

VISUAL AI FOR UTILITY-SCALE SOLAR ASSET MANAGEMENT

As utility-scale solar rapidly expands, it's becoming more challenging to keep these high-value solar assets performing at their peak. To respond, utilities are modernizing solar inspection processes with drones, thermal imagery and AI-enabled software.

Buzz Solutions PowerAI is a software platform that allows electric utilities to quickly identify anomalies and defects in solar panels from inspection imagery. With these insights, utilities can promptly make repairs to remedy underperforming solar arrays.

How it works



Seamless Data Ingestion

PowerAI can quickly ingest images from a range of drone platforms.



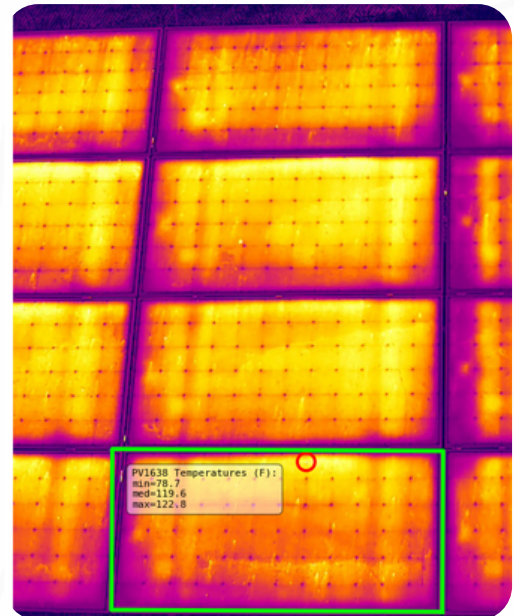
GIS-Driven Mapping

PowerAI integrates with Esri ArcGIS providing a geospatial framework for inspection imagery.



Anomaly Detections

PowerAI identifies abnormal thermal signatures in panels, connectors, combiner boxes and inverters. It also allows inspectors to identify and label visible defects such as cracked panels, damaged cells, broken connectors, and vegetation encroachment.






THERMAL ANOMALIES IN LOWER RIGHT SOLAR PANEL

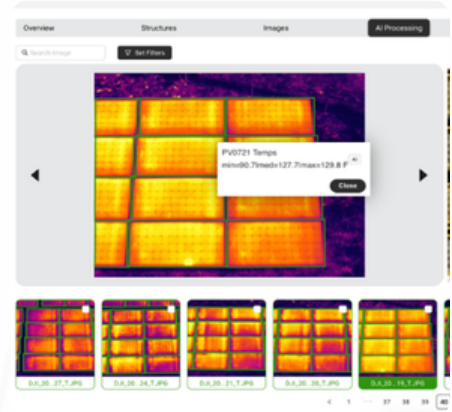


VEGETATION ENCROACHMENT AT THE BOTTOM OF PANELS

MAXIMIZE PERFORMANCE OF SOLAR ASSETS

Make solar inspections more thorough, more frequent, and more automated

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Human-in-the-loop (HITL) review - With built-in HITL review tools, subject matter experts can easily validate AI findings
- 
Reporting - PowerAI provides configurable reports that convey inspection results clearly to stakeholders
- 
Flexible Integrations - Using robust APIs, PowerAI integrates inspection results with work order and asset management systems



286

WORKDAYS SAVED

Labor savings are for automating analysis of images for a **500 MW solar installation**.

20-40%

COST SAVINGS

O&M costs for outage related work, including truck rolls, are **reduced by 20-40%**.

\$7.4M

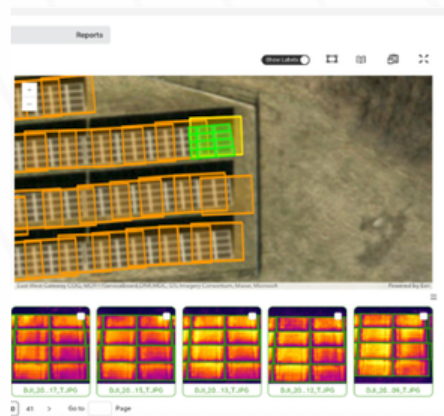
ADDITIONAL REVENUE

For a 500 MW solar farm, a **5% increase in output** represents \$7.4 million in additional revenue per year.



Benefits of PowerAI for Solar Inspections

- ▶ Improved reliability with more proactive maintenance
- ▶ Increased inspector efficiency with scalable inspections
- ▶ Higher solar performance
- ▶ Automated reporting
- ▶ Reduced truck rolls
- ▶ More defects found during warranty period



POWERAI DISPLAYING THERMAL DATA