



Shaping the future of professional PV monitoring

At PES, we thought it was time to discuss PV monitoring with Stefan Rensberg Head of Product Management at meteocontrol. Stefan has seen a big change in this area and is absolutely confident of its importance in the PV plant of today and tomorrow. Things have come a long way over the last 15 years and he is sure that data handling is the key for the future. Read on to find out more...



PES: We would like to know how you define photovoltaic monitoring?

SR: Building a solar plant is just the beginning, they also need to be operated, monitored, and maintained. Commercial PV systems regularly use a subscription component as a monitoring service as a part of the package. Monitoring systems are able to provide an abundance of information about the performance of a solar system. Additional sensors can assist in monitoring external conditions.

In a nutshell, photovoltaic monitoring makes it possible to monitor all of the PV plant components, in order to quickly detect malfunctions and to report them to the installer and the plant operator.

In the short term, PV monitoring helps you to detect when some element of the system isn't working properly, so you can correct the problem as soon as possible. When your monitoring system has been collecting data for several years, you will start to observe trends regarding solar output and efficiency. This enables you to use that information in order to optimize the system's overall performance, including the maintenance schedule.

Today's optimal monitoring systems consist of a manufacturer-independent monitoring device like meteocontrol's blue'Log® and a professional, independent monitoring portal like the VCOM Cloud. Last but not least, the monitoring portal itself should be equipped with an open interface for any source of external data.

PES: It is also known that professional monitoring software comes with a price. A lot of plant operators and EPC/installers around the world don't necessarily feel the urge to make that investment...

SR: One of the many decisions you'll be faced with regarding your solar power system is how to approach monitoring. Monitoring is a crucial component of any kind of system, and, if professionally implemented, will contribute largely to its overall cost and effectiveness.

Effective monitoring technologies compensate for the decentralized nature of remote power generation. It is a safeguard that quickly pays for itself. PV plant operators should definitely take the time to compare the different kind of systems before making their choice. Implementing a professional energy management solution is in my opinion always the best choice if you want secure your return on investment, because you invest in the longevity of your system.

PES: Would you always recommend a professional monitoring system for the return on investment of a PV plant?

SR: In the long term and for any kind of utility, commercial and industrial solar projects – definitely, yes. You'd want to operate your PV



Stefan Rensberg

PES: Hello Stefan, welcome back to PES. Could you begin by telling us a little bit about yourself.

Stefan Rensberg: I have been with meteocontrol in Augsburg, Germany for over 15 years and work there as head of product management, with a great team. As a product engineer, I started with the development of meteocontrol's first data logger WEB'log and the Safer'Sun monitoring portal.

I'd describe myself as being absolutely passionate about photovoltaics in general and especially about the possibilities that photovoltaic monitoring and data analytics offer. What stimulates me is being surrounded by people who create new ideas and innovations and share the vision of a better, cleaner future. Climate change really is a topic for every single day.



Control room at Raising Power where more than 1,500 plants around the world are monitored via VCOM Cloud

plant for twenty, thirty maybe even forty years. Over such time periods, undetected errors and malfunctions will potentially sum up to a significant yield loss.

Professional monitoring would detect these faults at an early stage. Additionally, and this should not be underestimated, at the same time monitoring makes any kind of project transparent, even to potential outsiders. In the event a photovoltaic project has to be sold, and this happens often enough, it certainly increases its value if you can provide a gapless documentation about its performance and its history.

Monitoring and control of photovoltaic systems are essential for reliable functioning and maximum yield of any solar electric system. Almost every installation comes with a monitoring device, because it's important to stay informed about what the system is producing and how well it's performing.

But is that enough? A professional system like the VCOM Cloud that is permanently being improved, is by far more sensitive with detecting and analyzing malfunctions.

Whether you are planning to use the solar energy to power your building, or to sell the extra energy to a utility company, you always need to be the first to know when something goes wrong, so you can quickly address the problem – while keeping on to derive a maximum benefit from your investment.

PES: Does a monitoring portal like meteocontrol's VCOM Cloud offer any other benefits to the end user?

SR: The number of monitored PV plants has grown consistently over the last couple of years. meteocontrol currently monitors 17GWp in 120 countries in the VCOM Cloud. Some of our competitors pride themselves with even higher GWp numbers, but I believe that in the end, there are other factors that have to be taken into account: such as the adaptability of the systems, the quality of the data and the included services, to be able to judge if a professional monitoring system suits your needs.

Independent software providers like ourselves make it possible to ingest large amounts of data and aggregate the

information regardless of the monitoring hardware.

Within our VCOM Cloud, we are able to give you the right information about what's happening and why, through a dedicated and flexible user interface. Added to which, we provide a comprehensive service ticket and workorder management to assist O&M managers with their needs.

Some of the basic benefits of adopting such systems include: optimizing production by ensuring minimum outages and downtime, managing asset warranty and maintenance for increasing asset life and reducing risk, ensuring the compliance with utility companies and regulation authorities, full control over the performance, production, operational issues and project risks.

In a nutshell, professional monitoring reduces the risk of downtime and malfunctions, in other words: yield losses. Thus, beside monitoring and O&M this is also important for the third stakeholder – the asset manager.

PES: Could you tell us what you think are the key issues in the future of PV monitoring?

SR: Over the coming years we will revolutionize today's monitoring. At first, we learned to collect and understand the data from any source, now it's time to use it.

Monitoring PV plants is losing the romance of the technical-driven attitude and this is the reason why we have to re-invent today's solutions: keep it simple and deliver results. Tomorrow's O&M experts will not be experts in handling tools, they will be experts in handling and using information. And the VCOM Cloud is best prepared to drive this change.

www.meteocontrol.com

