

Perimeter security for solar power stations

The advantages of video analytics on solar power plants

Harnessing artificial intelligence to minimise security threats to perimeter fences around critical infrastructures



Solar farms face significant challenges when it comes to perimeter fence protection. These critical structures need early, reliable security breach detection systems to protect valuable equipment from theft and criminal damage.

Smart video analytics systems are the most effective solution for solar plants, providing security at a high level and minimising **false alarms, such as those triggered by the wild animals roaming the surroundings.**

These systems need to cope with the environment and all kinds of weather conditions (rain, snow, wind, etc.).

Solar farms tend to be of vast stretches of land on which huge numbers of valuable photovoltaic panels are installed. These solar

energy plants tend to be installed in isolated locations, far from towns and cities.

Trespassers, thieves and vandals on solar farms

Understanding the levels of security required by these infrastructures and specific threats to this industry is crucial to design a reliable perimeter security system to stop trespassing, solar panel thefts and equipment damage.

Considering their location and the difficulties involved protecting large areas of land, solar farms are a tempting target for vandals, thieves and saboteurs.

For example, criminals try to take away cells, cabling, plant and inverters, destroy solar panels and cause other damage.

These are serious concerns for operators and owners of solar farms, causing enormous financial losses and even production stoppages.

That's why solar farms require perimeter security systems based on video analytics that ensure effective protection, both within the site and around the perimeter and the surroundings. **Video analytics is the most cost-effective, efficient solution for protecting perimeters.**

False alarms: a big issue

False positives are a common problem. They are often caused by roaming wildlife, weather conditions or the effects of rotating solar panels. These false alarms are a nuisance and increase the cost of all perimeter security systems.

With DAVANTIS, sites have a video analytics system that adapts to the environment. Its algorithms differentiate between wild animals, rotating solar panels and other circumstances and only notify security personnel when a genuine intrusion is taking place.

This reduces the cost of dispatching guards to investigate false threats and leads to more accurate, reliable detection.

Our deep learning based video analytics system combines algorithms that analyse the appearance and movement of images for greater precision, weeding out false alarms while alerting to real threats.

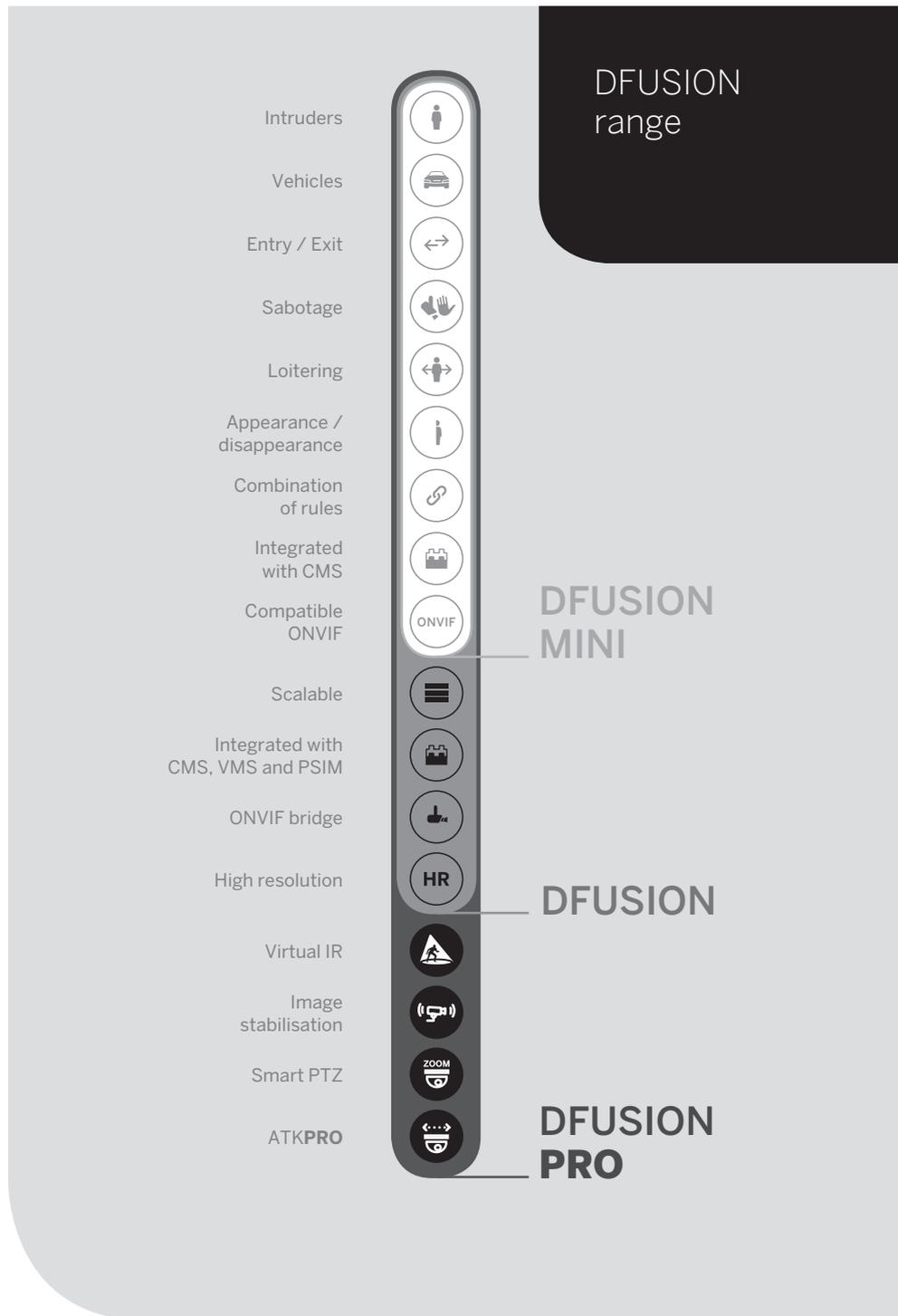
Our system analyses all images, regardless of quality, even in rainy and foggy conditions, and at night.

What's more, our solutions integrate seamlessly with numerous IP deterrent systems such as floodlights, security LEDs, loudspeakers and more, sending wild animals packing and ramping up protection.

Challenge accepted: video analytics on solar farms

DAVANTIS always has your back and is there for you, every step of the way, assisting in every phase of the security project from design to commissioning. This makes it the most effective security set-up for solar farms and other critical power plants.

Thanks to full integration and adaption of the software

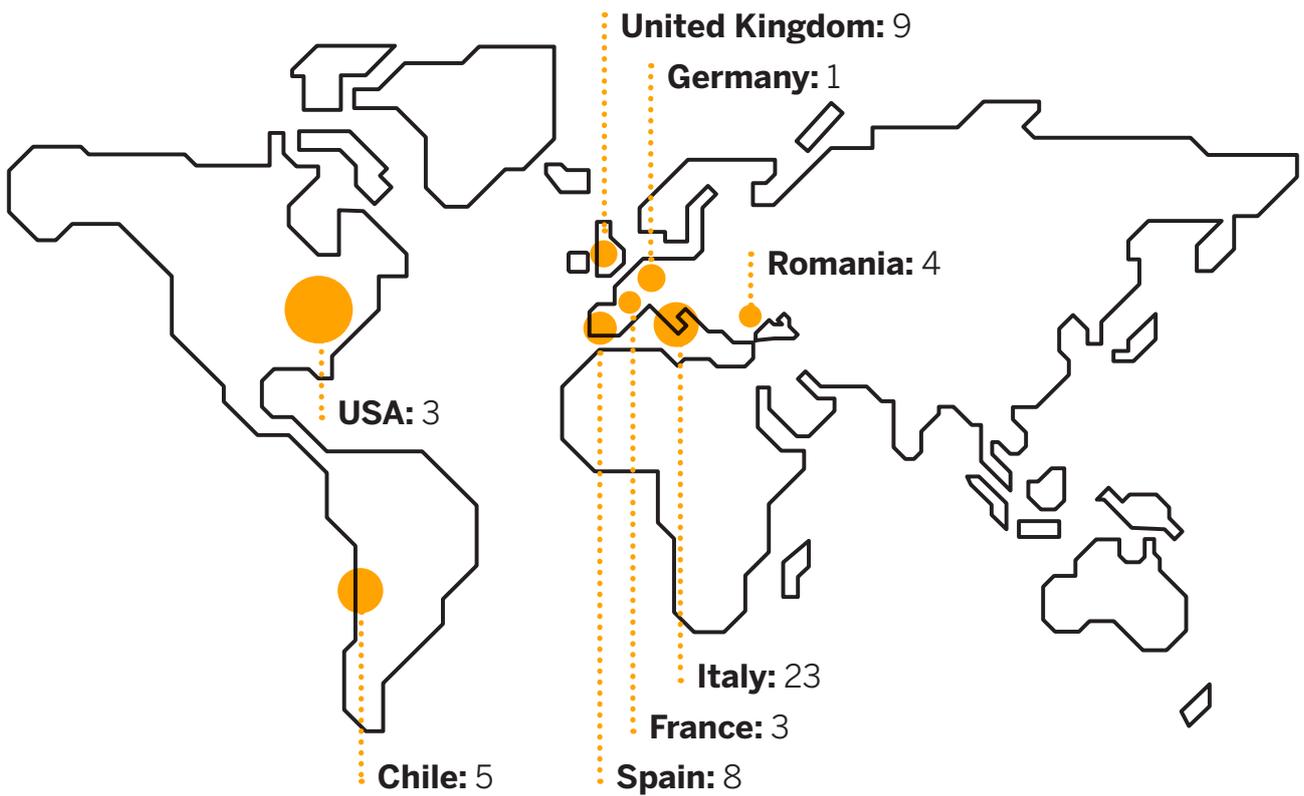


with all alarm management platforms (CMS, VMS and PSIM), we bring flexibility to Alarm Monitoring Stations.

In case of an intrusion, real-time images enable alarm

monitoring stations and control centres to view the situation and to trigger an instant reaction, activating security protocols and reducing operating costs when necessary.

Solar Farms protected by DAVANTIS video analytics



Casatejada Solar Farm

Extremadura,
Spain

This solar farm is in the region of Extremadura, Spain. The isolated location of this sprawling site makes protecting the perimeter a real challenge. That's why the customer chose a DAVANTIS smart video analytics system to prevent false alarms without missing detections, thus optimising time and resources.



Wurth Solar Farm France

This is one of the French solar farms protected with DAVANTIS perimeter security. Our video surveillance systems efficiently manage all types of alarms while reducing the number of false positives to an absolute minimum.



Viterbo Solar Farm Italy

The Montalto di Castro solar farm is a 1.7 km² photovoltaic power plant in Montalto di Castro, Viterbo, Italy. Our video analytics solutions protect the site perimeter efficiently, while saving costs and resources.



Mahlwinkel Solar Farm

Germany

This solar farm stands on what was once the Mahlwinkel aerodrome, near Magdeburg, Germany. The DAVANTIS smart video analytics systems installed on this photovoltaic plant are ideal for rapid detection of security breaches at long distances and in adverse environmental conditions.



Newlands Solar Farm

United Kingdom

Newlands is one of nine solar farms in the south east of England. After analysing the size and location, DAVANTIS perimeter protection systems were installed to streamline alarm verification and deploy deterrents.



Inelsa DEJ Solar Farm

Romania

This photovoltaic plant has a smart video surveillance system. DAVANTIS has enabled full integration of the alarm management platform and other hardware to maximise protection standards.



Atwell Solar Farm

United States

The Atwell solar farm has installed a DAVANTIS video analytics system capable of protecting extensive areas and managing all types of threats detected on and around the site.



San Andrés Solar Farm

Chile

San Andrés is one of Chile and Latin America's biggest photovoltaic power plants. To monitor and protect the perimeter, the owners installed a DAVANTIS smart video analytics system to help them make decisions in difficult environmental conditions.





DAVANTIS TECHNOLOGIES SL

Barcelona · Spain
Madrid · Spain
Nice · France
Luedinghausen · Germany
Bogota · Colombia
Singapore

DAVANTIS TECHNOLOGIES INC

Washington DC · USA

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info@davantis.com
www.davantis.com

