

Teaming up with the Sun

by Frank Schmidt

Against the background of fresh doubts about the safety of nuclear energy and our awareness of climate change caused by global CO₂ emissions, the search for alternative methods of energy is assuming new urgency. Alongside wind and geothermal sources, free solar power supplies our cleanest form of energy. Solar technology is "hot" as never before and photovoltaic systems are enjoying a lasting boom in Germany, where for many years the Renewable Energy Act (EEG) has guaranteed two decades of enhanced feed-in tariffs for the owners of new systems with an output of up to 30kW. The state subsidy offers an additional incentive to refinance a system. Optimizing the size of photovoltaic systems, and therefore their output, requires the latest technology: in solar energy and in surveying. Elektro Staudt offers its customers an outstanding service with the Leica Builder Total Station.

Elektro Staudt Installations-GmbH has operated from its Upper Bavarian base in Bruckmühl (near Rosenheim) for more than 30 years. In addition to traditional electrical work, Staudt has also made a name for itself in the region as a photovoltaic contractor, installing 2 megawatts of capacity a year. In the past,

quotations were often found to contain errors that could be traced back to incorrect roof shape information.

Roofs were measured using traditional methods: usually the client made drawings available that were often only of limited use, either because of undocumented design changes or because the owners had made alterations or extensions over the course of time. The survey was done as well as possible, a photo taken, the roof tiles counted, and, last but not least, the area estimated instead of precisely determined! All this had serious consequences both for the quotation phase with the customer and later during the installation, after the order had been won.

Frequently the quotation was based on too many or too few photovoltaic panels. "Often an error of a few centimeters is enough for a panel not to fit. Chimneys encroach, satellite dishes get in the way, and so on. All to the detriment of the capacity of the quoted system," explains Staudt. He was looking for a measuring system with which he could simply, quickly, and above all reliably, determine the available roof area. After trying out various methods, he turned to the Munich-based Leica Geosystems agent Vermex.

A demonstration on site at the premises of one of his customers was enough for Josef Staudt to appreciate



the possibilities offered by the Leica Builder. By the time he left the site, he had made himself familiar with the instrument's simple and logical operation. With reflectorless distance measurement and user-friendly programs at his disposal, all Staudt has to do is capture the corner points of the roof from the eaves to the ridge to immediately obtain the area and even the inclination of the roof.

Staudt also uses the Leica Builder to pick up other objects in the vicinity of the measured roof. For example, there may be tall trees, houses, or chimneys that could cast shadows on the photovoltaic panels and therefore reduce the system's theoretical output. Staudt can take this information into account and advise his customers. Even the height of trees can be quickly and precisely determined using the instrument's integrated measuring program, without the need to clamber over the roof. Staudt: "Safety is paramount for us. With the Leica Builder, we can measure safely from the ground."

Staudt stores the captured data in the instrument and transfers it to his Smartphone. From there he

sends the data directly to the office, where the quotation can be completed in the shortest possible time.

"The Leica Builder has been excellent from day one – quick, simple, and safe. I no longer have errors in my dimensions," says Staudt, who is happy enough to share the Leica Builder with his two sons for the moment – but it won't be long before a second Leica Builder appears on the company's books. Quotations are now more reliable and correspond to the actual roof area, which also simplifies the work on site. Delivering too few or too many modules for the available roof area to a site is now a thing of the past. ■

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