

Project Impacts

Scientific impact

- **SC01:** Strengthen expertise through collaborations in atmospheric modeling and remote sensing
- **SC02:** Enhance ECoE's attractiveness for wider access, mobility, and collaboration
- **SC03:** Spread excellence in the regional research ecosystem and strengthen EU research infrastructure

Economic impact

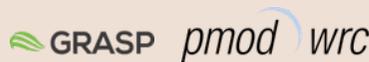
- **E01:** Create research positions in atmospheric and solar radiation modeling for Earth Observation
- **E02:** Exploit ATARRI results with authorities/stakeholder
- **E03:** Secure research/consultancy funding
- **E04:** Provide innovative products/services

Societal impact

- **S01:** Raise public awareness about atmospheric and solar radiation physics
- **S02:** Provide innovative products/services



CONSORTIUM



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the European Union

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ATARRI

Twinning Horizon EU Project

Atmospheric and Solar Research
and Innovation in the Eastern
Mediterranean



Overarching Objective

To enhance Earth Observation R&I and modelling capacity of ERATOSTHENES CoE with the aim to create a future centre for climate & weather research and services to in the Eastern Mediterranean.

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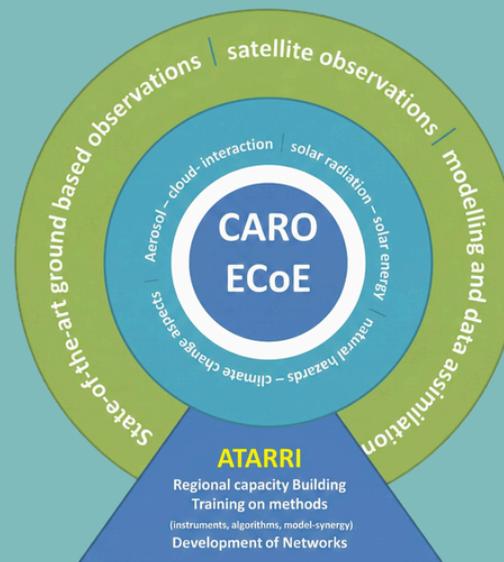


Strategic Objectives

- **STO.01 Strengthen the Expertise and improve the research profile of ECoE** in the field of atmospheric modelling and satellite calibration/validation (cal/val) through modelling and remote sensing synergies.
- **STO.02 Enhance research management capacity and administrative skills of the ECoE infrastructure and applications.**
- **STO.03: Strengthen the position of ECoE and spreading excellence** at the regional research and innovation ecosystem.

Projects' big vision

The overarching objective of the ATARRI Twinning activity is to **exploit the full potential** of the **ERATOSTHENES CoE CARO National Facility and Solar Network** towards **scientific excellence** and **application development in the atmospheric research** enhancing the **Earth Observation R&I and modeling capacities** of ERATOSTHENES Center of Excellence.



Four scientific Domains

1. Dust modeling and Forecast

Lead Partner: BSC-CNS

- Dust emission, transport and variability
- Climate and atmospheric chemistry effects
- Data assimilation and reanalysis
- MONARCH model training

2. Aerosol Microphysics characterization

Lead Partner: GRASP SAS

- GRASP algorithm for aerosol retrievals
- Synergistic use of lidar and photometer data
- Aerosol characterization and typing
- 4D aerosol structure analysis

3. Dust radiative effect and Solar radiation

Lead Partner: PMOD/WRC

- Aerosol radiative effects modeling
- Solar radiation measurements and quality control
- Satellite validation (cal/val) activities
- Data assimilation techniques

4. Solar energy applications

Lead Partner: ARMINES/ENSMP & FC.ID/CIENCIAS UL

- Urban photovoltaic (PV) modeling
- Solar cadaster development
- Rooftop PV potential assessment
- Solar radiation forecasting