

TUV India – Solar PV Plant Assessment using Unmanned Aerial Vehicle (DRONE)



Unmanned Aerial Vehicle (Drone) Assessment

A drone, in a technological context, is an unmanned aerial vehicle. Essentially, a drone is a flying robot. The aircrafts may be remotely controlled and can fly autonomously through software-controlled flight plans in their embedded systems working in conjunction with on-board sensors and GPS. Drone inspection is accurate, safer and quicker.

Drone Assessment in Solar PV Plant

With a lot of technological advancement and continuous research, the emphasis lies on making solar power plant more cost effective, rolling out the project in a time-bound manner to ensure quick return on investment. Thus the application of a drone for Solar PV Power Project like assessment of design, site assessment, construction, operations & maintenance of Solar Power Plants is playing a very critical role and in a way revolutionizing the overall project approach and implementation.

TUV India's UAV based services

Site assessment

UAV used for the assessing the site for terrain conditions, topographical survey, drainage survey, high and low of land flooding, obstacles, boundary layout marking, shaded free areas.

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Assessment during construction of the projects

Dimensions of the pile foundation, module mounting depth of trench, pile foundation & alignment / tilt angle, Dimension Module Mounting structure (MMS) and diagonal distance measurements, inverter room and polling substation coordinates and allied assessments.

Assessment after the construction of the project

Validation of the projects of lay out string and array and MMS, Cable trench, Transformer and Transmission line and visual inspection of PV modules including entire plant.



Operational & Maintenance assessment using Infrared Camera

Assessment of the degradation of PV modules (hotspots, cracks), aging, malfunction, breakdown, AC / DC cable & inverter transformer thermal image and related assessments

Customers:

- Solar Projects Developers
- Independent Power Producers
- Bankers
- EPC contractor

Benefits to Customers:

- Assessment of the suitability of the site
- Reliable data of the equipment, installation, operational maintenance and performance
- Time saving
- Cost Saving