CASE STUDY: ENERGY
SOLAR FARM, BRAZIL

Elera Renewable is one of the largest companies generating electricity from renewable sources in Brazil. Its portfolio includes 44 hydroelectric plants and 19 wind farms. In 2020, Elera debuted in the Solar Farms sector by acquiring three major solar projects under development. Among these is Fazenda Alex PV – a remote facility that required a low maintenance intrusion detection solution to mitigate risk of unauthorised access.

Background

With a perimeter of 13km, the customer required a proven, low maintenance locating and sensing solution with a long lifespan. With video analytics dismissed due to excessive hardware and infrastructure costs, risk of vandalism and ongoing maintenance, a covert buried solution that provided pin-point accuracy and seamless integration with the specified PSIM software was required and implemented by our partner Aeon Security.

Requirements

✓ Covert buried intrusion detection

✓ Cut resilience capability

✓ Geolocation integration with AXIS PTZ

✓ High detection and accuracy combined with Low Nuisance Alarms

✓ Cost effective for both installation and ongoing maintenance

✓ Intrinsically safe - no power in the field

✓ Immune to RFI/EMI and lightning

Our Solution

FFT Aura Ai-2 was selected to protect this solar PV facility due to its real-time simultaneous detection on two channels. The covert buried application could also detect intrusions to within 5m. Superior Total Cost of Ownership versus alternative technologies, low maintenance and exceptional MTBF of more than 250,000 hours make Aura Ai-2 the solution of choice for this site. With future perimeter extensions anticipated, the same Aura Ai-2 controller can be used to monitor the expanded facility with additional sensor cable and licencing as the only additional cost.

Customer Response

"Risk mitigation of unauthorized access to the Photovoltaic Alex Farm was the major challenge, especially considering its vast territorial expanse. The Security Monitor solution (comprising of PTZ cameras, horn speakers and FFT's fiber optic intrusion detection) has analytical capabilities that allows motion detection, report generation, alarm and image configuration, is fully automated and centralized to the access control system. In this context, when a person approaches the perimeter fence, automatically (without human intervention) a warning voice message is triggered through the horn's speakers and the intruder's position is framed by the georeferenced PTZ cameras, regardless of weather conditions and local lighting. The Security Monitor solution allows the security team to act effectively in the Analysis, Detection and Response of flagged occurrences."

Alexander Fernandes de Assis
Project Manager, Elera Renewable