CONSORTIUM

UEVORA—UNIVERSIDADE DE EVORA

DLR—GERMAN AEROSPACE CENTER

ENEA—AGENZIA NAZIONALE PER LE NUOVE TECNOLOGIE, L'ENERGIA E LO SVILUPPO ECONOMICO SOSTENIBILE

FERRUM—FERRUM TECNOINDUSTRIAL SL

OME—OBSERVATOIRE MEDITERRANEEN DE L'ENERGIE

RODAMA—RODAMA MAQUINARIA SL

SOLARLITE—SOLARLITE CSP TECHNOLOGY GMBH

CONTACT DETAILS

PROJECT COORDINATOR—UEVORA

Diogo Canavarro
diogocvr@uevora.pt

COMMUNICATION—OME

Emanuela Menichetti
emanuela.menichetti@ome.org

Abdelghani El Gharras
abdelghani.elgharras@ome.org

Website: www.msa-trough.eu

Funded by the European Union

MSA-Trough Project is funded by Horizon Europe - European Climate, Infrastructure and Environment Executive Agency (CINEA).

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MSA-Trough

MSA TROUGH

Development of a parabolic Trough concentrator system for Molten Salt Application

LEAFLET

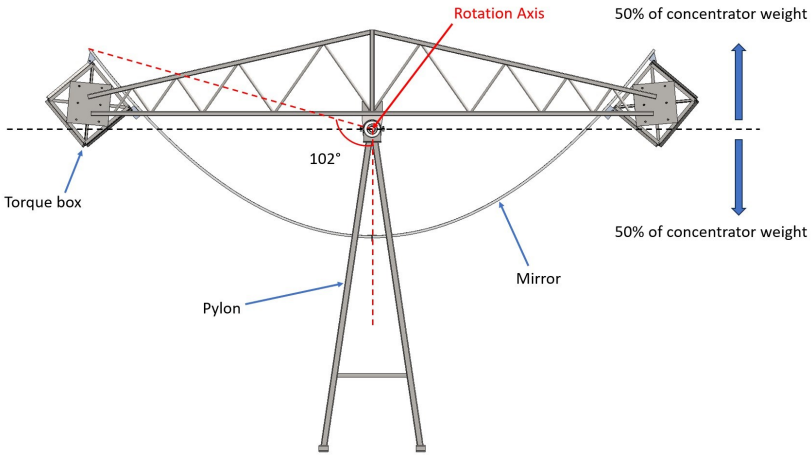
October 2023—March 2027

ABOUT MSA-TROUGH

The objective of the MSA-Trough project is to **develop and demonstrate** a **novel** parabolic trough collector which is **more efficient**, **less costly, more reliable** and **more sustainable** than current trough collectors and which is optimized to generate **cheap dispatchable electricity** in order to **stabilize electrical grids** and **enable higher shares of variable renewables** in the energy systems.

To reach this goal a 350m-long MSA-Trough Prototype will be designed, manufactured, built, tested and demonstrated at the Évora Molten Salt Platform (EMSP) (link here) located in Évora, Portugal.

MSA-Trough project is implemented over a three-and-a-half-year term: October 2023—March 2027.



MSA-Trough Concept

TECHNOLOGICAL IMPROVEMENTS

Why do we need MSA-Trough technology?

MSA-Trough presents a series of competitive advantages compared to current CSP systems.

The main differences to state-of-the-art technology are:

⇒ **Fixed focus**—absorber tube is not moved with the concentrator

⇒ **New storm position**—wind loads are reduced

⇒ Use of **torsion compensators**—optical collector efficiency is improved

⇒ **Thin glass mirrors** with sustainable composite materials back structure—higher reflectivity and resistance

⇒ **Integration of mirror cones**—improved optical efficiency

⇒ Use of **automatic washing system** with water recycling—improved solar field efficiency and water saving

⇒ **Lighter drilling foundation**, material consumption is reduced

⇒ **Continuous tracking system**—higher efficiency

⇒ **Overnight draining** strategy eliminates night losses.

STAKEHOLDERS ENGAGEMENT

MSA-Trough has a comprehensive approach to communication and dissemination. The key elements involve: targeting and engaging with **different groups**; the organization of **stakeholders workshop** and **open days** allowing for the presentation and validation of the main findings to both the research and industry communities and also to facilitate information exchange among experts; the use of **social media** to disseminate key messages regarding the project's outcomes, enabling a broader community engagement; and **scientific papers and presentations** documenting the detailed research findings; as well as **policy briefs** to raise awareness and promote the development of a supportive institutional and regulatory framework for CSP technologies and **informative papers** to effectively communicate the project's outcomes in a more accessible manner.

PROJECT STRUCTURE

The Work-packages (WPs) and interdependencies among the different fields of work are shown in the diagram below.