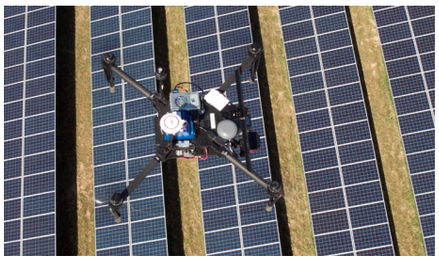
abovesurveying
aerial thermographic surveying

Going above and beyond

Drones are now driving data collection in the solar sector and becoming a fundamental part of asset management

PV Tech caught up with Will Hitchcock, Managing Director and founder of Above Surveying Ltd, a leader in the field of aerial data and asset analytics within the solar industry. UK-based Above Surveying was established in 2015, having recognised that PR measurement and string monitoring alone did not give the full picture of a solar asset's health and that there was an urgent need in the market for large-scale thermographic inspection and analysis.

Above Surveying was the first company to develop a service which was able to deliver accurately and consistently at scale using drone-collected data - unique, in that it measures irradiance and not just imagery-plus a scientific approach to data analysis, coupled with easy-to-navigate reporting.



"We fix an industry dilemma"

Will Hitchcock sets out their vision, "We quickly recognised that this is not just about the drone's capability to survey solar on a much larger scale than was previously possible. It's about fixing a much wider industry dilemma – how do you deliver detailed, consistent and cost effective 100% module thermography across utility scale solar? And even more importantly, how do you report your findings in a way that can be easily digested and effectively used to improve the performance of the asset?

It was with this in mind that we developed our service, complete with a bespoke reporting portal, SolarGain, using exciting, innovative technology to deliver both of these requirements in a single market offering."

Above Surveying works with all areas of solar ownership and management, including technical advisors and O&M companies. As a result, 100% thermographic inspections are now becoming an integral part of solar asset management. This is key to ensuring that the asset is achieving optimum performance and delivering maximum yield.

Having delivered 2.5GW of inspections to date, Above Surveying is now offering its services in Italy, Spain, the US and Australia through a growing partnership network. Will Hitchcock explains that by working with all areas of solar ownership and management their approach is driving higher standards across the industry,

"The level of systemic issues we are seeing across the UK asset estate, such as PID, bus bar corrosion and faulty junction boxes, means that even if your asset is hitting its PR targets, such technical problems can already be impacting performance and yield. Identifying and rectifying these issues early is vital if your asset is going to deliver financially for its full life."

Through the SolarGain portal and mobile apps, Above Surveying's clients can interact with the inspection data, whether at their desks or on-site using smart devices. Every reported anomaly can be recorded and managed, along with follow-up testing and rectification work.

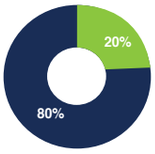
"We have real evidence that our service is driving higher standards in asset management"

Data driven analytics

Will Hitchcock explains, "The quality of our data and our impartiality is the key to our success. We report what we find – good and bad. But crucially we give our clients the ability to easily access and use this data as well as being able to pinpoint a problem right down to the cell level. This data driven level of accuracy and the ability to compare performance across different assets and time periods means that, with a regular programme of inspections, our clients can anticipate and rectify problems quickly, thereby maximising their asset's performance."

Above Surveying's service has been used to map both the spread, and more positively, the recovery of PID impacted assets, demonstrating the way in which quantitative analysis can be derived from drone collected data. On one asset, 82% PID recovery was recorded since reversal units were fitted 9 months prior.

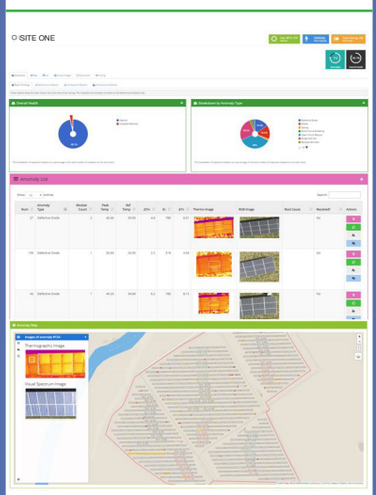
20% of assets are showing early signs of PID.

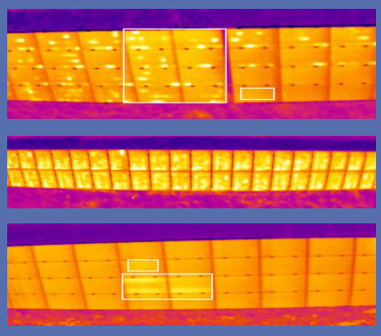


Above Surveying is working with the very latest technologies to continue to develop their offering and ensure that it remains at the forefront of this rapidly evolving market.

Will Hitchcock concludes: "We are currently working in partnership with the University of Essex and Innovate UK to develop automation across the whole inspection process using computer vision and AI. This is what makes working in solar so exciting; the potential of this technology, the knowledge that you are constantly breaking new ground and the fact that these advancements are driving higher standards in a vibrant sector. I envisage exciting times ahead."

SolarGain
INSPECTION HUB





231 solar assets inspected

29 module manufacturers covered

125MWh/Yr. estimated losses for a 10MW Site

2.5 GW inspected

8.53 million modules inspected

205k modules with anomalies identified

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