



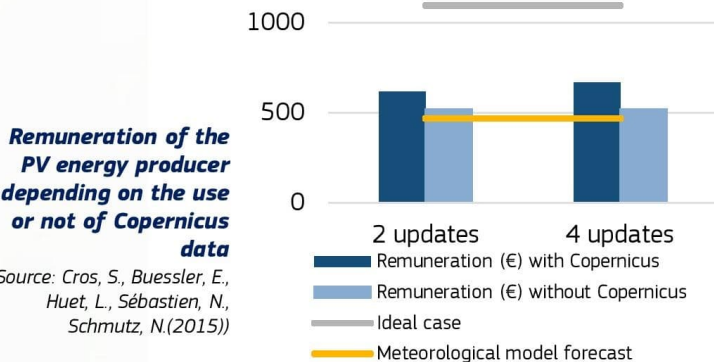
How Reuniwatt uses Copernicus to monitor solar power production

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.



(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

