

***SFERA - Solar Facilities for the
European Research Area
2009-2013***

**SFERA Workshop
20.09.2011 – Granada**

SolarPACES 2011



SFERA Presentation

- European FP7 Project - Programme Capacities - Infrastructures
 - Collaboration of existing Research Infrastructures in CSP
 - 12 european partners

Organisation name	Country
CIEMAT (coordinator)	Spain
DLR	Germany
CNRS	France
PSI	Switzerland
ETH	Switzerland
WEIZMANN	Israel

Organisation name	Country
ENEA	Italy
DIN	Germany
UPS	France
AUNERGY	Spain
CEA	France
INESC-ID	Portugal



SFERA Objectives



⇒ To create a unified European Laboratory for Concentrated Solar System

Networking Activities - Work Packages

WP2: Organization of training courses and schools

WP3: Internal and external communication:
Organization of meetings, workshops and conferences

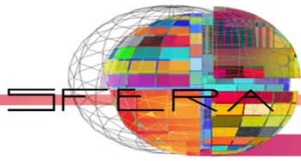
WP4: Organization of expert working groups and round
tables for the development of CSP European standards

WP5: Exchange of personnel for harmonization of
procedures

WP6: Joint management of 'Transnational Access'
activities

Networking Activities – Completed actions

- 2 Meetings of Expert Working Groups for CSP standards
 - Participants internal to the project
 - 2 Round Tables on European CSP Standardization
 - Participants external to the project: mainly industrials
 - 1. 12 participants
 - 2. 22 participants
 - 2 Summer Schools
 - 2 Doctoral Colloquia
- 2 Conferences on EU CSP Infrastructures
 - Opening of a Website
 - Edition of the Brochure
 - 2 Newsletters



SFERA Schools

- **1st School**
 - 33 participants



SUMMER SCHOOL 2010
CNRS-PROMES Font Romeu –
Odeillo, France
10th – 12th June 2010

Topic

RADIATION IN SOLAR SYSTEMS

- **2nd School**
 - 49 participants



WINTER SCHOOL 2011
ETH Zurich, SWITZERLAND
24th – 25th March 2011

Topic

SOLAR FUELS & MATERIALS

Doctorial Colloquia

- **1st DC**
 - 44 participants

- **2nd DC**
 - 37 participants

Next events

- 3rd meeting of the Expert Working Groups for CSP standards
 - September 2011 – SolarPACES 2011
- 3rd SFERA Summer School together with the Doctoral Colloquium
 - Spring/Summer 2012 at CIEMAT-PSA – SPAIN (date and topic to be precised)
- 3rd Round Table on CSP standards
 - During 2012

For more information on SFERA Networking Activities or to participate to these events, visit our website at <http://sfera.sollab.eu/>



Transnational Access Activities



PSA
Almeria
SPAIN
WP7



PROMES - CNRS
Odeillo
France
WP8



PSI
Villingen
SWITZERLAND
WP9

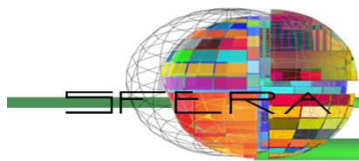


WEIZMANN
Rehovot
ISRAEL
WP10

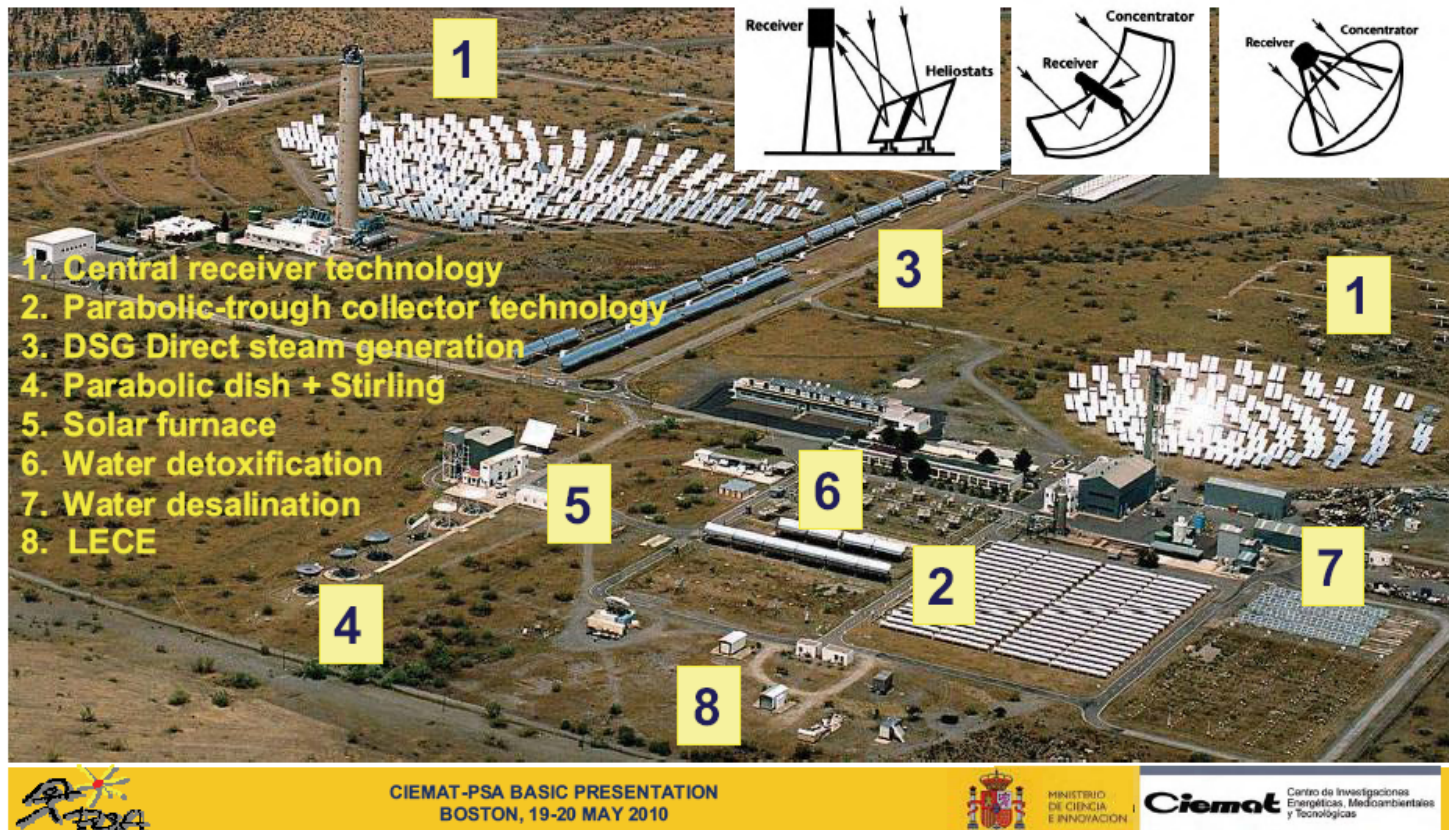


ENEA
Casaccia
ITALY
WP11

Free access to 5 CSP Facilities



PSA TEST FACILITIES



PROMES-CNRS solar facilities

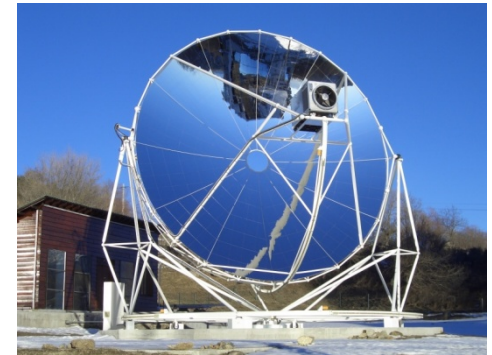


The 5MWth
solar tower Themis



The MegaWatt Solar Furnace

The EuroDish system



Eleven mid-scale facilities





Concentrating Solar Research Facilities



PSI's High-Flux Solar Furnace

Peak concentration: 5,000 suns

Total power: 40 kW_{th}

Power on 6-cm diameter target: 10 kW_{th}

Max. temperature: 2500 K

Commissioned: 1997 / 2009



PSI's High-Flux Solar Simulator

Peak concentration: 11,000 suns

Total power: 50 kW_{th}

Power on 6-cm diameter target: 20 kW_{th}

Max. temperature: 2500 K

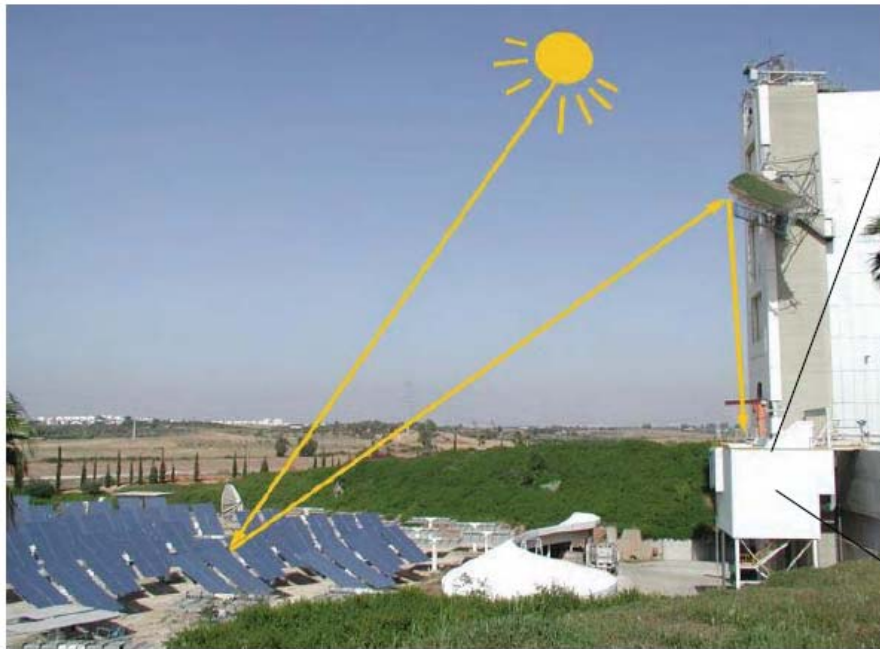
Commissioned : 2005



WEIZMANN INSTITUTE OF SCIENCE
SOLAR RESEARCH FACILITIES UNIT



Beam-Down Optics



⁴⁴
Solar facilities at WIS (with beam down optics)



Secondary concentrator

ENEA Facilities- Solterm (Casaccia)



The **PCS** facility is the main testing loop built in the SOLTERM unit and it is unique in the world. It consists of two lines of high temperature parabolic trough collector using as heat transfer fluid a binary component salt (60% of Sodium nitrate and 40% of Potassium nitrate) operating up to 550 °C. It is working since 2004 and it is constituted by a close loop totally instrumented (flow rate, pressures, temperatures, etc.) a molten salt storage (5 m³ of useful volume), electric heaters and Salt to air heat exchanger.

The **MOSE** facility covers the experimental needs related to materials characterization in respect to their behaviour with molten salt. It is suitable for dynamic corrosion testing and all other durability testing of steels, sealings, weldings.

Selection and Funding Process

- **Who can apply?**

All EU countries + EU Associated countries

- **How to apply?**

Submission of a SFERA Research Proposal Form on the website

<http://sfera.sollab.eu/>

- **What is funded by the EC?**

The RIs access costs plus travel & accomodation costs (2-3 weeks for 2-3 users)

- **How the projects are selected?**

Through a selection panel composed of 5 independant experts

- **Expected deliverables**

A report summarizing the achievements during the access period

The publication of a least one paper in a scientific journal

2012 SFERA Access Campaign Next Call

- **November 2011 to February 2012**

Call for proposals - Submission of the projects

- **March and April 2012:**

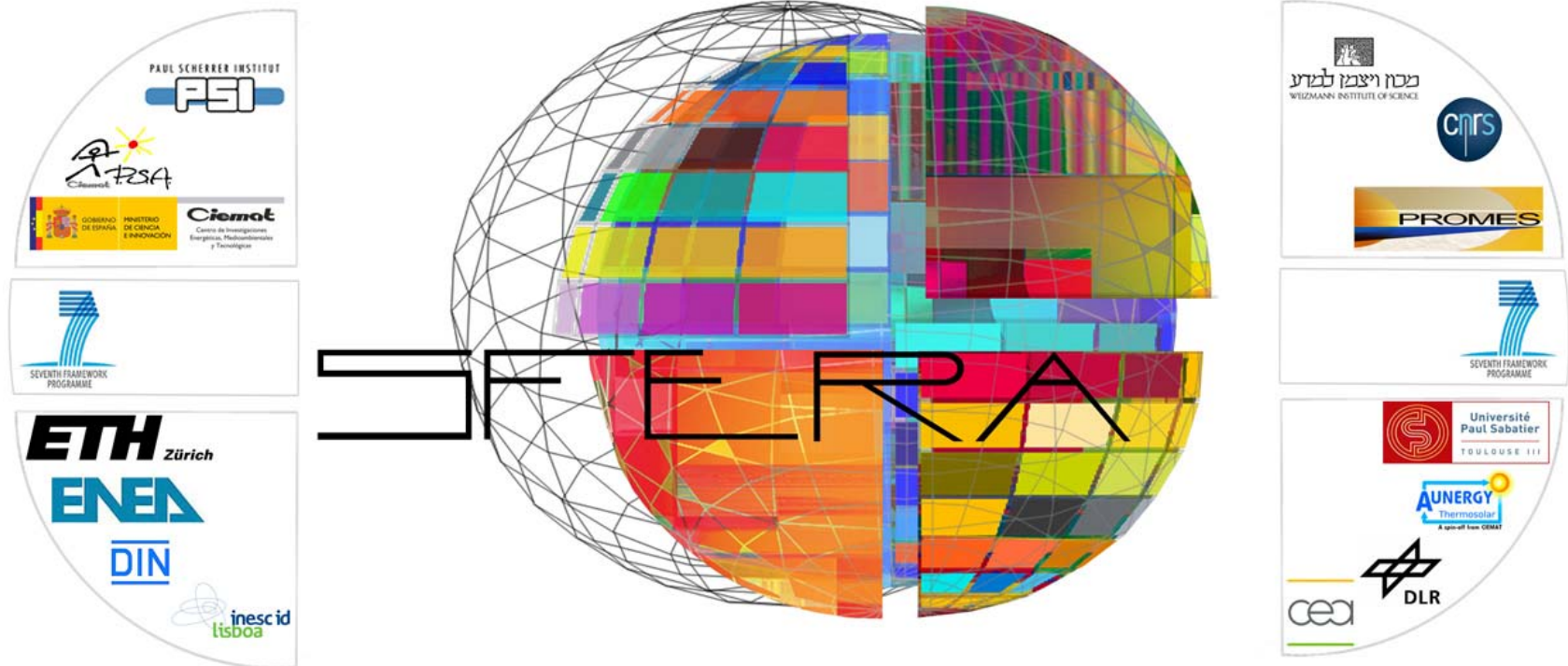
Selection of the projects to be hosted

- **May to November 2012:**

Hosting of the projects in the different facilities

Thanks for your attention!!!

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Solar Facilities for the European Research Area