



WORK

for Site Work Management

Leading solar EPC uses WORK, the map-based, end-to-end site work management feature of the SenseHawk Solar Digitization Platform, for defect remediation at the end of each phase of construction of its site, to ensure the expected energy yields and a smooth handoff to the asset owner.

Solar Digitization Platform or SDP

VISUALIZE, MANAGE, TRACK, COLLABORATE & REMEDIATE with a single asset-centric platform that mirrors the reality of your project.

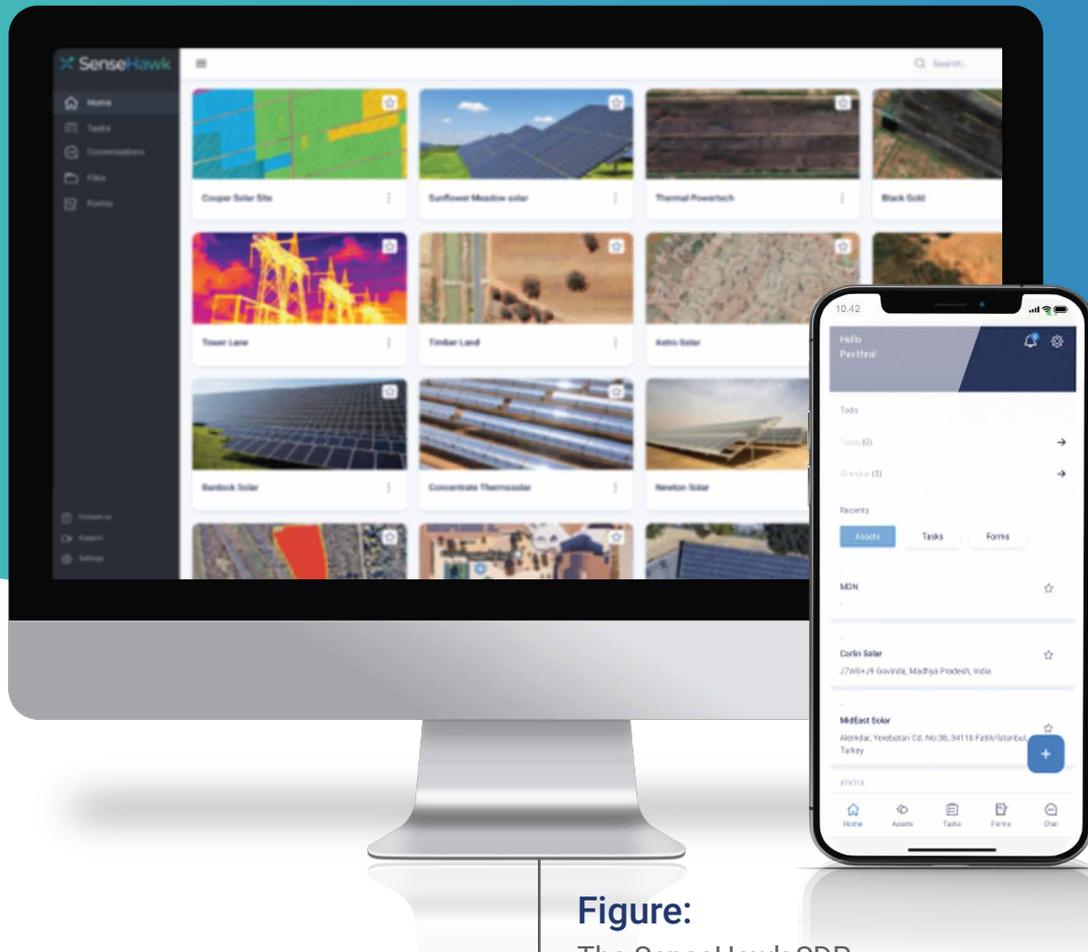


Figure:
The SenseHawk SDP,
accessible on web
and mobile

SenseHawk SDP Features

Custom-built for Solar, the SenseHawk SDP offers powerful features for every stage of your asset lifecycle. Built around an intelligent system model, the SenseHawk SDP keeps you in the KNOW, helps you BUILD, moves WORK forward, lets your teams COLLAB, and allows you to OBSERVE and remediate asset issues.

100+
GIGAWATTS

600+
SITES

20+
COUNTRIES

100+
CUSTOMERS

KNOW

Actionable insights for planning your site

Actionable insights into site planning. Location-specific views & data on in-built GIS that integrates layered inputs from SRTM, ALTA, & other surveys.

OBSERVE

Drive remediation and never miss a defect

Get alerted to hotspots, see classified hotspot types, view defect locations, & schedule remediation tasks. Evaluate energy loss & track defects over time.



BUILD

Full-featured solar construction management

Construction management suite to schedule projects, assign jobs, build workflows, configure quality controls, digitize documentation, & unify onsite & stakeholder reporting.



AIM

Asset Information Model

System model of your asset's digital twin



COLLAB

All you need to keep your teams in the know

Real-time coordination with job sites on desktop & mobile app to enable timely access to information, contextual communication, & notifications.



GO

The map-powered app that works offline

Mobile app to navigate to a task or location of a defect. Attach observations, photos, videos, or forms and chat with the team. Work offline & sync when connected.

WORK

Map-based, end-to-end site work management

Tracking & scheduling of work using forms, tasks, & workflows. Field-friendly mobile app for onsite teams with built-in map views overlaid on asset data from AIM.

User Interface For The SDP WORK Feature



TASKS

View assigned tasks, checklists, forms, and templates; get the additional information required to close the job; access updates or attachments.



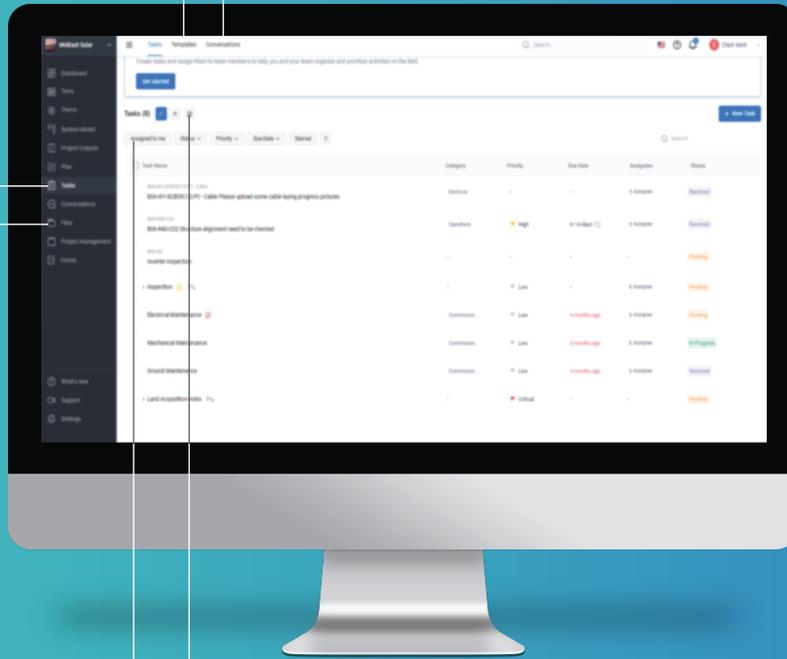
TEMPLATES

Simplify process oversight with structured data captured in templated digital forms.



CONVERSATIONS

Use in-line chat for contextual messaging intrinsically linked to each task and checklist.



FILES

Get secure access to required plans, drawings, or files without having to waste time searching.



FILTERS

Use filters to view tasks, forms, and defects by assignee, status, priority, or due date.



VIEWS

Access tasks as List, Kanban, and Calendar views to efficiently address them based on their assigned priority or due date.

Case Study

The WORK feature of the SDP helps automate data capture and workflows, ease task and team tracking, and keep crews informed about their schedules. Read on for a specific use case where a leading solar EPC uses WORK to prioritize and remediate thermal defects at its under-construction utility-scale solar generation & storage project.

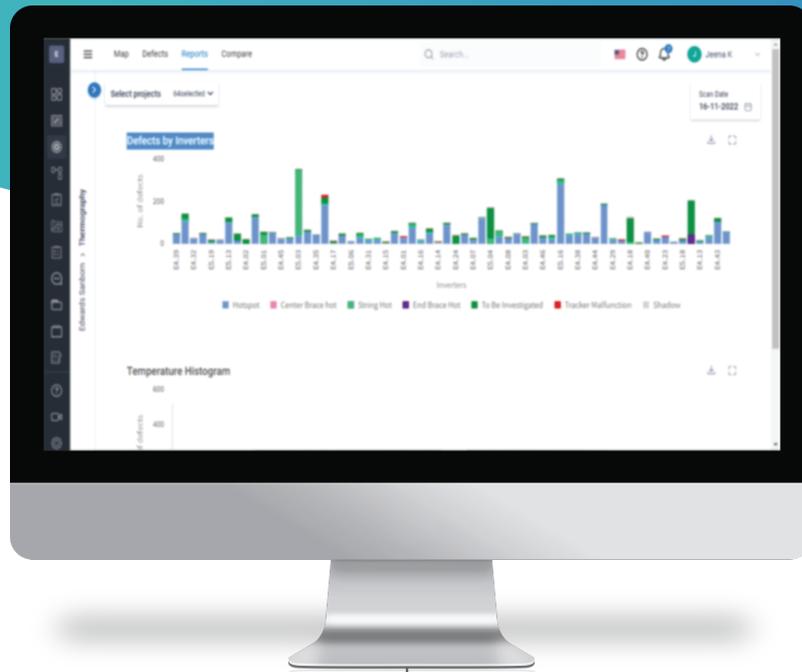


Figure:
Comprehensive reports of thermal defects and component information to remediation status, warranties, and claims

At a Glance

- ✘ A leading US EPC is constructing a utility-scale solar generation & storage project in phases and wants to identify and remediate installation defects at the end of every phase.
- ✘ SenseHawk suggests using OBSERVE and WORK, the defect detection and integrated task remediation feature of the SDP, to accurately identify, classify, and prioritize thermal anomalies for remediation.
- ✘ The EPC speeds up remediation with the combination of defect detection and task. This results in over 4% increase in the yield forecast.

The Client Requirement

A leading solar engineering, procurement, and construction (EPC) contractor has a construction project underway. The integrated solar and battery energy storage mega project, spread across 6000 acres, will have nearly 2.5 million photovoltaic (PV) modules installed when completed. The construction is scheduled in phases, and the EPC wants to identify and address installation defects in the modules at the end of each phase.

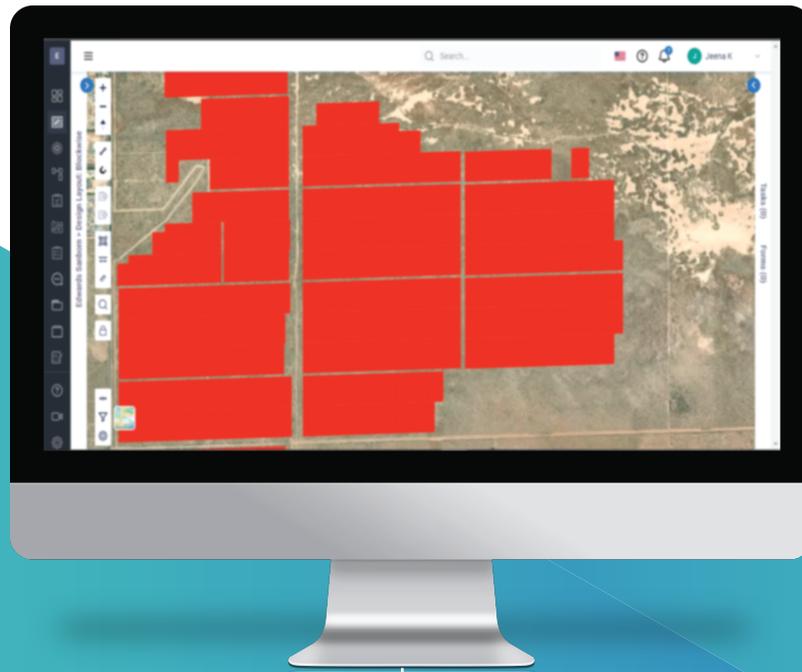


Figure:
Design layout of the site on a map

Tackling mechanical and electrical defects in the solar modules in lock-step with the construction schedule will ensure that commissioning happens on time and the solar modules are generating power at optimal capacity from the start. With the first phase completed, the EPC wants an assessment of the thermal anomalies.

Now, using conventional methods, such as handheld thermography devices, to identify and classify thermal defects will take time and require a large crew on the ground. Further, the generated reports are often unhelpful for field engineers, who struggle to decipher the table/string number and locate the defect on vast solar fields. Poor onsite connectivity on remote sites can also make data recording difficult.

SenseHawk's Proposal

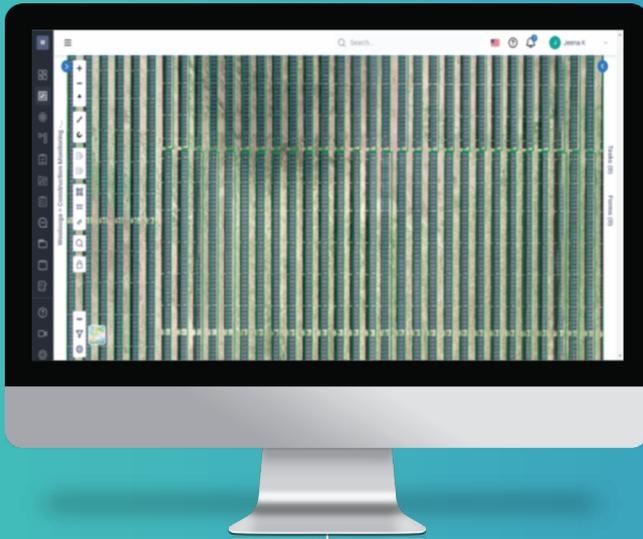


Figure:
Digital model of
the site created
on the SDP

SenseHawk recommends using the SDP to generate a complete list of defects in the area being assessed and then using the WORK feature for swift remedial action. WORK allows for task and workflow automation, structured capture of data using digital forms, and sign-off at every stage by the right teams to take activities to closure and enable smoother handoffs.

The fieldworker-friendly mobile app, GO, helps onsite crews easily view their daily tasks by priority, create tasks, receive app and email notifications, view checklists, attachments, and forms, track time spent on each task, navigate to defect locations, create status updates, and attach photographs and videos using their smart devices. They can use Files to access centralized site information.

The mobile app can be used with an integrated barcode scanner to capture module serial numbers even in offline mode, which syncs automatically when connectivity is restored.

The project is onboarded to the SDP and a GIS-based digital site model that incorporates data from multiple sources is created using AIM. The digital model encompasses all the logical and hierarchical connections made on the physical site. Next, scans are taken, using infrared (IR)-equipped drones to develop a thermographic map to layer on the digital site model. Aerial thermography is faster, requires a smaller crew, and helps gather more accurate data when compared to conventional handheld thermographic devices.

Proprietary machine learning (ML)-based algorithms are then used to analyze the imagery and identify, map, and classify thermal defects based on their severity and the probable cause. WORK automatically generates tickets for each identified defect and prioritizes them by issue severity. Interactive map-based views of the defects can be viewed on both the desktop and mobile apps. Custom lists can be created for downloads and sharing.

The EPC can now quickly identify defects caused by mechanical or electrical issues, such as string heat, string short circuits, tracker malfunctions, or cracked modules, and assign them to appropriate teams for immediate action.

The Impact

With WORK, the EPC is able to detect all the hotspots in the just-completed phase of the project. The thermal scans initially indicate a large number (over 53,000) of "cell failure" defects that are eligible for warranty claims. However, field investigation reveals that over 60% of these cell failure defects are, in fact, light visible through scribes.

Classified as benign, it is established that this defect type does not affect module performance.

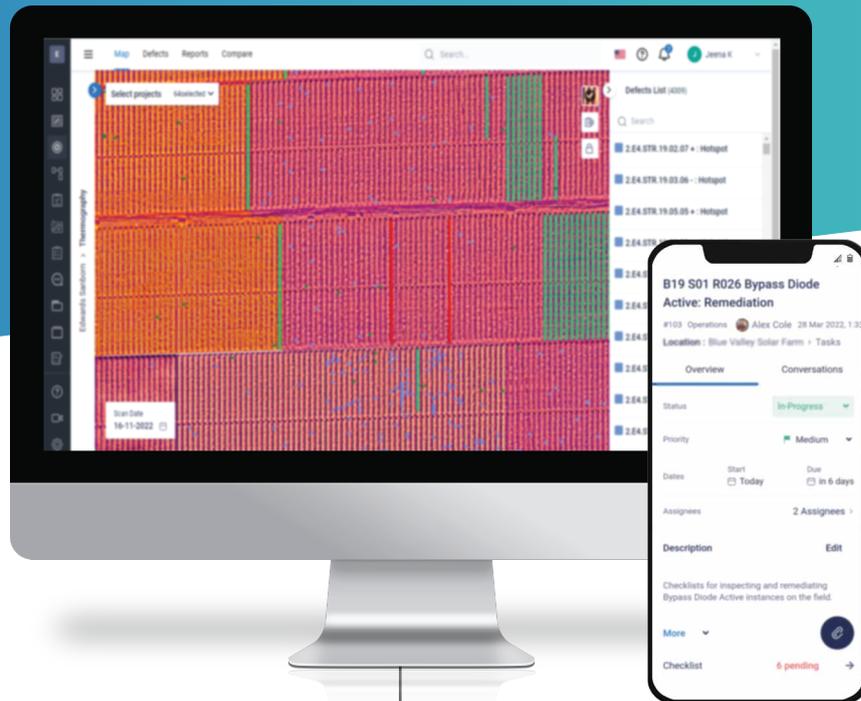


Figure:
Thermal map view displaying hotspots and the automatically generated tickets to be assigned for further investigation and updates

Figure:
Mobile view of an open task with details

The EPC reclassifies these defects on the SDP, drastically narrowing down the list of defects they need to address. The tickets are assigned to field teams for remediation. The task and filtered defect reports include hotspot locations, string numbers, temperature deltas, and defect classification, among other useful details for the onsite crews.

Using GO, onsite teams easily navigate to each task location, access related checklists and files, remediate, fill out reports, attach photographs, record component replacement data, if any, and update the serial numbers. The mobile app and the integrated barcode scanner to capture module serial numbers, work offline as well and sync to the cloud when connectivity is restored.

With WORK, the EPC is able to reduce defect remediation times and enhance the yield forecast by over 4%. It is also able to effortlessly share a list with the asset owner for warranty claims.

Effortless Task Management with WORK

The EPC building this project is known for quality and timely delivery. By deploying the SenseHawk SDP for defect detection and remediation at the site, it is able to stay on track with the construction schedule and ensure optimum yield for the asset owner. Once the site defects are mapped on the platform, WORK simplifies remediation and reporting.

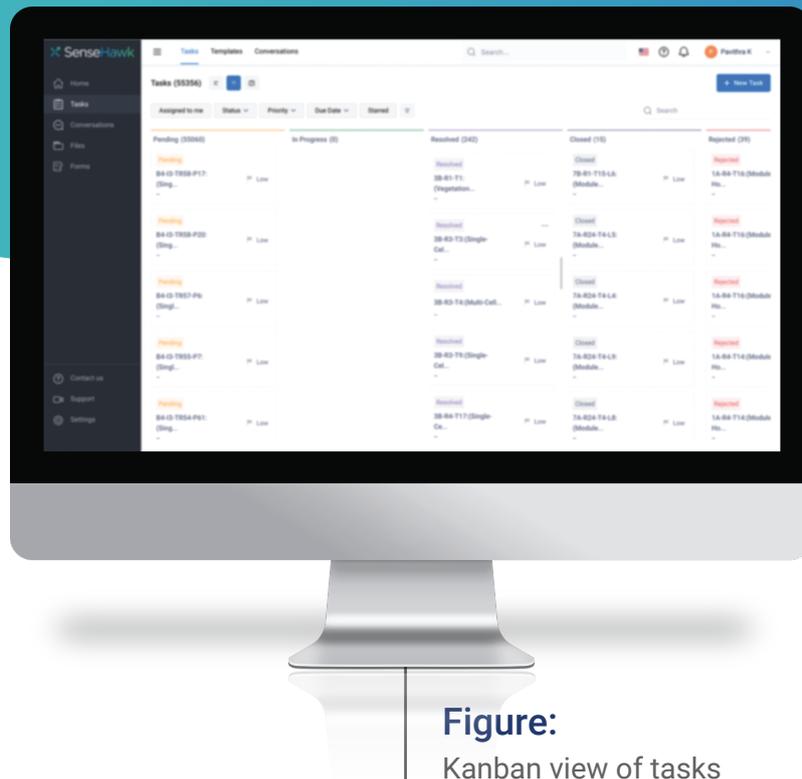


Figure:
Kanban view of tasks arranged by priority

Managers can use WORK to add tasks and checklists anywhere on the digital map view of the site, automate workflows and reporting, better manage risk by capturing data at the source, track workplace safety, and create proofs-of-record. Recurring tasks can be templated; task details such as assignee, status, priority, due date, and attachments can be easily updated; and task lists can be filtered and downloaded in shareable CSV and PDF formats. Using the fieldworker-friendly mobile app, with in-built map views and component details, onsite workers can efficiently remediate issues and create instant updates.

WORK simplifies jobsite management by tracking multiple teams and individuals. With the SDP, the EPC is able to detect and resolve issues faster at the end of each stage of construction of the massive project. The EPC is also able to provide the asset owner with a list of defective modules to support timely field investigations and warranty claims.

About WORK

The WORK feature of the SenseHawk SDP enables end-to-end work management at solar sites. Users can create and assign map-based tasks, tag feature-rich digital forms and checklists to tasks, automate workflows, track teams and individuals, and keep them informed of their schedules. The field-friendly mobile app empowers onsite crews with built-in map views enriched with asset data from AIM.

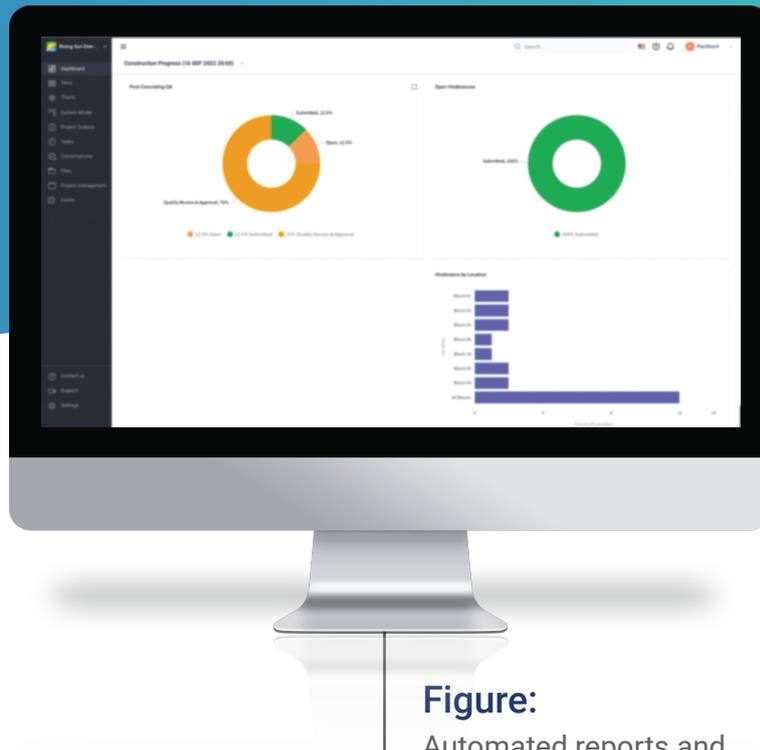


Figure:
Automated reports and customizable dashboards for easy access to progress updates

Managers can use WORK to create and share geo-referenced work items from the work breakdown schedule (WBS), project plans, supervisory control and data acquisition (SCADA) alarms, or maintenance schedules. Desk teams can create tasks, add digital forms and checklists, automate workflows, ensure the right teams sign off at each stage of work completion, and review and sign off on submissions from the field teams.

Onsite crews can access assigned tasks on their mobile devices, create new tasks, navigate to task locations, access critical documents, chat using text, voice, or video to get expert help, update remediation status, and add observations or attachments. Map-based ticketing also drastically reduces the onboarding time for field technicians. With WORK, collaborating and managing work, taking it to closure, and handing it off after completion are easier than ever.



About SenseHawk

SenseHawk is an early-stage California-based developer of software-based management tools for the solar energy generation industry with operations in the United States, the UAE, and India. SenseHawk's Solar Digitization Platform (SDP) SaaS helps with process optimization, automation, and asset information management. The SDP enables yield improvement, defect identification, progress monitoring, productivity enhancement, cost reduction, collaboration, and data management throughout the solar lifecycle. From development and construction, through operations and maintenance, SenseHawk software has been deployed on 600+ solar sites worldwide.



For more details, media contacts can drop an email to **contact@sensehawk.com**

 www.sensehawk.com