Solarbeam

Wireless Solar-Powered Perimeter Security Company Deploys M2M Communications Network

Homestead, FL – Solarbeam™ International, Inc. provides solar-powered wireless perimeter intrusion detection systems (PIDS), and it is one of the most reliable, versatile and cost-effective perimeter protection solutions available today. Solarbeam patented the technique of using solar power with the wireless reporting of sensor systems formed between any two points. This technique is embodied in Solarbeam's towers that permit the deployment of Infrared beam, microwave systems, camera, fence sensor systems and virtually any moderate power security application without the need for trenching, conduit, heavy equipment, wires or permitting.

Following the devastation of Hurricane Andrew in South Florida in 1992, the company realized it needed to upgrade from hard-wired systems, which require extensive piping and trenching, to wireless systems that can be integrated easily into an existing infrastructure. Subsequently, Solarbeam moved to a comprehensive wireless system designed for independent monitoring, diagnostics and integrated video. The company designed software to complement the new wireless M2M communications capabilities, and enable area photography of complexes as visual indicators of where the perimeter alarms sounded. This wireless M2M connectivity was provided by FreeWave's proprietary radio technology that is deployed through each of Solarbeam's systems.

FreeWave Usage and Applications

Recently, Solarbeam developed the Roadside Animal Detection System (RADS), which offers automatic detection of deer, bear, moose, elk and other animals that may be crossing a roadway. These systems are often deployed in remote locations with harsh weather conditions, so wireless communications must be dependable and capable of operating in inclement climates. The RADS, often implemented along highways in hard-to-reach areas, relies on the dependability of FreeWave's M2M solutions for remote monitoring capabilities, ease of deployment, and configuration flexibility. The Solarbeam perimeter system is comprised of multiple solar towers, solar-powered batteries, detectors (Infrared, microwave, radar or other sensors) and FreeWave M2M communications technology. UsingFreeWave, Solarbeam can monitor each solar-powered tower individually – providing diagnostics, such as solar voltage, battery voltage and the general tower health.

To facilitate this monitoring, Solarbeam deployed FreeWave's FGR2-IOS solution, part of FreeWave's wireless embedded I/O series. The FGR2-IOS is user configurable – with both digital and analog capabilities – which served the need of Solarbeam's M2M networking connections. A radio was installed on each tower containing the solar panels with additional perimeter security equipment. The wireless

communication modules allow Solarbeam to monitor its equipment in real time. For example, when an alert deploys the company can quickly determine when a piece of equipment needs a particular type of maintenance, such as a dead battery or a bad solar panel.

Outcomes

FreeWave's wireless M2M communications solutions and Solarbeam's monitoring technologies combine to provide around-the-clock, real-time intrusion detection and perimeter monitoring. An additional bonus for Solarbeam was the price point of FreeWave's radios: a fraction of the cost of a fiber-optic cable installation at the same level of reliability.

and create a simpler, more cost effective and user-friendly experience. So far, the Scadata system has saved SVPWD 50 percent in costs and is expected to save more over time as operations and efficiencies are improved.

HIGHLIGHTS

> Solarbeam designed new software exclusively to leverage FreeWave's reliable wireless M2M communication solutions

> With FreeWave's technology, Solarbeam can monitor each solar-powered tower individually – providing diagnostics, such as solar voltage, battery voltage and the general tower health

> FreeWave's FGR2-IOS solution enabled real-time equipment monitoring to alert Solarbeam onfield issues such as dead batteries, bad solar panels or other security concerns

> The price point of FreeWave's radios, a fraction of the cost of a fiber-optic cable installation, allowed Solarbeam to achieve the same level of reliability
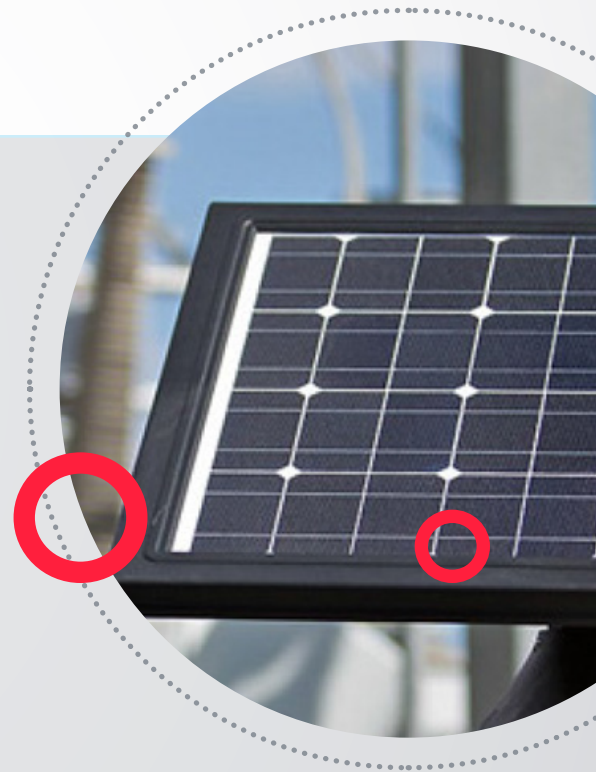
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