

Planning and management of solar photovoltaic plants through a climate service

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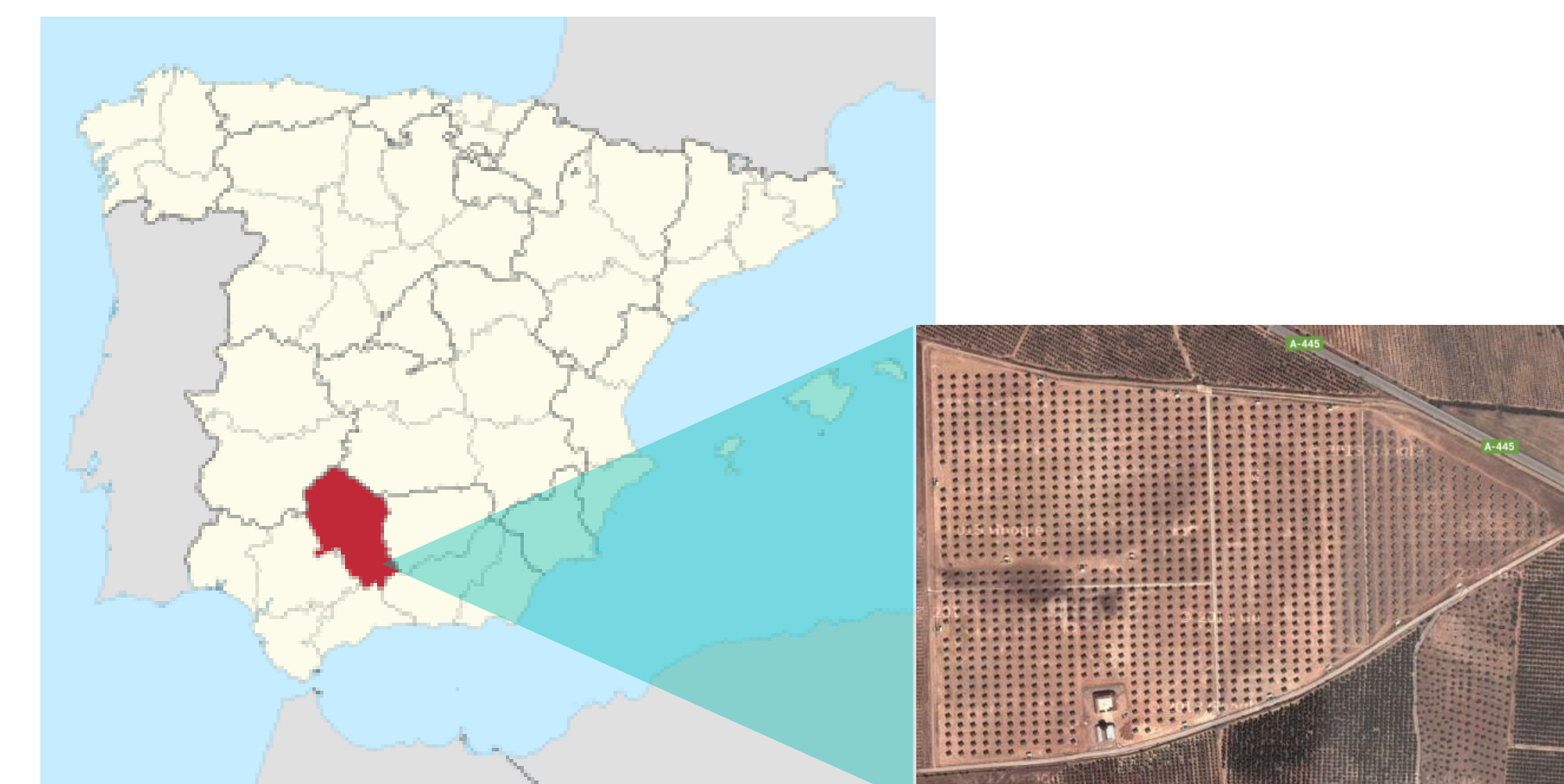


Objectives

Photovoltaic technology must overcome the disadvantages associated with the stochastic nature of this type of energy production, linked as it is to the presence of uncontrollable weather events. It is necessary to redefine the planning, management and operation of this type of facilities. SEAP service gives a global simulation to determine solar radiation and energy produced, providing forecasts from short-term to long-term to climate change conditions.



Pilot application



Photovoltaic plant

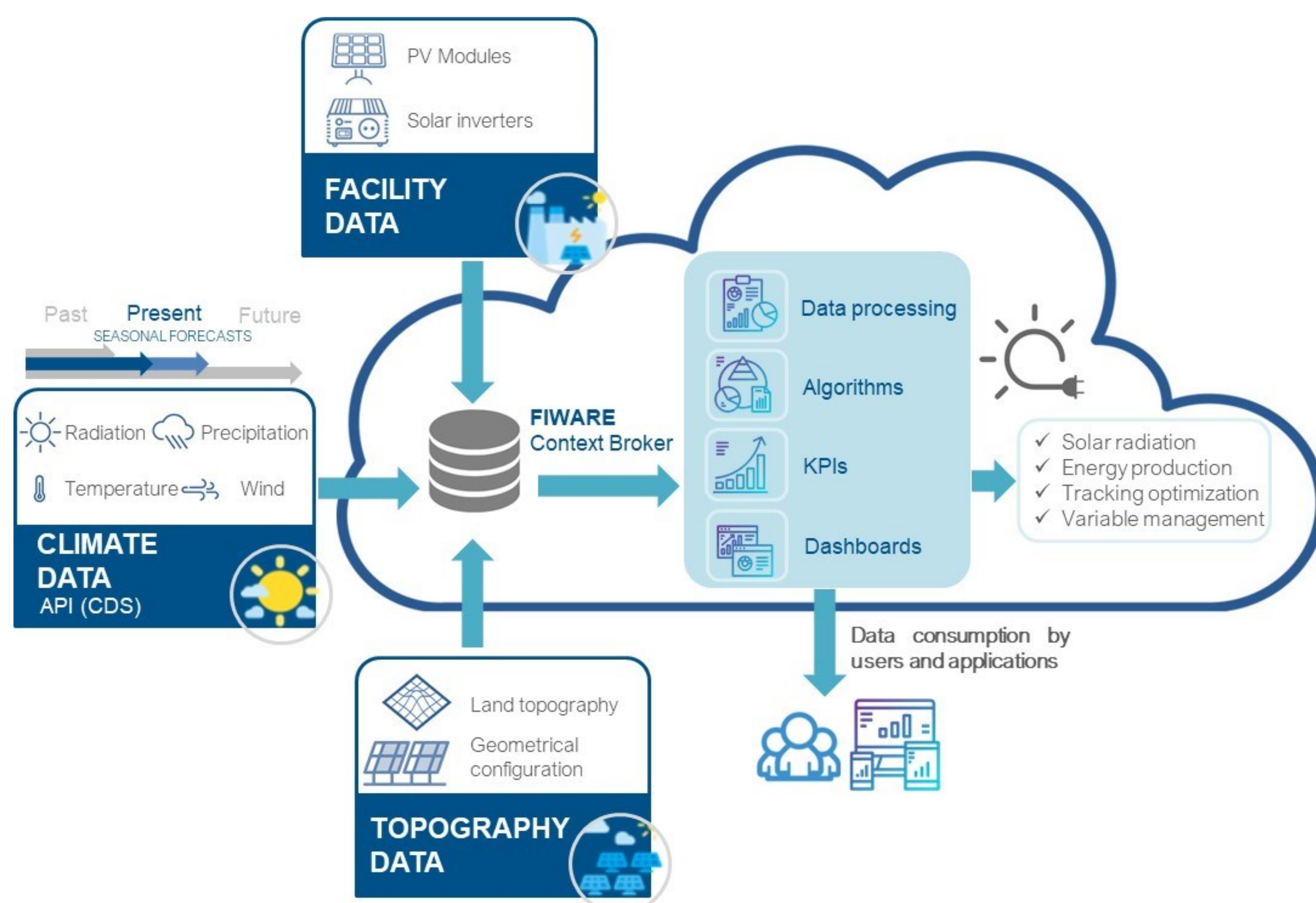


- FV Plant: "El Molino"
- Nominal power: 6,1 MW
- Solar trackers

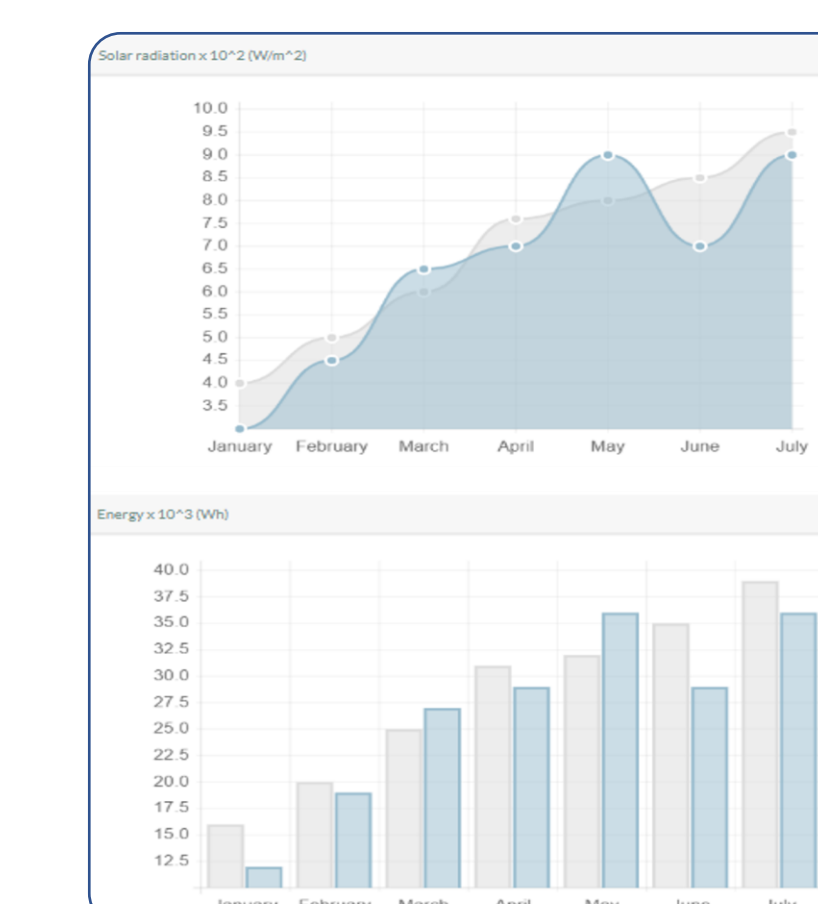
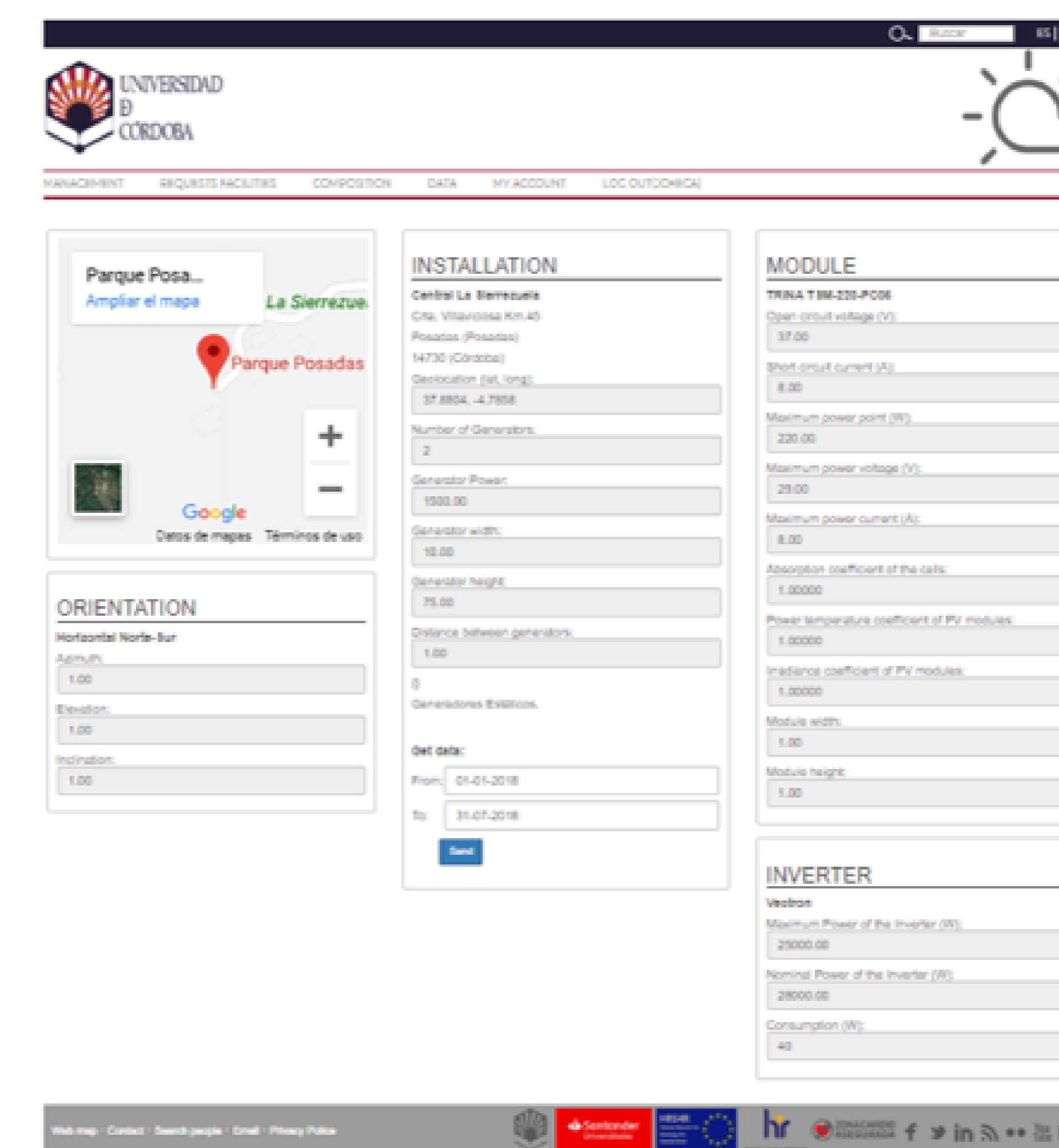
Overall framework

SEAP is a new comprehensive solution based on the development of a web application for PV plants. The service highlights are.

- It is a planning tool building upon the Copernicus Climate Change Services (C3S), together with **solar models** and **spatial and operational data** of PV facilities.
- It allows operational assessment of solar energy systems on different time scales.
- Developed through an effective **co-design** with end-users, contributing to mutually beneficial collaboration, making possible to sustain their marketability and value.



How the service works



On-line visualization

- Intuitive user-interface

Personalized reports

- Data query
- Historical data
- Graphs

Scalable

- Plant configuration

- 1) **Operational assessment** of solar energy systems on different time scales, daily, monthly, or seasonal.
- 2) Anticipating or ordering the general working **model of the electricity network**.
- 3) Information about the best **solar tracking** strategy for collectors.
- 4) Robust **decision-making** by planning offices.

SEAP service provides information of the of the energy generated to control the energy injected signal the electrical grid, and to operate, following a network manager, in an efficient, competitive and reliable way.



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