.*
- Past experience in EU-funded projects (if any).** **YES, see below.**

SD-WHISHES: *Supporting and Developing WIdening Strategies to tackle Hydroclimatic Extreme Events: impacts and Sustainable solutions for cultural heritage: 2024-2026*

KreativEU - *Knowledge & Creativity European University, Horison Europe: 2025-2028*

DEVELONUTRI : *Development of high throughput approaches to optimize the nutritional value of crops and crop-based foods – DEVELONUTRI, 2006-2011*

Contact: rodica.ion@valahia.ro; www.valahia.ro; <https://fsim.valahia.ro/nanomec/contact.html>

2 – Project Idea

Selected Topic: → HORIZON-NEB-2027-01-REGEN-01: Combining conventional and innovative construction materials, products and techniques for sustainable and beautiful buildings

- ❑ **Name and subject of the project idea:** ***SYNERGY BETWEEN CONVENTIONAL AND INNOVATIVE MATERIALS, PRODUCTS AND CONSTRUCTION TECHNIQUES FOR SUSTAINABLE BUILDINGS***
- ❑ **Main objectives and innovative aspects.** *(i) Research, development, validation and implementation of a waste recycling solution with natural pozzolana additive, for partial replacement of cement in concrete production and superplasticizer, for new compositions for their use in construction. (ii) physico-chemical and mechanical characterization of the new composition with better workability, strength, and insulation qualities, low greenhouse effect (the cement industry is responsible for 7% of CO2 generated worldwide);*
- ❑ **Expected results and impacts.** *(i) New efficient economically solutions to recycle, and reuse the construction and demolition waste materials; (ii) Real contribution at circular economy and sustainability objectives (Green European Pact) and the principles „Do No Significant Harm; (iii) Economic, social, technologic, market, innovative and strategic impact (1 EPO patent).*
- ❑ **Demo building identified (if any).** **Banloc Castle, Romania**

3 – Expression of Interest

- ❑ **Areas of expertise you bring to the project.** (i) Physicochemical and mechanical study of new consolidation materials (lime, stone, brick, wood, mortars); (ii) new materials preparation and investigation (nanomaterials, composites, recycled materials, functional materials); (iii) new product formulation and consolidation; (iv) Conservation, alteration, treatment and cleaning for fragile surfaces. (v) New technologies for a green buildings.
- ❑ **Contribution proposed (e.g., technology provider, pilot site).** (i) Contributions to the preservation of buildings (including cultural heritage) through new materials and multi-analytical approach of raw materials (mechanical, thermal and stability properties of ancient and contemporary materials); (ii) Conservation, Alteration, treatment and cleaning methods for fragile surfaces; (iii) Products formulation; (iv) Materials and consolidation technology; (v) Recycled waste materials in mortar, apatite derivatives, clays, superplasticizers)
- ❑ **Partners sought / Partners already involved.** A.(i) resilient, green rural, coastal and urban communities; (ii) clean environment and zero pollution; (iii) circular economy and bioeconomy sectors. B.2 universities and 1 institute Romania + 1 partner Cyprus.