



Solar Twinning to Create Solar Research Twins

Reporting

Project Information

SolarTwins

Grant agreement ID: 856619

[Project website](#)

DOI

[10.3030/856619](https://doi.org/10.3030/856619)

Project closed

EC signature date

9 July 2019

Start date

1 January 2020

End date

30 June 2023

Funded under

Twinning of research institutions

Total cost

€ 799 446,25

EU contribution

€ 799 446,25

Coordinated by

MIDDLE EAST TECHNICAL
UNIVERSITY



Türkiye

Periodic Reporting for period 2 - SolarTwins (Solar Twinning to Create Solar Research Twins)

Reporting period: 2021-04-01 to 2023-06-30

Summary of the context and overall objectives of the project

Concentrating Solar Thermal (CST) is identified in the European Strategic Energy Technology (SET) Plan as being a core enabling technology for Europe's clean energy transition. CST is an umbrella term that includes Solar Heat for Industrial Processes (SHIP), Solar Thermal Electricity (STE/CSP), and Solar Fuels. Europe is a global leader in CST technologies, industries and markets, with

CIEMAT-PSA (ES) and DLR (DE) being leading CST research institutes at global level. Although Türkiye has some of the largest CST market potentials in Europe, these market potentials are almost completely undeveloped. METU's Center for Solar Energy Research and Applications (GUNAM) is Türkiye's leading CST research actor. SolarTwins' overall objectives are to Twin METU to CIEMAT and DLR to 1) Step-up the CST scientific excellence and innovation capacity of METU with a specific focus on Early Stage Researchers (ESRs); 2) Strengthen METU's synergistic integration into European CST Research and Innovation (R&I) activities and networks; and 3) Bring new competitive funding to METU, CIEMAT, and DLR to sustain and grow joint research.

Work performed from the beginning of the project to the end of the period covered by the report and main results achieved so far

At the start of the project a 1-day Kick-Off Open Event at METU was held that attracted 95 in-person key stakeholders. Subsequently, seven open trainings to strengthen horizontal EU proposal and EU project capacities, and twenty-one webinars covering both CST and horizontal topics (e.g. innovation) were organized that attracted 74 in-person and almost 1000 online participants. CIEMAT and DLR experts executed two 2-week summer schools (4-weeks total) targeting ESRs from METU and other Turkish universities that attracted approximately 35 participants each week. METU ESRs were further developed by executing 29 Person-Weeks (PW) of mobility to CIEMAT and DLR for mentoring, training, and networking. Each of METU-CIEMAT and METU-DLR collaborated to support existing and catalyze new joint lines of research and strengthen METU's R&I capacities. These joint research activities included 14 METU team members performing 17 PW of mobility to CIEMAT and DLR. The METU team exploited these experiences to coordinate 2 follow-up joint EU proposals, and METU, CIEMAT, and/or DLR were partners in 2 more follow-up joint EU proposals. The METU team executed 13 person-trips (PTs) to attend conferences, 15 PTs to attend EU meetings and trainings, and 32 PTs for national Dissemination, Exploitation, and Communication (DEC) events. Two mini-conferences were organized targeting Turkish industry as part of the SolarEx Istanbul 2022 and 2023 industrial fairs that in total attracted almost 200 in-person and over 700 online participants. In the final month of the project, experiences and lessons learned were shared in a special Twinning session as part of the IEEE PowerTech 2023 conference in Belgrade, Serbia.

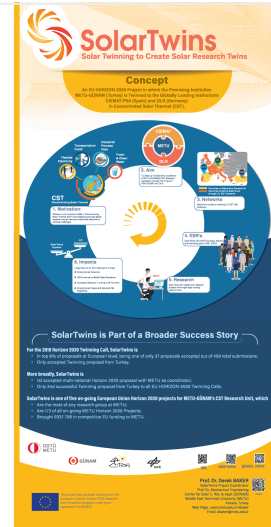
Progress beyond the state of the art and expected potential impact (including the socio-economic impact and the wider societal implications of the project so far)

In project year 2, METU's Center for Solar Energy Research and Applications (GUNAM) was spun-off from METU to form the independent national Solar Energy Center of Excellence ODTU-GUNAM. SolarTwins supported realization of ODTU-GUNAM's first EU project (CST4ALL) and first coordinated EU project (SolarHub). Over the life of SolarTwins the consortium secured ~1.7M€ in competitive follow-up EU funding. The combined METU and ODTU-GUNAM EU CST funding in collaboration with CIEMAT and/or DLR increased from 538k€ the day before SolarTwins started to almost 1.4M€ the day after SolarTwins ended, demonstrating the sustainability of the joint research

activities. In addition, these joint follow-up projects brought ~650k€ to 5 Turkish industrial actors and over 2M€ EU funds to 11 Turkish institutions total, thus demonstrating SolarTwins' impacts on the larger Turkish CST R&I ecosystem. Finally, SolarTwins was key in enabling ODTU-GUNAM to upgrade its EERA-JP-CSP membership from Associate to Full, and enable its participation in IEA SHC activities.



SolarTwins Joint Kick-Off Activities @ METU:
Final Lunch



Roll-up poster for Open ODAKtr Event as part of
SolarTwins Joint Kick-Off Activities @ METU



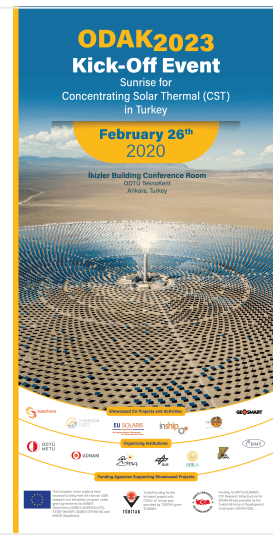
Joint Kick-Off Activities @ METU: Open ODAKtr
Event



Joint Kick-Off Activities @ METU: Research
Sharing



Joint Kick-Off Activities @ METU: Research Sharing



Roll-up poster for SolarTwins Joint Kick-Off Activities @ METU



Joint Kick-Off Activities @ METU: Research Sharing



Joint Kick-Off Activities @ METU: Research Sharing



Joint Kick-Off Activities @ METU: Open ODAKtr Invited Speakers

Last update: 7 June 2024

Permalink: <https://cordis.europa.eu/project/id/856619/reporting>

European Union, 2025

