



### Case study

## How Reuniwatt uses Copernicus to monitor solar power production

Reuniwatt is a start-up of about 15 people in La Reunion island which created **Soleka, which forecasts solar power production for electricity grid managers and photovoltaic (PV) electricity producers** in order to ease the introduction of renewable energies in the energy mix. Soleka can deliver forecasts with three different temporal horizons:

- T+30 min: using CAMS McClear
- H+6 hours: using 90% of data from Meteosat and a clear sky model using CAMS atmospheric parameters.
- H+24 hours: which will soon use CAMS raw data.

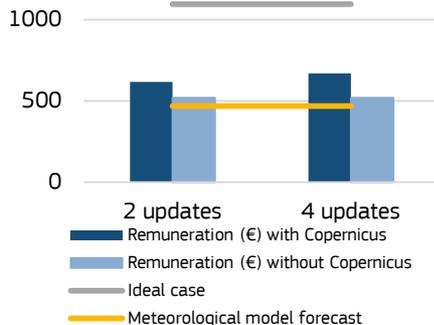
**Electricity grid managers must be able to make sure that supply and demand for electricity are equal at any time.**

However, solar power is an intermittent energy, which makes it highly dependable on the weather. Soleka makes this energy guaranteed and **enables the electricity grid operators to handle the commitments and dispatch generators for securing reserve in real-time.**

Reuniwatt has analysed the results of a fictional PV plant based on the data collected on the day of 8 April 2013 in Carpentras, south of France.

**Remuneration of the PV energy producer depending on the use or not of Copernicus data**

(Source: Cros, S., Buessler, E., Huet, L., Sébastien, N., Schmutz, N.(2015))



**15%**

costs reduction thanks to this Copernicus based service

Context

Project

Results

**Copernicus enabled revenues**



**PV electricity producers are legally bound to provide the electricity grid manager with forecasts 24 hours ahead of the production.**

Soleka forecasts provide crucial information for **minimising surcharges and regulatory penalties for PV electricity providers** which are held responsible for providing to the electricity grid operator the quantity of electricity they have forecast the day before.

Uncertainties of day-ahead forecasts increase with the time horizon so intraday forecast updates enables an anticipatory adjustment mechanism that reduces the cost of inaccurate forecasts. **Satellites, including Copernicus, provide data for the next 6 hours and thus, provide more reliable information than T+24 hours meteorological data based forecasts.**

Reuniwatt research demonstrates that the quality of forecasts increases significantly: **a classic clear sky model has an error rate of 6% whereas a clear sky model using real-time CAMS values has an error rate of 3%.**

This improved forecast can lead to a **2% increase of the PV energy producer remuneration.** Reuniwatt demonstrated that the use of Copernicus and satellite based forecasts **generates 50% more benefits than the traditional meteorological forecasts.**

**2%**  
additional revenues

**50%**  
improved forecasts accuracy