

URGENT: Partner search for full-scale demonstration of solar concentrated with thermal storage in industrial processes, call HORIZON-CL5-2027-02-D3-07

Summary

Profile type

Research & Development Request Spain

Company's country

POD reference

RDRES20261007001

Profile status

PUBLISHED

Type of partnership

Research and development cooperation agreement

Targeted countries

• All countries

Contact Person

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Term of validity

7 Oct 2026
7 Oct 2027

Last update

7 Oct 2026

General Information

Short summary

A Spanish technology centre is preparing a project proposal for the HORIZON-CL5-2027-02-D3-07 call. The proposal aims to demonstrate how concentrated solar thermal (CST) systems, operating at certain conditions, can cover at least 50% of the annual heat demand of selected industrial processes. They are looking for industrial partners related to pulp & paper, chemical, food and beverage, textile and ceramics sectors. Deadline for EoIs: 2nd November 2026.

Full description

A Spanish technology centre has wide expertise in European projects and research lines in materials & components, electrical technologies, mechatronic and robotics, and digital technologies, as well as in participating in European-funded projects.

It is preparing a project proposal for the HORIZON-CL5-2027-02-D3-07 call that aims to demonstrate how concentrated solar thermal (CST) systems operating in the 150-400 °C range, combined with thermal energy storage (TES) and advanced digital optimisation, can cover at least 50% of the annual heat demand of selected industrial processes while reducing levelized cost of heat (LCoH), fossil-fuel dependency and to improve energy efficiency.

The project is intended to integrate technology development, process digitalization and implementation in at least one demosite and comprise:

- Solar concentrate and thermal storage

- Integration with existing renewable energy
- Energy efficiency optimisation
- Energy recovery equipments
- Low GHG (greenhouse gas) and other pollutant emissions
- Technology development and demonstration
- Digitalisation of solutions

The proposal will be submitted to the Horizon Europe call HORIZON-CL5-2027-02-D3-07, due on 31 March 2027.

The technology centre is looking for several partners/skills:

- 1) at least one industrial partner (SME or large company) that will participate as the demosite industrial partners where the innovations will be demonstrated at TRL 7. It might be established and located in Europe.

The demosite will have processes in the temperature range 150-400 °C and represent one of these sectors:

- Pulp & paper
- Chemicals
- Ceramic
- Textile
- Food & beverage: subsectors such as sugar processing & refining; dairy & milk processing: wineries, & distilleries: meat, poultry & seafood processing.

During the proposal stage, the industrial partner should be open to provide real data of process parameters (e.g., temperature, pressure, flow rate, stream composition). Data will be processed by the technical partners of the consortium to quantify and estimate impact of the project's innovations. It will be used for determining the amount of heat losses, total recovered heat by solar concentrated, total amount of energy storage.

- 2) One company to act as the system integrator (SI). It should lead the design and implementation of the overall thermal energy system architecture, ensuring the seamless integration of heat recovery units, solar technologies, and related control systems into a coherent solution. It will be in charge of the detailed Piping and Instrumentation diagrams (P&ID) and Balance of Plant (BoP) designs. The SI will be responsible for integration of advanced control and monitoring strategies, and alignment with relevant standards to enable efficient heat recovery, temperature upgrading, and flexible operation under real-life conditions.

- 3) One solar concentrated and one thermal energy storage developers with a technology to be demonstrated at the demosites. The technology will be manufactured, installed and validated for at least 6 months of continuous operation at the demosite during the entire project execution (4 years).

The centre is looking for industrial partners from pulp & paper, chemical, food and beverage, textile and ceramics sectors, whose main role will be validating the technical concept during the demonstration activities of the project.

Official deadline for the call: 31st March 2027

Deadline for expressions of interest: 2nd November 2026

Anticipated duration of the project: 4 years

Advantages and innovations

Promoting innovative solutions for heat intensive industries by integrating solar concentrate with thermal energy storage together with existing renewables sources of energy. The goals are:

- optimisation of energy efficiency
- reduction of heat losses
- reduction of fossil fuel dependency.

Technical specification or expertise sought

The interested companies should be located in EU.

Representative of industrial sectors with significant heat demand and temperature around 150-400 °C (pulp & paper, chemical, food and beverage, textile and ceramics sectors).

Stage of development

Under development

Sustainable Development goals

- **Goal 12: Responsible Consumption and Production**
- **Goal 9: Industry, Innovation and Infrastructure**

IPR Status

IPR Notes

Partner Sought

Expected role of the partner

Collaborating in the project implementation in some of the following activities:

- 1-Industrial demosite: to provide operational data (temperature, pressure) and to validate use of innovative solutions into their value chains
- 2-System integrator (SI): Technical expertise in industrial sectors, and knowledge of thermal energy system architecture, detailed P&ID diagrams and BoP designs
- 3-Solar concentrated developer with a technology to be demonstrated. Technical expertise in industrial sectors, and knowledge of current and beyond state of art of the concentrated solar and thermal energy storage

Type of partnership

Research and development cooperation agreement

Type and size of the partner

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

Call Details

Framework program

Horizon Europe

Call title and identifier

HORIZON-CL5-2027-02-D3-07: Concentrated solar thermal systems for decarbonising industrial processes

Submission and evaluation scheme

1 phase

Anticipated project budget

6000000

Coordinator required

No

Deadline for EoI

2 Nov 2026

Deadline of the call

31 Mar 2027

Project duration in weeks

208

Web link to the call

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/HORIZON-CL5-2027-02-D3-07>

Project title and acronym

Dissemination

Technology keywords

- **02006004 - Installations related to construction (energy, lighting, ...)**
- **02009026 - Energy supply system**
- **04005005 - Solar/Thermal energy**

Market keywords

- **08003005 - Other industrial machinery for textile, paper & other industries**
- **08001017 - Industrial chemicals**
- **06003001 - Solar/thermal energy**
- **07003002 - Health food**

Targeted countries

- **All countries**

Sector groups involved

- **Energy-Intensive Industries - BioChemTech**
- **Energy-Intensive Industries - Materials**
- **Energy-Intensive Industries**