

A single Ogier Electronics Scan-360 radar mated with a 360 Vision Technology “Predator” PTZ camera provides complete coverage of the entire 1 megawatt solar farm, reducing cost compared to traditional fixed CCTV cameras. The solar farm was constructed by Vartec EPC for Lowther Renewables, to help offset the carbon footprint of their parent company, AJ Lowther & Son, a steelwork fabricator located in Ross-on-Wye, Herefordshire.



Close-up view of the Scan-360 radar integrated with Predator camera



Lowther Renewables required coverage of the entire solar farm and it would normally have required several traditional security cameras to provide adequate surveillance coverage which would have been prohibitively expensive. However, we were able to negate the need to install several surveillance cameras by specifying one 360 Vision Predator Radar camera unit to cover the same area.

Craig Vardy, Managing Director, Vartec

A single co-located camera and radar drastically simplifies ground works, power distribution, installation and commissioning compared to multiple sensors or cameras in different locations around a site. For this application, installing the radar at height aids detection of intruders by reducing obscuration, giving improved line-of-sight over the top of the panels.



During commissioning, the extent of the detection area was defined using the radar's graphical interface by simply drawing the boundary on a map. The radar uses built-in GPS to determine its location then automatically downloads the appropriate map from the Internet. The camera alignment was set to ensure the Predator camera would point in the correct direction when controlled by the Scan-360 radar: the camera was steered manually then the camera aim point was identified by clicking on the map in the corresponding location. The entire setup process was quick and straightforward.



The radar and camera can be seen on the camera pole in the bottom left corner

On this site the Scan-360 radar is set to automatically aim the Predator camera at intruders. It sends an alarm to the NX Witness VMS via an I/O module. The VMS then passes this alarm on to the Sentinel alarm management platform at the Doncaster Security Operations Centre (DSOC). At DSOC the operators are shown live camera footage to aid determination of the cause of the alarm. Operators can then choose an appropriate pre-defined action to give a rapid response to the situation. If necessary, the recorded footage can be used later as evidence.

The Scan-360 has additional features to aid operators, such as a live map display to show the position of the incident in relation to the whole site. This improves situational awareness for solar farms where it can be hard to judge the precise location of an intruder from video footage alone. The live view can be sent to a VMS alongside the live camera stream.



Since its installation, the VARTEC installed radar-based camera system has run trouble-free and there have been no false alarms, thanks to visual verification from DSOC.

Anthony Lowther, Director, Lowther Renewables Ltd.

The Scan-360 wide-area detection system (WADS) uses license-exempt 24 GHz radar technology to detect humans and vehicles in all weathers and light conditions. It is the ideal solution for solar farm security when automatically moving a PTZ camera using the radar's slew-to-cue camera control.



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