aurora

How Aurora Powers the Solar Industry with Accuracy

AT-A-GLANCE

Aurora Solar has pioneered several industry-leading features, including automated PV system design, the use of computer vision to enhance the accuracy of remote site assessment, LIDAR-based shade analysis, and AI-assisted 3D modeling. Aurora's proprietary measurement and modeling technologies have been widely validated by industry-trusted institutions such as the U.S. Department of Energy's National Renewable Energy Laboratory (NREL).

ACCURACY WITHOUT THE TRUCK ROLL

Aurora enables installers to create a highly accurate solar design without having to visit the site, saving time and money during the quoting process. Aurora can accurately measure roof slope, roof edge lengths, and other distances to deliver remote spatial measurements that are statistically equivalent to actual on-site measurements (i.e., a deviation of less than 1.5 feet for edge lengths and 5 degrees for slope measurements).

Read more: NREL's Evaluation of Aurora Solar's Remote Measurement Capabilities

AURORA HORIZON SHADING

Aurora Solar pioneered the calculation of **horizon shading** in solar software to enable the automatic modeling of shade due to the terrain surrounding a site. With horizon shading, installers no longer need to import terrain data to get more accurate assessment of shading and improved solar production estimates.
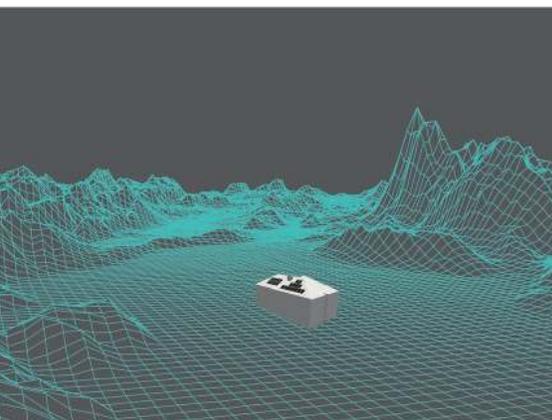
SHADE REPORTS YOU CAN TAKE TO THE BANK

Aurora's powerful shading engine produces a high-res remote shading analysis that is statistically equivalent to on-site measurements (within +/-3% of on-site shade measurements (with LIDAR). **Read more: NREL's Evaluation of the Aurora Application Shade Measurement Accuracy**

Aurora's shade reports have been validated by all major rebate and lease financing authorities including:

Aurora was also the first to be approved by the California Energy Commission as a trusted solar assessment tool to verify shading conditions for compliance with the California Title 24 solar mandate.

BETTER FORECASTING THROUGH ENHANCED MODELING

Due to the impact of shading, modeling solar designs at the module level can have an appreciable impact on energy production results, and therefore expected financial returns. Aurora's performance simulation engine models at the submodule level, that is, every cell string is treated as an equivalent circuit. The engine takes into account the location of diodes within a module, in order to capture the performance implications of the partial shading. Aurora performance simulation considers the exact stringing configuration of the design. It also exactly captures the series and parallel mismatch due to partial shading, string lengths, etc.

This simulation captures the performance differences of various module types, DC optimizers, string vs. central inverters, cell string-level power electronics, and bypass diodes.

ABOUT AURORA SOLAR

Aurora is widely recognized as the solar industry's leading solution for designing and selling distributed solar and storage projects anywhere around the world. We're transforming the process of how distributed solar is designed and sold, paving the way for scalability and cost reduction. Our clients include 8 out of the top 10 largest residential solar companies in the U.S., and several publicly traded companies around the world. Several patents have also been issued for our technology. To date, more than 4 million solar projects have been designed in Aurora.

Learn more: aurorasolar.com

SunShot U.S. Department of Energy	LEADERSHIP IN SOLAR ENERGY Solar Power World	LEADERSHIP IN SOLAR ENERGY Solar Power World	LEADERSHIP IN SOLAR ENERGY Solar Power World	S&P Global Platts Global Energy Awards
2x Grant Recipient	2016	2018	2019	2020 Winner