



Solar Resource Services

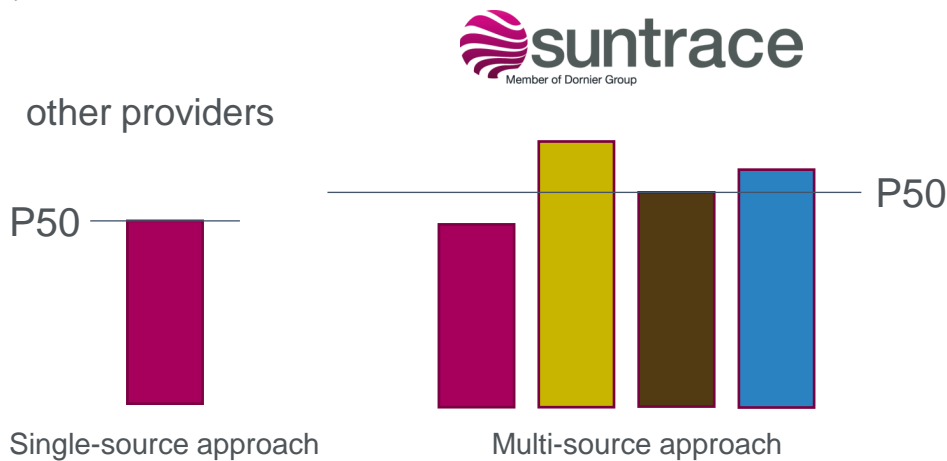
Suntrace Provides

- Cost-effective solar resource assessments (SRA) from high-level project screening to bankable expert opinions for PV, floating PV and CSP projects
- Reduction of uncertainty through our step-wise solar resource assessment approach providing a trustful base for the entire project development
- Sophisticated on-site measurement solutions with our **HelioScale** stations

- ✓ On-site Measurement Solutions
- ✓ Solar Resource Assessments
- ✓ Site Screening & Selection

Solar Resource Assessments (SRA)

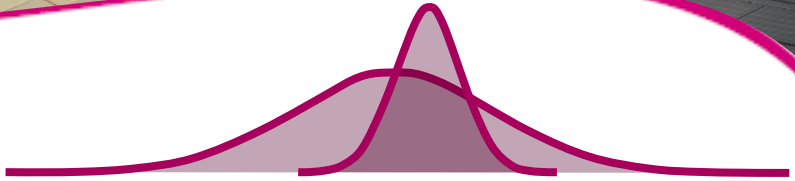
Assessing the solar irradiation and its uncertainty at a site is a crucial aspect of each feasibility study. Inaccurate estimates can lead to severe consequences. Quality is what we offer.



Our SRAs are based on multiple, representative sources – providing most reliable data to your project with reduced chances of under- or overestimation of solar irradiation.

Selected Credentials

- Installation & operation of >200 measurements stations worldwide
- Standardising and benchmarking of satellite-derived and measured solar radiation products for IEA and IEC
- Solar mapping and monitoring with the MNRE/giz SolMap Project in India
- Support solar resource mapping for World Bank ESMAP in Vietnam, Maldives & Bangladesh
- Professional trainings and lectures on solar resource worldwide
- Solar resource assessments from pre-feasibility to successful due diligence
- Solar resource assessments for PV, CSP & Floating PV projects

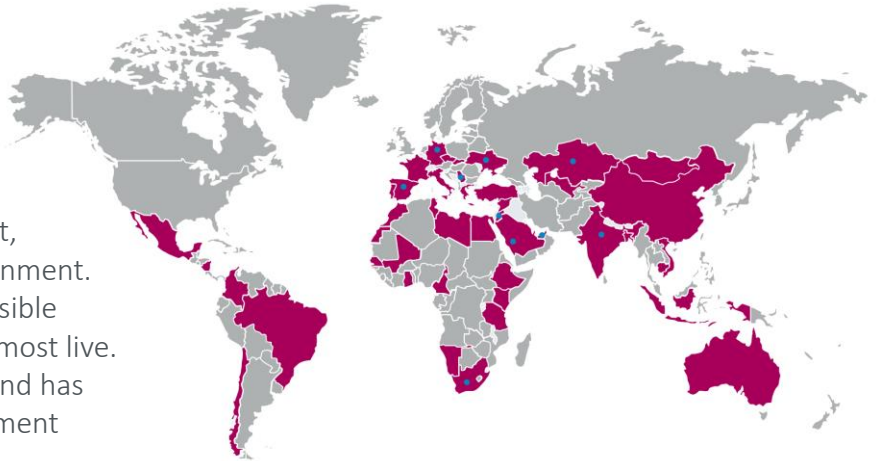


For PV, floating PV & CSP yield the strongest impact on uncertainty originates from solar resource uncertainty. During the early stages of project development, the solar resource uncertainty of an initial estimation can reach 10% and more. Through our step-wise approach by assessing multiple satellite sources for long-term best-estimates and considering highly accurate ground-based measurements, we significantly reduce this uncertainty. In turn, this mitigative approach establishes a reliable and trustworthy base that is crucial for bankability and investment of the project. A thorough assessment in combination with high-quality on-site measurements may reduce uncertainty down to 2% - and in turn will increase the P90 best estimate by about 2.5%. Such an improvement may increase Net Present Value by up to 200.00 EUR each 10 MW.

By offering both on-site measurement campaigns and independent SRA, Suntrace is your ideal partner for all activities related to your project.

On-site Measurements

With our HelioScale series, we provide solar measurement stations for project development and operation. The self-sufficient, reliable systems can be deployed in any environment. Data and station performance are made accessible through a secure and individual WebAccess almost live. Today, Suntrace has a strong global footprint and has successfully completed various solar measurement campaigns of perennial duration.



HelioScale

Solar Measurement Solutions

- Installation and commissioning
- Maintenance and remote station operation
- Data validation and quality assurance
- Unique on-board ROC calibration – reduced delivery time
- Reporting & near-to-live data access
- Project specific solutions for solar radiation, ambient conditions, soiling, corrosion and wind
- Measurement campaigns for market development
- Remote Station Installation – Installation independent from travel restrictions



HelioScale ω
Tier 1 standard



HelioScale φ
Tier 2 standard



HelioScale α
Tier 3 standard

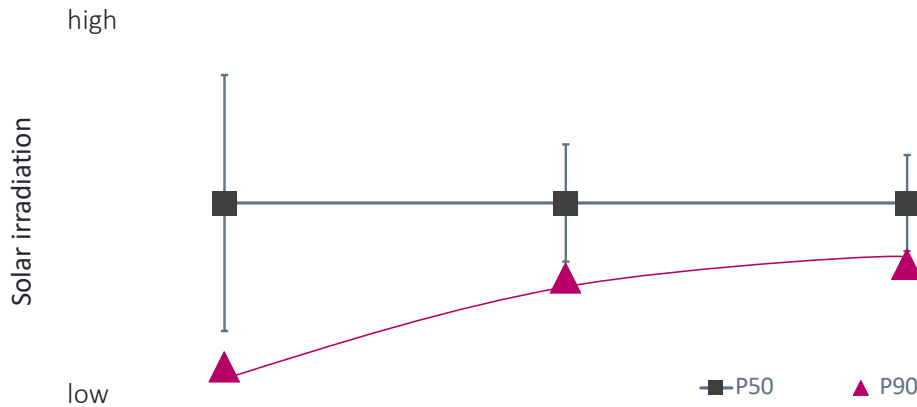
+ Station Add-Ons

Surface Reflectance • Wind • Soiling • Rain • Corrosion



Our SRA Products

Reducing uncertainties through Suntrace's step-wise solar resource assessment approach.



	Pre-feasibility	Feasibility & Site qualification	Due diligence
	initial SRA	full SRA	expert SRA
included	<ul style="list-style-type: none"> • Cost-efficient initial estimate based on multiple satellite sources • For site selection & technology selection • Expected delivery in 3 days 	<ul style="list-style-type: none"> • Extensive assessment of multiple high-res sources for solar resource • For design optimisation & energy yield assessment • Feasibility studies • Detailed uncertainty analysis • One Typical Meteorological Year (TMY) • Expected delivery in 1 week 	<ul style="list-style-type: none"> • High-res solar resource assessment and optimized accuracy • For final design & detailed profitability assessments, operation & management • Ideal for bankability & due diligence • Very detailed analysis of solar resources and atmospheric conditions by a meteorologist • Detailed risk analysis • One Typical Meteorological Year (TMY) • Expected delivery in 2 weeks
Add-on	<ul style="list-style-type: none"> • Satellite-based albedo analysis with monthly albedo values 	<ul style="list-style-type: none"> • Adaption of satellite data based on on-site measurements • Satellite based albedo analysis with daily albedo values 	<ul style="list-style-type: none"> • Adaption of satellite data based on on-site measurements in the vicinity of the site • Estimation of extreme weather risks • Special requests