



MOBOTIX and Grupo Security join forces to solve a large solar farm's security challenges

In February 2023, Grupo Security was commissioned to provide a solution to protect and monitor the perimeter of one of the largest solar farms in the Murcia region. Specialized in solar farms, they had already served this client in two smaller farms which are also protected with MOBOTIX solutions.

For this large-scale project, it was crucial to find a cost-effective solution that could also greatly reduce false alarms. False alarms are a frequent issue in solar farms because shadows, including those from the security equipment, can interfere with the system and disrupt production.

THE SOLUTION: SPECIAL FEATURES AND APPLICATIONS

Grupo Security works with different manufacturers. However, after 12 years of satisfactory experience with the German firm, characterized by its quality, robustness and durability, the team in charge did not hesitate to opt for MOBOTIX thermal imaging technology to meet the specific needs of this client.

Among many others, thermal imaging cameras have the advantage of detecting movement or presence at very long distances. This allows the cameras to be placed as far away as possible from the solar panels, thus avoiding the shadows that could be cast on the panels and that affect the good production. Because of this, the cameras have been placed at a long distance from the next one and have significantly reduced the shadow surfaces.

“For dark conditions, other cameras that use an infrared spotlight only offer black and white images and operate at a very limited distance because the light spotlight only reaches 80 meters. However, a MOBOTIX thermal imaging camera with a closed angle at more than 200 meters can detect people and vehicles without difficulty,” explains Guirao.

Likewise, MOBOTIX technology allows them to give access to both people and vehicles that must go to work in the solar farms. That means any person or vehicle that is not previously registered and approaches the established perimeter of the solar farm will trigger an alarm.

Key Data

Sector

Energy

Partners

Grupo Security



Timeframe

2023

Products

60 MOBOTIX camera

DEVELOPMENT AND INSTALLATION CHALLENGES

The perimeter protection project has been solved 100% with MOBOTIX M73 thermal imaging cameras. A total perimeter of 6km has been covered with 60 cameras. To reduce the installation and technological footprint, different thermal cameras have been used to achieve an optimal combination of 17° and 45° cameras and, for short distances of up to 50 meters, 56° Echo cameras.

Knowing that solar farms often experience strong winds, Grupo Security's engineering team worked with a metallurgical company to create custom poles for MOBOTIX cameras. These are square poles with openings that allow the camera to be securely attached inside. This design keeps the cameras stable in heavy winds and also makes the site look better.

Another issue was improving detection outside the farm's boundary to accurately identify threats and reduce false alarms. Things like people, animals, or plants near the fence, or even shadows and light reflections from nearby vehicle headlights or infrared sources, could trigger alerts. By carefully setting up the smart MOBOTIX video analysis system, we were able to solve this problem.

WHY MOBOTIX?

"The intelligence built into the MOBOTIX cameras themselves is much more advanced than the rest of the competition. This allows us to not depend on a server and to be 100% functional and secure. There is no competition in this area either. This, together with the external servers for video analysis, offers us the perfect solution," says José Ramón Guirao García, C.R.A./T.I. Systems Manager at Grupo Security.

In addition, the intelligent MOBOTIX solution can cover long distances in a very precise and accurate way. In other words, it can detect and classify both people and vehicles, as well as differentiate between vegetation and animals, minimizing false alarms as much as possible and generating only those that are relevant.

"Also, it's amazing that they fearlessly offer a great warranty for the products. And as for the service, we have all kinds of support both for the configuration of the cameras and for any problem that may arise. In addition, MOBOTIX's response to every incident is fast and effective, they always find solutions," concludes the systems manager of Grupo Security.

