

Solar Farm Perimeter Security with MicAlert

How a renewable energy developer secured its Central European solar parks with MicAlert sensor cable: two 500 m zones and one processor per 1 km site, installed by local integrators through RBtec distributor S&K, now repeated across more than 400 sites.



AERIAL VIEW OF A UTILITY-SCALE SOLAR PARK PERIMETER. ILLUSTRATIVE IMAGERY; CUSTOMER IDENTITY WITHHELD.

1 km

PERIMETER PER SITE

2 × 500 m

ZONES PER SITE

1

PROCESSOR PER SITE

400+

SITES DEPLOYED

400 km

SENSOR CABLE INSTALLED

The Challenge

A solar park is a high-value, unmanned site: panels, inverters and copper cabling behind a fence in open country.

The developer builds and operates utility-scale solar parks across Central Europe. A typical site runs about 1 km of fence around equipment that is a standing target for copper and panel theft, with nobody on site between maintenance visits.

The portfolio kept growing, so a one-off security design was never going to work. The developer needed a standard, budget-predictable package that a local integrator could install at every new park.

WHAT THE DESIGN HAD TO DELIVER

- Detection at the fence line itself, at the moment of climbing or cutting, not after entry.
- One repeatable bill of materials per site, installable by local crews in days.
- Alarms verified by cameras on site and monitored from an offsite center.

The Solution, MicAlert Sensor Cable

Each park is secured with MicAlert, RBtec's microphonic sensor cable, mounted on the perimeter fence. The 1 km fence line is split into two 500 m zones running on a single processor, an extended configuration of the standard 300 m zone that is confirmed site by site against the fence construction and noise environment.

- **One box per site:** two 500 m zones on one processor cover the full kilometer of fence.
- **Passive in the field:** the sensor cable carries no electronics along its length.
- **Camera call-up:** an alarm cues the cameras on the alarmed zone, and the event reports to an offsite monitoring center.
- **Local install:** S&K's local integrators complete a site in a few days.

The Results

One proven package, repeated across more than 400 solar sites.

The same zone plan, hardware and installation pattern now protects solar parks across the distributor's territory, with over 400 km of sensor cable installed.

- Detection happens at the fence, before an intruder reaches inverters, cabling or panels.
 - RBtec has not published measured before and after theft or alarm counts for these sites.
- Each new park is an estimate the developer can price from a template: cable to match the fence, two zones, one processor.
 - Site alarms are verified with on-site cameras and handled by an offsite monitoring center.

"The standard MicAlert zone is 300 m. On these sites we run 500 m zones so one processor covers the full kilometer, which is the difference between one box per site and two. We only do that where the fence construction and the noise environment support it, and we confirm it site by site."

RBtec engineering team

MicAlert at a Glance

System	MicAlert microphonic sensor cable
Site perimeter	Approximately 1 km (3,300 ft) per solar park
Zones	Two zones of 500 m per site (standard zone is 300 m; 500 m is an extended configuration)
Processor	One processor per site, covering both zones
Integration	Camera call-up to the alarmed zone, plus alarm transmission to an offsite monitoring center
Installation	S&K local integrators, a few days per site
Program scale	More than 400 solar sites, over 400 km of sensor cable



MICALERT SENSOR CABLE ON A SOLAR PARK PERIMETER FENCE. CUSTOMER IDENTITY WITHHELD.

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