

SFERA-II FINAL REPORT: FIGURES AND TABLES RELATED TO MAIN S&T RESULTS/FOREGROUNDS

INNOVATION SYSTEM

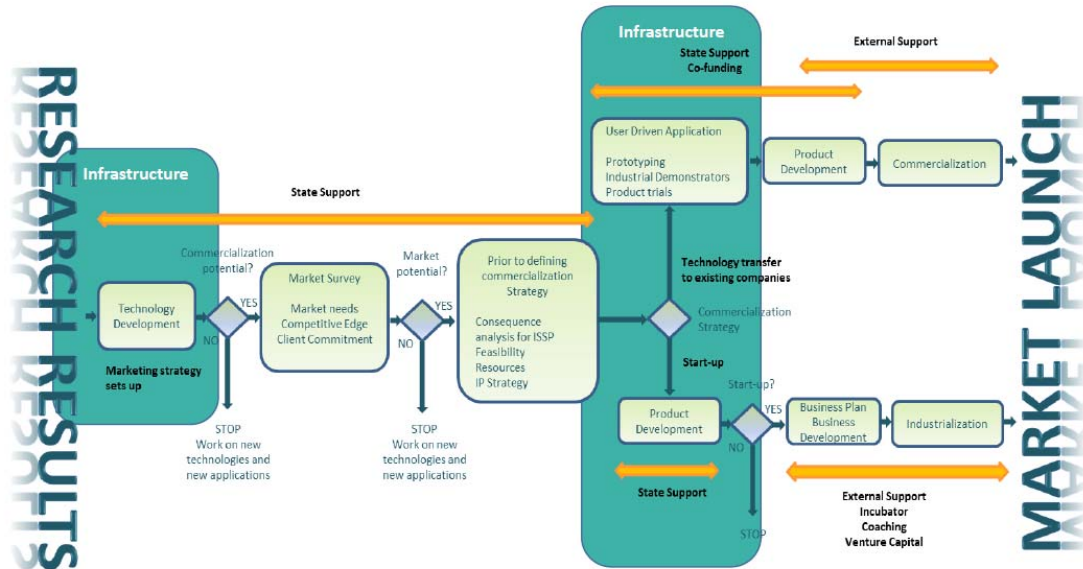


Figure 1. Innovation system to boost exploitation for research infrastructures.



Figure 2. Top: Overview of METAS calibration setup (1: Pyranometer test bench; 2: Pyrheliometers test bench; 3: Black Photon tracker with DHI reference; 4: cloud camera); Bottom left: detail view of Black Photon tracker; Bottom left centre: detail view of pyrheliometer test bench; Bottom right centre: two absolute cavity reference pyrheliometers located in the pyrheliometer test bench's front cabinet; Bottom right: METAS wind mast (WP11).



Figure 3. Calibration facility (here called “KONTAS-cp”) connected to the KONTAS facility (WP11).

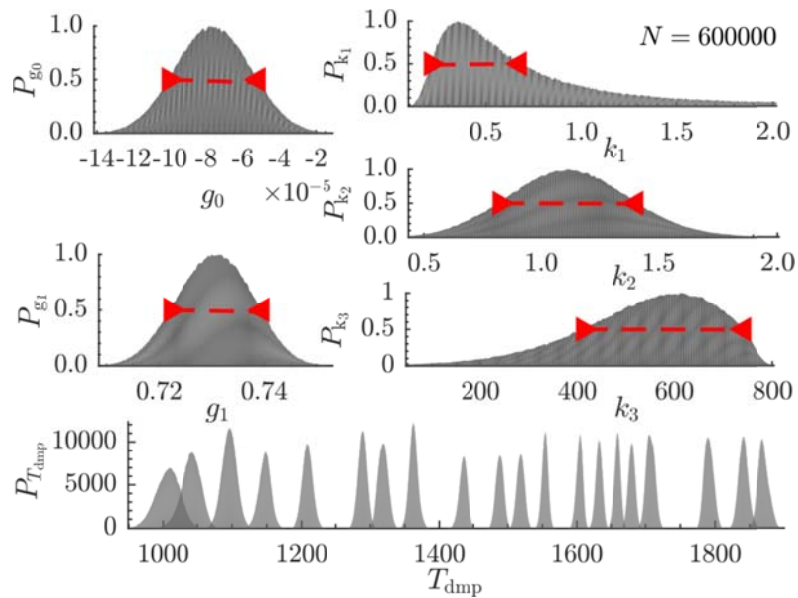


Figure 4. Probability density distributions of calibration constants (top) and combined uncertainty of T_{dmp} . Points bracketing the Full Width at Half Height (FWHH) of the distributions are marked by triangles (WP12).

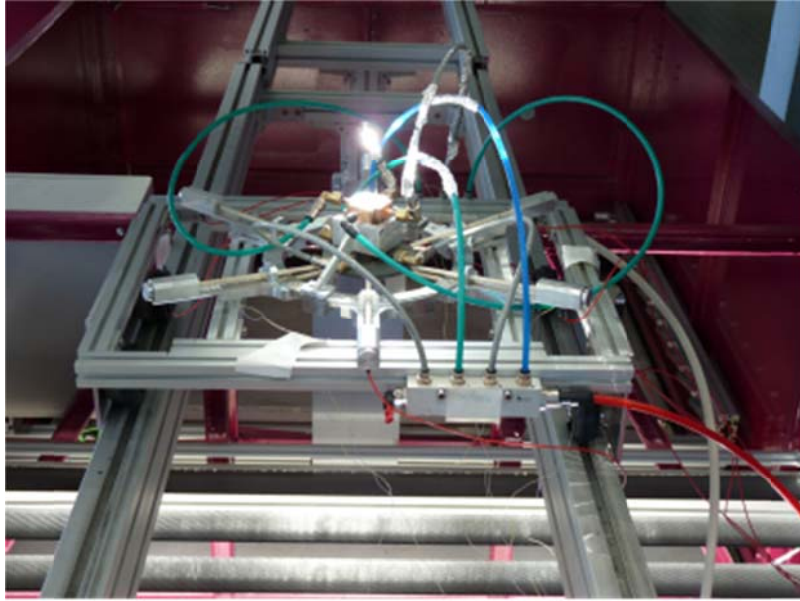


Figure 5. Acoustic set-up at solar furnace for thermal cycling (WP13).

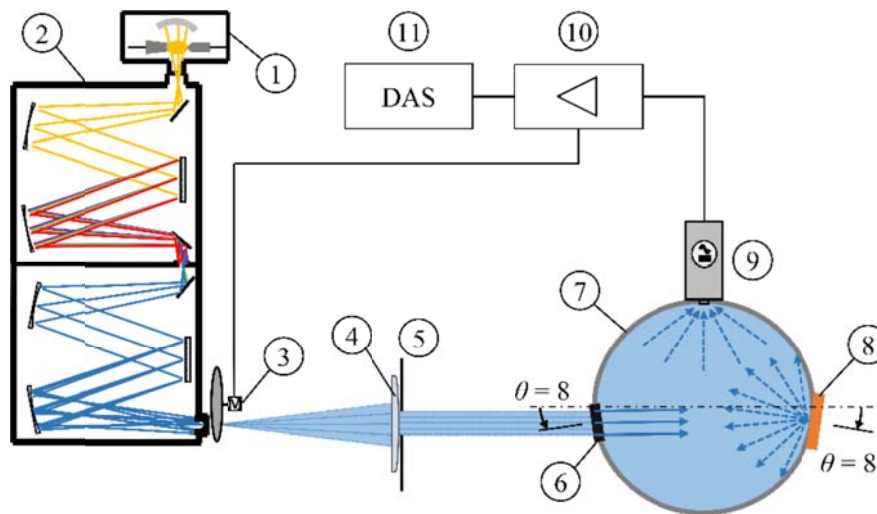


Figure 6. Scheme of the spectroscopic system for reflectivity measurement for porous materials consisting of: 1) xenon-arc lamp, 2) double monochromator, 3) chopper, 4) imaging lens, 5) iris, 6) mechanical slit, 7) integrating sphere, 8) sample holder, 9) photodetector, 10) lock-in amplifier, 11) data acquisition system (WP13).

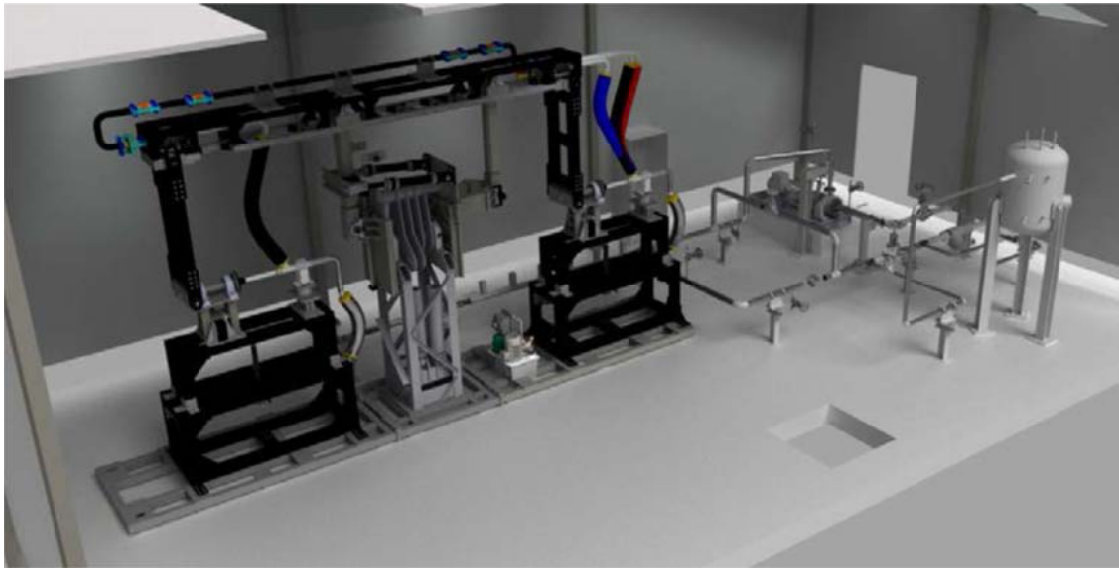


Figure 7. Scheme showing the complete test loop, REPA kinematic unit and BOP (WP14).

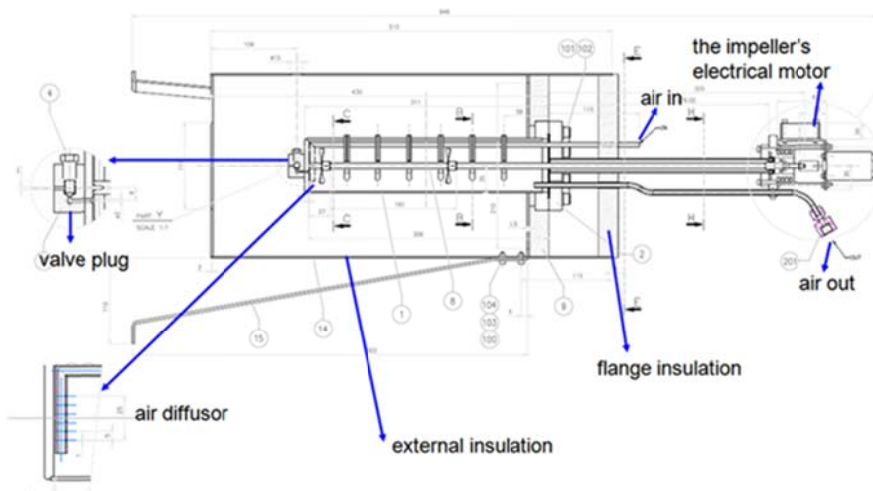


Figure 8. Set-up to study chemical stability of thermal fluids in ENEA (WP15).

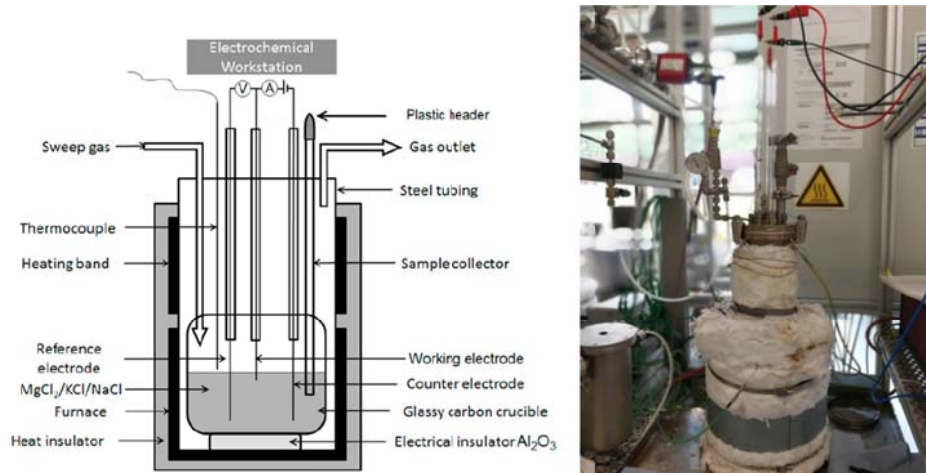


Figure 9. Electrochemical system developed by DLR within activities of WP15 to detect and analyse impurities in molten salts.

Table 1. Summary of deliverables containing HTF and/or HSM review reported throughout SFERA-II project.

Material	Report
Nitrate and nitrite mixtures	D15.6
Phase change materials (PCM)	D15.7
Solid Fillers and mixed systems Filers + PCM	D15.8
Chemical Storage systems	D15.9
Gases (CO ₂) as HTF	D15.10

SFERA-II FINAL REPORT: FIGURES AND TABLES RELATED TO POTENTIAL IMPACT

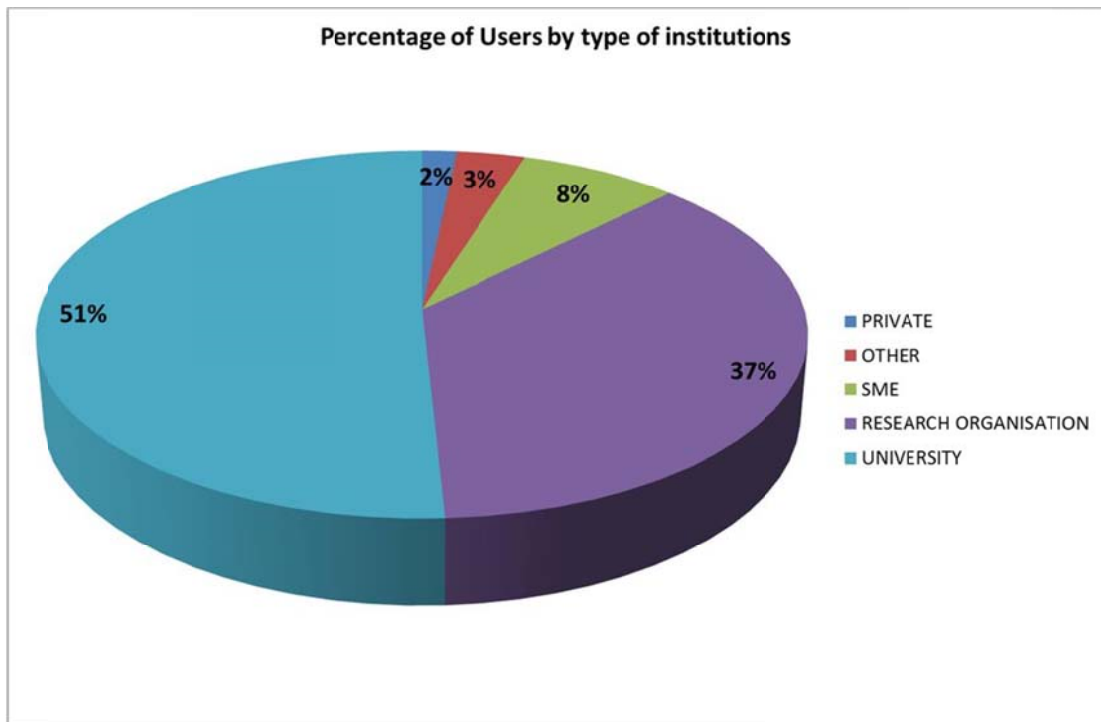


Figure 10. Summary of the percentage of users of transnational access activity within SFERA-II project per type of institution (including companies/industry).



Figure 11. SFERA-II exhibition booth in Abu Dhabi at SolarPACES 2016 (WP2).

Table 2. SFERA-II overview of training for industries courses.

Year	Place	Topic	Partner
2014	Plataforma Solar de Almeria (Spain)	Operation & Testing of Direct Steam Generation in Linear Focusing Collectors. Reflector Characterization	CIEMAT
2015	CR ENEA Casaccia (Italy)	Molten Salt Systems: Collector Loop, Thermal Storage and Heat Transfer Fluids	ENEA
2016	PROMES-CNRS	Central Receivers: Operation of Heliostat Fields	CNRS
2017	Plataforma Solar de Almeria (Spain)	Optical and Thermal Component Testing of Parabolic Troughs and Influence on System Efficiency	DLR