

# FRENCH SOLAR PV PROJECTS - TBOX RTU's



## THE CHALLENGE

Small Solar PV farms are an important component of modern, environmentally friendly, distributed power systems. TBox RTU's have been used extensively in France to monitor system status and ensure continued green energy production.

Unlike large power plants operating in a single locale, solar farms can be distributed across large geographical areas, on rooftops in urban areas or in open fields in rural regions. This distribution of assets presents an interesting problem. Where large power plants have assets a few hundred meters from the control room, solar farms may be tens or hundreds of kilometres apart. This requires a new approach for the monitoring and management of power production and the regular collection of asset diagnostics

## THE SOLUTION

In France, Ovarro has been involved in the installation of over 250MW of solar PV power plants, spread across more than 30 sites. Each site can have up to 2,500 data points that a TBox RTU archives for billing purposes, analyses to verify production, and controls for safe operation.

Continuous access to data is critical, so the TBox RTU manages redundant communications channels to ensure connectivity, primarily ADSL with cellular (3G/4G) backup. Cybersecurity is provided by an integrated firewall that permits remote access to both the TBox and to other networked assets on each site.

In the event of a total communications failure, TBox RTU's also store data locally so that no critical data is ever lost. Both real time and historical data can be shared with multiple end users using a variety of different protocols, concurrently. Different parties have different data requirements, and TBox can service them all.



POWER



MONITORING  
& CONTROL



RTU'S



The TBox is, first and foremost, an RTU, capable of complete system monitoring and control with data shared to central control rooms and to local displays. The addition of secure access and direct from the RTU alerts to addition stake holders, such as site owners, investors, and local maintenance crews adds significantly to operational efficiency. TBox systems collect, store and securely share data with all interested parties allowing for efficient management of modern, green power generation systems and are therefore the ideal choice for distributed Solar PV systems.

## SUCCESS

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With such a widely distributed system, optimisation of maintenance operations is critical to profitability. The TBox is continuously self-checking, as well as collecting diagnostics data from all other site assets. If system degradation is identified, maintenance crews are notified, via SMS and email, directly from the RTU. Before travelling to site, crews can interrogate the TBox via the integrated web server to review site performance and identify potential faults so that they can prepare appropriate actions, required tools and relevant spare parts well in advance.

With real time diagnostics and remote access, maintenance crews can adopt a more efficient, performance based scheduling methodology, rather than run to failure or time based schedules.

## KEY DELIVERIBLES

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- Real Time monitoring and control of power generation
- Secure access to data by novice users
- Provided all stakeholders with the data they required
- Single device for all logging, comms, alarming I/O and local data presentation

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