

Atacama Modules & Systems Technology Consortium

ATAMOSTEC

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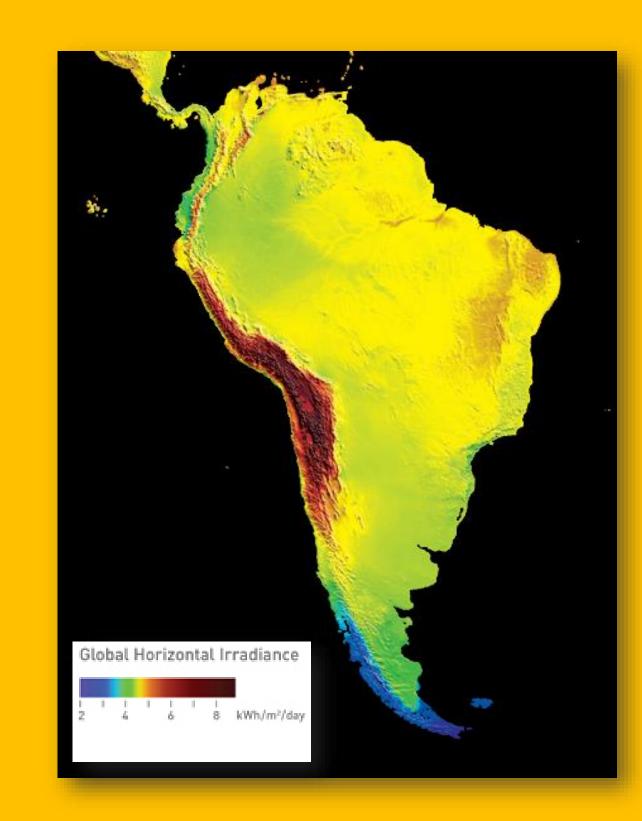
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CHALLENGES

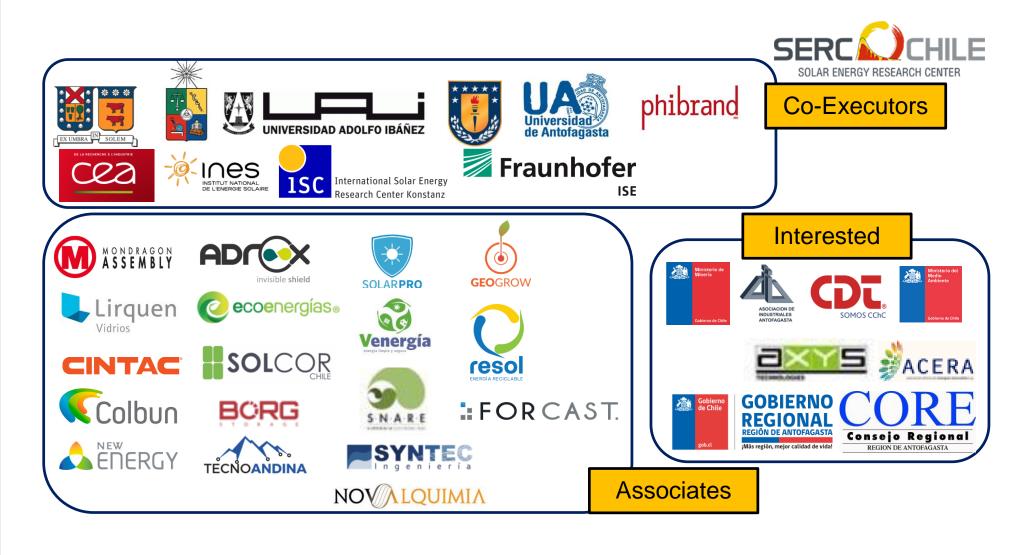
Given the unique conditions of the Atacama Desert:

- Solar radiation has a distinctive solar spectrum (eg. ultraviolet radiation),
- Comparatively low ambient temperature (eg. Sahara, Australia),
- Systematic winds in speed and direction (east-west),
- Relevant local consumption, like Mining activities,
- Available territory
- Various geographic areas (altitude, access, type and magnitude of aerosols),
- Water scarcity,
- High seismicity,
- National related industry that can expand its product lines (ex structures, glass).

The development of photovoltaic systems for desert conditions has been selected as one of the main initiatives of the Chilean Solar Strategic Program with the focus on positioning of Chile as a regional solar energy exporter.



TEAM AtaMoS-TeC



The research team of AtaMoS-TeC Consortium, together with the participating companies have the objectives:

- Create a collaborative and high-impact platform for the execution of niche projects for the development of solar photovoltaic energy technologies (focus on bifacial technology)
- Execution of a portfolio of projects that addresses the challenge of adapting and developing appropriate technologies for desert zone conditions and high solar radiation, in terms of durability and expected yields (eg. new material and glassglass modules design)
- Reduce the LCOE.
- Promote a high penetration of solar photovoltaic energy in the Chilean energy matrix.
- Development and strengthening of local suppliers, and create a sophisticated industrial network oriented to provide solar-related technology and services in Chile and abroad.

STRATEGY

Public Strategy

- Decision makers

- Public sector

- Local actors

Industry - Entrepreneurship - Export - Local Suppliers Development **Network and Partnerships** - International relations **Human capital** - New Partners - Promotion Advanced - Investors - Clients - Technical - Employment creation

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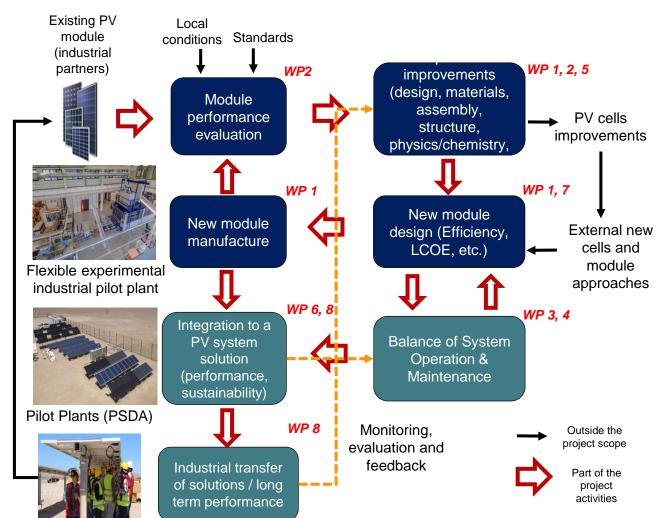


Environment - Climate change

- National and International Regulation & Standars - Market Trends
- Technological Trends.

WORK PACKAGES

The main components of the project and their most relevant relations:

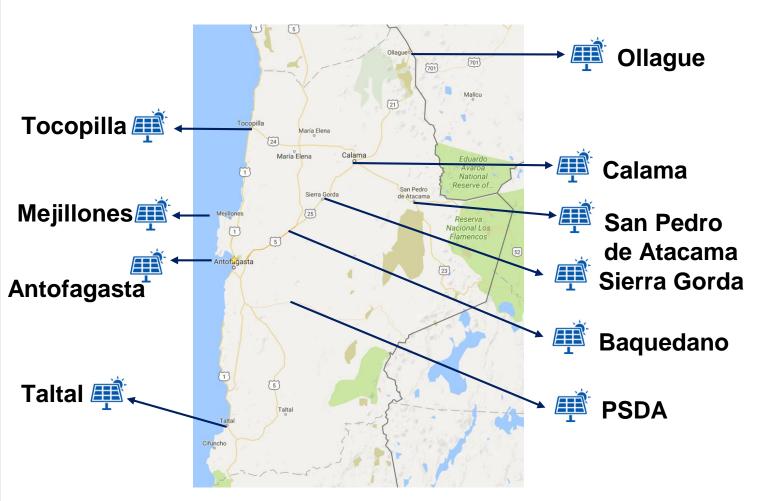


WP1: Module Development WP2: Module Performance Assessment and Labeling WP3: Balance of System Component Development VP7: Optimization and Bankability WP4: O & M Component **Development** WP5: Territorial Characterization **WP6: Demonstration of PV Systems Under Desert Conditions WP8: Exploration Models, Entrepreneurship and Technology Transfer WP9: Education, Training and Dissemination**

WP0: Coordination

- A flexible pilot plant for the manufacture and testing of modules
- Iterative process of performance evaluation (including technical and economic aspects)
- Modules, BoS & OM adapted to climatic conditions

INFRASTRUCTURE



Yungay Pilot Center (PSDA)



Lalcktur Industrial Pilot Plant 1 MW



Laboratory network, equipment and infrastructure of SERC and international partners

ACKNOWLEDGEMENT

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Proyecto apoyado por:

