

A Greek research center is seeking industrial partners from the biogas, cement, and acetic acid sectors for industrial validation and scale-up assessment in a Horizon Europe consortium (HORIZON-CL4-2026-01-MAT-PROD-31)

Summary

Profile type	Company's country	POD reference
Research & Development Request	Greece	RDRGR20260319001
Profile status	Type of partnership	Targeted countries
PUBLISHED	Research and development cooperation agreement	• All countries
Contact Person	Term of validity	Last update
Enrico FRANZIN	19 Mar 2026 19 Mar 2027	23 Mar 2026

General Information

Short summary

A Greek research center is preparing a Horizon Europe proposal (HORIZON-CL4-2026-01-MAT-PROD-31) to develop a nanotechnology-based platform converting biogas into chemicals such as acetic and formic acid. The consortium seeks industrial partners from the biogas, cement, and acetic acid sectors for validation and scale-up, offering early access to CO₂ utilisation technologies.

Full description

A Greek research center is preparing a proposal for the Horizon Europe call HORIZON-CL4-2026-01-MAT-PROD-31 (Research and Innovation Action), focusing on optimising resource use within a circular economy.

The project aims to develop an innovative catalytic platform capable of converting industrial carbon dioxide streams, particularly from biogas and energy-intensive sectors, into high-value chemicals by promoting CO₂ activation and carbon-carbon coupling reactions leading to multi-carbon products such as acetic acid.

The concept combines graphene-based catalytic nanoarchitectures with membrane-intensified reactors designed to continuously remove reaction by-products, thereby improving CO₂ conversion efficiency.

The project will advance the technology from TRL 3 to TRL 5 through catalyst development, advanced membrane technologies, and laboratory-scale reactor demonstrations. The research will explore nanostructured catalytic materials, integrated reaction-separation systems, and process optimisation strategies aimed at enabling efficient carbon utilisation in industrial environments.

To strengthen the industrial relevance and future deployment potential of the technology, the consortium seeks industrial partners interested in providing practical insights into biogas production, cement manufacturing, acetic acid production, and industrial process engineering.

Industrial partners will mainly contribute by defining industrial performance targets, providing process insights and operational constraints, supporting techno-economic and life-cycle assessments, evaluating scalability and integration potential, and contributing to the exploitation and scale-up roadmap. Their participation focuses on industrial validation and strategic input and does not require laboratory experimentation.

The proposal will be submitted under Horizon Europe, with a call deadline of 21 April 2026, while the deadline for Expressions of Interest (EoIs) is 31 March 2026.

Advantages and innovations

The project introduces a novel nanotechnology-enabled catalytic approach for transforming industrial carbon emissions into high-value chemical products, supporting circular economy strategies and industrial decarbonisation. By combining graphene-based catalytic nanoarchitectures with membrane-integrated reactor technologies, the system enables continuous removal of reaction by-products and enhanced CO₂ conversion efficiency. This integrated approach promotes resource optimisation, supports carbon utilisation across industrial value chains, and contributes to the transition toward more sustainable and climate-neutral manufacturing processes, while enabling future scale-up toward industrial demonstration. The involvement of industrial partners ensures alignment with real industrial needs and strengthens the pathway toward market uptake.

Technical specification or expertise sought

The consortium is seeking industrial partners from the biogas, cement, and acetic acid sectors. Relevant expertise includes industrial process operation, CO₂ emissions management, chemical production processes, and process engineering. Partners are expected to provide process data, operational insights, and input for techno-economic and sustainability assessments. Experience in industrial decarbonisation or CO₂ utilisation technologies will be considered an advantage.

Stage of development

Sustainable Development goals

- **Goal 9: Industry, Innovation and Infrastructure**

IPR Status

IPR Notes

Partner Sought

Expected role of the partner

A Greek research center seeks collaboration with biogas producers, cement industry stakeholders, and acetic acid manufacturers willing to participate as industrial advisory partners. Their role will include contributing to industrial validation and scale-up assessment, participating in 2–3 technical review meetings per year, providing process insights and boundary conditions, reviewing scalability and integration potential, and supporting techno-economic and sustainability evaluations. No laboratory work or operational commitments are required, and participation involves a low resource commitment while offering high strategic value.

Type of partnership

Research and development cooperation agreement

Type and size of the partner

- **Big company**
- **SME 50 - 249**

Call Details

Framework program

Horizon Europe

Call title and identifier

HORIZON-CL4-2026-01-MAT-PROD-31

Submission and evaluation scheme

Anticipated project budget

Coordinator required

No

Deadline for EoI

31 Mar 2026

Deadline of the call

21 Apr 2026

Project duration in weeks

Web link to the call

Project title and acronym

Dissemination

Technology keywords

Market keywords

- **08004002 - Chemical and solid material recycling**
- **08005 - Other Industrial Products (not elsewhere classified)**

Targeted countries

- **All countries**

Sector groups involved