

EU-SOLARIS as a Catalyst for EU Investments in Türkiye's CST Sector

Since 2012 ODTU-GUNAM and METU have been collaborating with leading European CST research centers to integrate Europe's most scientifically important CST Research Infrastructures under a single pan-European entity by creating the European CST Research Infrastructure EU-SOLARIS. Türkiye's contributions to creating EU-SOLARIS have directly catalyzed or are aligned with large European investments in Türkiye's CST sector, including:

2	EU projects coordinated by Türkiye.
14	EU CST projects with Turkish partners linked to or aligned with EU-SOLARIS.
€3.5M	Competitive EU CST funding to Türkiye directly catalyzed by EU-SOLARIS.
€5.7M	Consortium budgets coordinated by Türkiye directly catalyzed by EU-SOLARIS.
€78M	Total competitive EU funds to CST-inclusive research projects in which Türkiye participated (sum of consortium budgets)

In 2022, EU-SOLARIS became a European Research Infrastructure Consortium (ERIC) and a Landmark on the European Strategy Forum on Research Infrastructures (ESFRI) Roadmap. In the future, EU-SOLARIS ERIC benefits will increasingly be concentrated in countries formally affiliated with EU-SOLARIS ERIC. Although Türkiye announced its intention to join EU-SOLARIS ERIC as a Full Member in October 2020, as of 16 Jan. 2023, Türkiye has been unable to realize this membership due to poorly aligned national structures. However, Türkiye still does not have the necessary internal regulations to be affiliated with EU-SOLARIS, and as a result Türkiye is increasingly at risk of being locked out of future European CST investments. ODTÜ-GÜNAM, METU, and a diverse set of industrial and research key stakeholders are collaborating to have Türkiye's ERIC structures reformed to support Türkiye's affiliation with EU-SOLARIS ERIC and put Türkiye in a stronger position to compete for European CST investments.

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ODTÜ Center for Solar Energy
Research and Applications



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CST: Concentrated Solar Thermal



ODTÜ Center for Solar Energy Research and Applications

CST can contribute to a Prosperous, Secure and Sustainable Türkiye



About CST: Concentrated Solar Thermal (CST) produces "green" solar heat and can substitute for natural gas in many applications. Currently, CST with Thermal Energy Storage (TES) is the low-cost solution to provide dispatchable solar electricity at night, thus complements solar PV, which is the low-cost solution to provide variable solar electricity during the day. Large market opportunities exist globally to use CST to decarbonize energy-intensive processes and produce synthetic fuels (e.g., H₂). Within Europe, Türkiye has some of the largest potential CST markets and among the largest potential to supply these markets.

About ODAKTR: ODAKTR is a national CST initiative led by ODTÜ-GÜNAM and METU with objectives to

- Increase energy security and support the clean energy transition through the development and commercialization of CST solutions;
- Catalyze domestic CST economic activity by supporting growth in markets and industrial capacities;
- Strengthen Türkiye's CST Research and Innovation (R&I) capacities.

ODTÜ-GÜNAM and METU are Leveraging European Investments to Catalyze and Grow Türkiye's CST Sector



Europe is a global CST technology and market leader. Europe has identified CST as a strategic technology to increase its energy security and support its Clean Energy and Green Economy Transitions. Europe is investing in Türkiye to catalyze and grow Türkiye's CST sector.



SolarHub

SolarHub (2023-2026) is a Horizon Europe (HE) project coordinated by ODTÜ-GÜNAM with an objective to synergistically transform Greece and Türkiye's five solar energy innovation hubs to accelerate the realization of National and European Green Deal aligned energy, food, economic, social and environmental priorities, including by strengthening the ODAKTR national CST platform. SolarHub brings €2.2M of competitive EU funding to a diverse set of 11 Turkish institutions.



SolarTwins

SolarTwins (2020-2023) is an EU Horizon 2020 (H2020) project coordinated by ODTÜ-GÜNAM through METU. SolarTwins' objective is to step-up the scientific excellence of ODTÜ-GÜNAM's CST Research Division ODAK through collaboration with the internationally leading CST institutions CIEMAT-PSA (ES) and DLR (DE).



CST4ALL

CST4ALL (2022-2025) is a Horizon Europe project that is a follow-up to the H2020 Horizon-STE project with ODTÜ-GÜNAM representing Türkiye. The objective of the project is to support the creation of strong and sustainable networks between CST, also known as Solar Thermal Electricity (STE), and other relevant technology areas covered through the SET-Plan (Strategic Energy Technology Plan) and its integrated roadmap.



GeoSmart (2019-2023) is an EU H2020 project coordinated by TWI (UK) with 21 partners, including Zorlu Energy, METU, and Kadir Has Uni. from Türkiye. One of the project's objective is to develop novel solutions to hybridize geothermal and CST to increase dispatchability and flexibility.



SFERA-III (2019-2023) is an EU H2020 project coordinated by CIEMAT-PSA (ES) with 14 partners from 9 countries, with METU representing Türkiye. The project's objective is to build-on the success of the SFERA 1 and SFERA 2 projects and reinforce the sustainability of the activities of the European advanced concentrating solar power research infrastructures.



Horizon-STE (2019-2022) was an EU H2020 project coordinated by ESTELA (BE) with DLR (DE), CIEMAT-PSA (ES), ENEA (IT), and METU (TR) as partners. The project's objective was to provide scientific and industrial support to the Implementation of the European Initiative for Global Leadership in Solar Thermal Electricity (STE) as part of the European Integrated SET-Plan.



INSHIP (2017-2020) was an EU H2020 project coordinated by Fraunhofer Institute for Solar Energy with 28 partners including METU as Türkiye's representative. The objective of the project was to strengthen and develop Europe's competitive advantages and markets in Solar Heat for Industrial Processes (SHIP) by creating a European Common R&I Agenda (ECRIA) on SHIP.



EU-SOLARIS (2012-2016) was an EU FP7 project coordinated by DLR with 14 partners from 11 countries including METU and Selçuk Uni. representing Türkiye. The objective of the project was to create a pan-European CST Research Infrastructure to strengthen Europe's CST global leadership position.