

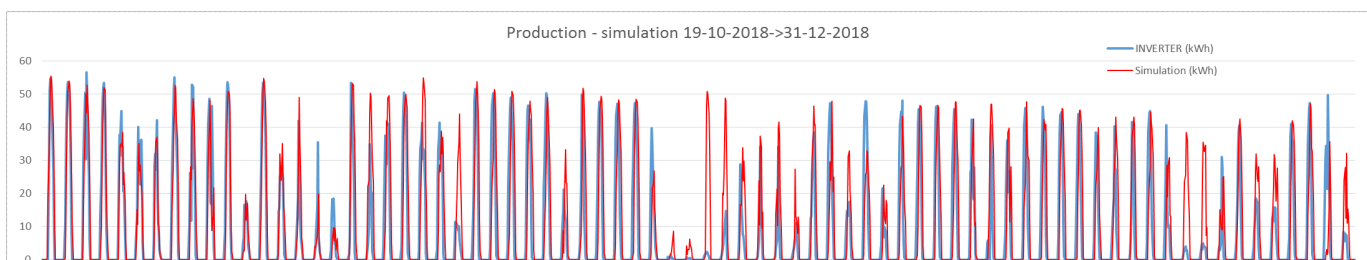
Smarsolar for snow mitigation systems for PV

Snow mitigation systems for PV

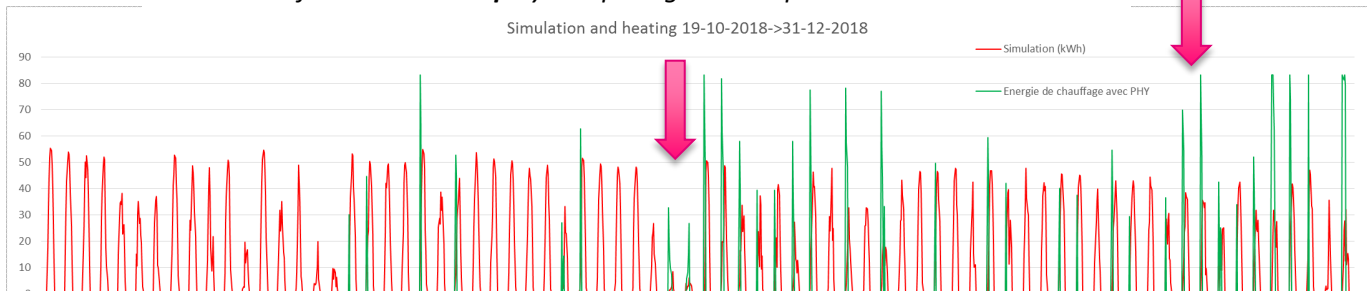
The Smarsolar control solution is able to drive snow mitigation systems which actively remove the snow in cold region by heating cells in panels or by heating panels with the help of resistive circuits. The power units supplying heating elements and cells, are driven by a robust local Industrial PC connected to the SmarSolar platform and services. Thanks to an accurate modeling of the PV installation and hourly weather data forecast (temperature, irradiation ...), SmarSolar provides accurate PV production forecast and detect fine efficiency drop by comparing expected production and actual production. It worth noting that the system doesn't need local sensors but only the monitoring of the PV production with the help of inverter data or energy counter. The advantage is a lower cost of the system with no maintenance. Using AI algorithms, SmarSolar compares the PV production forecast potential gains with expected heating cost. Therefore SmarSolar optimize revenues by telling to the automation system to activate or deactivate the heating. On request, local measurements can be integrated to the local PC : monitoring of temperature, humidity and snow, loads cells under panel, energy counters .. A full cloud access to the monitoring of the whole PV installation with snow mitigation systems is available for the customer with personalized dashboards.

SmarSolar Control for snow mitigation systems, characteristics and features :

- Customer Cloud access to the SmarSolar [Web Dashboard](#) : measured power production, expected power production, production forecast, energy cost of snow mitigation systems
- AI algorithm for the decision of switching On & OFF the snow mitigation system
- Monitoring and report at multi time frame : hourly, daily, monthly, yearly
- Analysis of energy yield, performance ratio with diagnostics and alarms
- Industrial PC as PLC controller for switches or signal driving the snow mitigations systems
- Possible integration of energy measurements and local sensors on the PC or via the existing SCADA.
- Optional : control of a charger inverter with a the battery to maximize self-consumption

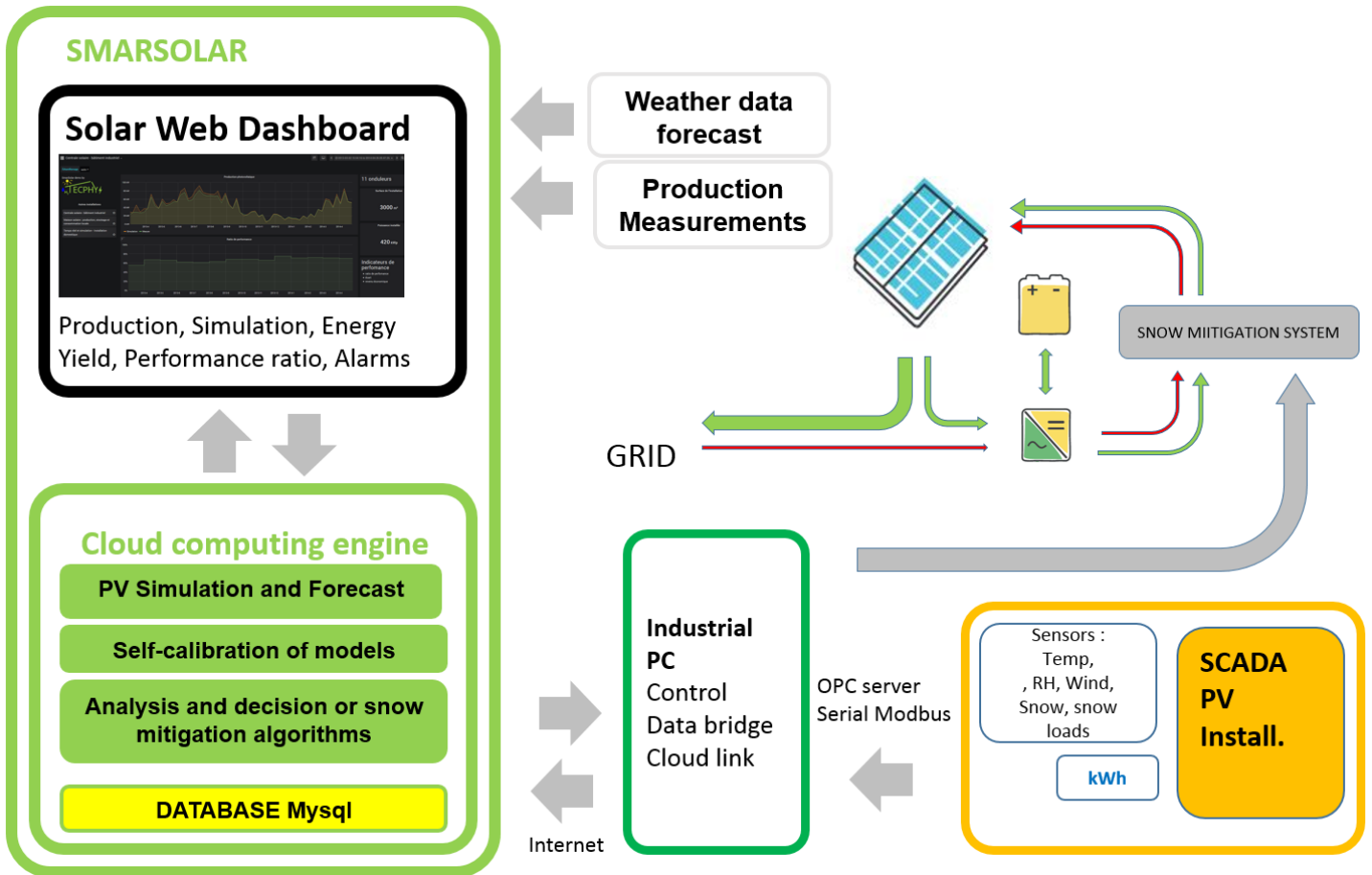


Detection of **Production drop** by comparing inverter production and simulation



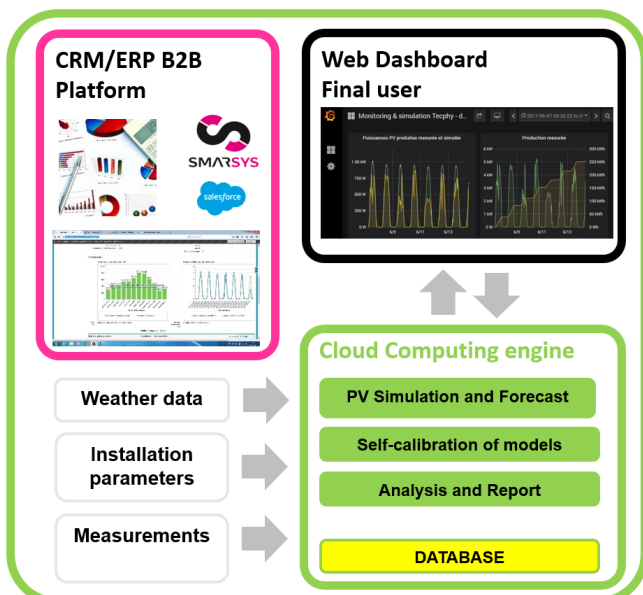
AI Algorithms : Switching ON/OFF the snow mitigation system if production forecast kWh > heating consumption kWh to remove frost and snow

SMARSOLAR WITH SNOW MITIGATION SYSTEM



SMARSOLAR B2B PLATFORM WITH CRM

- B2B platform with additional CRM/ERP functionalities (*Smarsys partner*) to manage a park of installations and building for energy distributors, energy contractors, owners
- B2C platform to optimize PV self-consumption, secure revenue with diagnostics and alarms
- Web dashboard for the final user with personalized views
- Cloud computing services and database



Customers

- Grid Management** Energy distributors
- Micro-grid in Building** Owners, Energy contractors
- PV Plants** PV plant Owners, Energy contractors
- New PV technologies**

