



REPUBLIC OF TÜRKİYE  
MINISTRY OF INDUSTRY AND TECHNOLOGY

**Dr. Diego Martínez**  
**Managing Director of the EU-SOLARIS ERIC General Assembly**  
**Spain**  
**ALMERÍA**

**14/05/2024**  
**ANKARA**

Dear Managing Director,

On behalf of the Ministry of Industry and Technology, I hereby notify the readiness of the Republic of Türkiye to join EU-SOLARIS ERIC as an Observer in accordance with Article 18 of the Statutes.

The Republic of Türkiye declares adherence to the Statutes of EU-SOLARIS ERIC, to the Rules of Procedure of the EU-SOLARIS General Assembly, to the internal policies, and the decisions of the EU-SOLARIS ERIC's governing bodies. Türkiye also commits to the rights and obligations established in Article 16 and 17 of the ERIC's Statutes as regards to the condition of Observer.

The Republic of Türkiye appoints Middle East Technical University-Centre for Solar Energy Research and Applications (ODTÜ-GÜNAM) as representing entity. The Delegation of Türkiye to the General Assembly of EU-SOLARIS ERIC will be composed of:

- Assoc. Prof. Dr. Onur TAYLAN  
Concentrated Solar Thermal Power Technologies Division Coordinator, ODTÜ-GÜNAM,  
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Türkiye will contribute to the overall aim of EU-SOLARIS ERIC by leveraging EU-SOLARIS ERIC capacities and structures to accelerate the expansion of Türkiye's Concentrated Solar Thermal (CST) sector and strengthen the synergistic integration of this sector and its capacities into EU-SOLARIS ERIC.

Your sincerely,

  
**Mehmet Fatih KACIR**  
**Minister**

**Enclosures:**

1. Technical and Scientific Description of Research Infrastructures to be incorporated in the accession
2. Türkiye's Reservation

## ANNEX 1.

### Technical and Scientific Description of Research Infrastructures to be incorporate in the accession.

Türkiye will be represented scientifically in EU-SOLARIS ERIC by Türkiye's national Solar Energy Center of Excellence ODTÜ-GÜNAM. ODTÜ-GÜNAM was established as "GÜNAM" in 2009 as a university-based research lab at Middle East Technical University (METU / ODTÜ) and grew rapidly over the next 12 years to become one of the top performing university-based research labs in Türkiye. During this time, GÜNAM participated in the EU FP7 *EU-SOLARIS* Project (2012-2016; GA No. 312833) and coordinated the EU H2020 SolarTwins project (2020-2023; GA No. 856619) with CIEMAT-PSA and DLR as the leading partners, and a core objective being to support Türkiye joining EU-SOLARIS ERIC. The *SolarTwins* proposal was significant as it was the only successful proposal out of 23 coordinated by a Turkish institution, was the first successful H2020 proposal coordinated by METU, and scored in the top 8% at EU level. The SolarTwins proposal was also used as an appendix to a national proposal for Türkiye to join EU-SOLARIS ERIC that received strong national financial and scientific support but this affiliation was ultimately not realized due to Türkiye lacking appropriate ERIC regulations. GÜNAM's EU-SOLARIS linked activities were leveraged to enable GÜNAM to invest in an 18 kW<sub>e</sub> solar simulator as its first major CST infrastructure and GÜNAM's EU-SOLARIS networks were leveraged to enable GÜNAM to represent Türkiye in the H2020 projects *SFERA-III* (2019-2023; GA No.: 823802) and *HORIZON-STE* (2019-2022; GA No: 838514), and to contribute to the H2020 *GeoSmart* project (2019-2024; GA No.: 818576) by developing and assessing novel methods to hybridize CST and geothermal technologies.

To support the rapid expansion of Turkish solar energy industry and markets, in 2021 GÜNAM was spun-off from METU to form the independent national Solar Energy Center of Excellence, ODTÜ-GÜNAM. ODTÜ-GÜNAM and METU still share many organic links. For example, ODTÜ-GÜNAM is located on the METU campus and many of ODTÜ-GÜNAM's researchers having dual affiliations with METU. ODAK is ODTÜ-GÜNAM's CST division, and is representing Türkiye in the Horizon Europe (HE) *CST4ALL* project (2022-2025; GA No.: 101075408), which is ODTÜ-GÜNAM's first EU project. In 2022, ODTÜ-GÜNAM's exploited its EU-SOLARIS connections to CERTH and CRES of Greece to elaborate the successful EU HE *SolarHub* Excellence Hub proposal, which scored in the top 10% at EU level, was Türkiye's only successful Excellence Hub proposal, and is ODTÜ-GÜNAM's first coordinated EU project. The SolarHub consortium integrates 11 Turkish and 8 Greek partners that complete the quadruple helix (Academia; Business; Public Authorities; and Societal Actors). SolarHub has been effective at strengthening cross-border and academic-business linkages and catalyzing follow-up CST proposals. In 2023 METU coordinated the HE *WiderEdMed* proposal that included EU-SOLARIS ERIC, ODTÜ-GÜNAM, CERTH, and UEvora as partners that while passing all funding thresholds was unfortunately was not funded. Both ODTÜ-GÜNAM and METU are partners in the *SOLARIZE* project coordinated by EU-SOLARIS ERIC that is currently in the Grant Agreement Preparation (GAP) phase as well as another EU HE project on novel thermal energy storage technologies that is also in the GAP phase.

Currently ODTÜ-GÜNAM's CST division ODAK has 7 researchers (1 Division Coordinator; 1 Lead Researcher; 1 Senior Researcher; and 4 Researchers) and is in the process of hiring another Lead Researcher. In addition to the solar simulator, ODTÜ-GÜNAM has experimental facilities to support research on particle-based energy storage systems, and is installing research infrastructure to support development and testing of parabolic trough / linear focus collector technologies.

The national investments and regulations that enabled the GÜNAM's spin-off from METU and are driving ODTÜ-GÜNAM's current rapid expansion reflect Türkiye's commitment to growing its solar industries and markets. ODTÜ-GÜNAM's CST division ODAK was very much catalyzed and framed by ODTÜ-GÜNAM's historical affiliation with EU-SOLARIS, and having Türkiye be an EU-SOLARIS ERIC observer with ODTÜ-GÜNAM as Türkiye's scientific node is expected to facilitate new national investments in CST research infrastructure at ODTÜ-GÜNAM that

synergistically supports and adds value to EU-SOLARIS ERIC. Furthermore, ODAK has consolidated its position as Türkiye's central CST R&I node and is actively contributing to the creation of the national CST network *ODAK<sub>TR</sub>* that includes a diverse set of CST key stakeholders and actors from academia, industry, public authorities and societal actors from across Türkiye. Consistent with trends at European level, in recent years the interest from Turkish industry in CST solutions to support decarbonization has increased rapidly as demonstrated by industrial actors increasingly contacting ODTÜ-GÜNAM to explore opportunities to collaborate and Turkish industry organizing a series of workshops on Solar Heat for Industrial Processes in diverse cities with support from ODTÜ-GÜNAM.

In conclusion, the acceptance of Türkiye as an EU-SOLARIS ERIC observer is seen as a win-win situation for EU-SOLARIS ERIC and for Türkiye, as it will facilitate requests for Turkish investments in CST R&I capacities including research infrastructure, support the continued expansion of Türkiye's CST sector, and support the integration of these capacities and activities into EU-SOLARIS ERIC.

The ODAK facility is strategically located on the METU campus, fostering collaboration with other research centers and infrastructures within the METU ecosystem, including the METU Technology Development Zone (ODTU Teknokent).

The ODAK facility houses four key research infrastructures:

#### 1. Solar Simulator

- Consists of three 6 kW Xenon short-arc lamps simulating the solar spectrum indoors
- Enables independent control of concentration ratios, regardless of outdoor conditions
- Facilitates:
  - Pre-screening of high-cost solar field experiments
  - Accelerated aging of materials
  - Thermal shock experiments
  - Life-cycle analysis of materials
  - Uniform, large-area radiation experiments with porous materials
  - Photochemistry and photocatalysis experiments

#### 2. Parabolic Trough Collector Simulator

- Simulates parabolic trough collectors by circulating heat transfer fluid at controlled flow rates
- Estimates fluid temperatures and assesses collector performance in a laboratory setting
- Supports the use of various working fluids, including thermal oils

#### 3. Outdoor Parabolic Trough Collector

- 6-meter-long collector installed outdoors for testing
- Measures the heat transfer fluid temperature and assesses the performance of the collector under real weather conditions
- To be integrated with an experimental packed-bed thermal energy storage setup under the EU HE SolarHub project in the near future
- Aims to validate numerical modeling of line focus systems and thermal energy storage systems

#### 4. Hot Disc Measurement Equipment

- Quantifies thermophysical properties of particles
- Measures thermal conductivity (using transient plane source technique) and specific heat capacity
- Complies with ISO22007-2 standards

## ANNEX 2.

### Türkiye's Reservation

The decision of “Middle East Technical University-Center for Solar Energy Research and Applications” (ODTÜ-GÜNAM) to join the European Solar Research Infrastructure for Concentrated Solar Power (EU-SOLARIS ERIC) should in no way be construed as implying any form of recognition of the Greek Cypriot Administration’s pretention to represent the “Republic of Cyprus”, nor as implying any obligations on the part of ODTÜ-GÜNAM to enter into any dealing with authorities or institutions of the so-called “Republic of Cyprus” within the framework of the EU-SOLARIS ERIC.

### Çekince Metni

Orta Doğu Teknik Üniversitesi Güneş Enerjisi Uygulama ve Araştırma Merkezi'nin (ODTÜ-GÜNAM) Avrupa Araştırma Altyapısı Konsorsiyumu'na bağlı Yoğunlaştırılmış Güneş Enerjisi Avrupa Araştırma Altyapısı Konsorsiyumu'na (EU-SOLARIS ERIC) taraf olma kararı, Güney Kıbrıs Rum Yönetimi'nin “Kıbrıs Cumhuriyeti”ni temsil etme iddiasının herhangi bir şekilde kabul edildiği veya ODTÜ-GÜNAM'ın EU-SOLARIS ERIC çerçevesinde sözde “Kıbrıs Cumhuriyeti” makamları veya kurumlarıyla herhangi bir ilişkiye girmeye yükümlü olduğunun kabul edildiği şeklinde yorumlanmamalıdır.