The key to vertical resolution in perimeter security

DAVANTIS

When selecting CCTV cameras for a perimeter security system, not only do you need to choose cameras that suit the site, but you also have to configure them and **select the right resolution**.

One challenge facing perimeter security systems is the difficulty of monitoring large areas for early detection of intruders, which require wide-angle lenses with an extensive field of view to capture images at long distances.

What are the best settings for obtaining **sharp images at long distances**?

This article is based on a real case that illustrates best practices in perimeter installations.

It's a known fact that security cameras can accurately identify people, vehicles and other objects at any distance, even in difficult conditions such as low light and bad weather conditions.

These days, most visible cameras on the market have a panoramic setting (16/9), unlike thermal cameras, which still have a squarer 4/3 format.

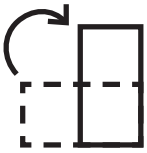
These visible cameras maintain a 16/9 proportion and provide a broad vision of the scene, with maximum resolutions of:

• 1920 x 1080
(2 mega-pixels)

• 2688 x 1520
(4 mega-pixels)

• 3840 x 2160
(8 mega-pixels)

When designing a perimeter security system, it is important to consider



the camera resolution to **calculate the maximum detection distances and prevent intruders from going undetected**, which would cause serious security problems.

Here's a practical example of CCTV camera installation and configuration. This is a real case involving one of our clients who contacted our support team to fine-tune its perimeter video analytics system.

In this case, we will focus on a perimeter installation with 4-megapixel visible cameras with 3 to 12-mm varifocal lenses.

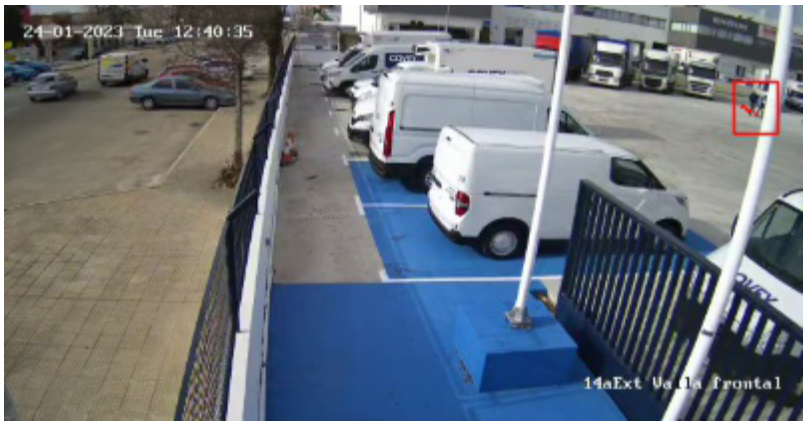
The client was concerned about a lack of precise images at long distances and contacted our support team because the video analytics system did not seem to be detecting people, objects and vehicles clearly at long distances.

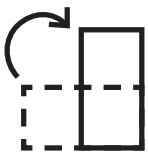
We established a remote connection with the installation and immediately realised that the viewing angle of the CCTV camera lenses monitoring the fence was too wide to detect an intruder jumping the fence into the protected area.

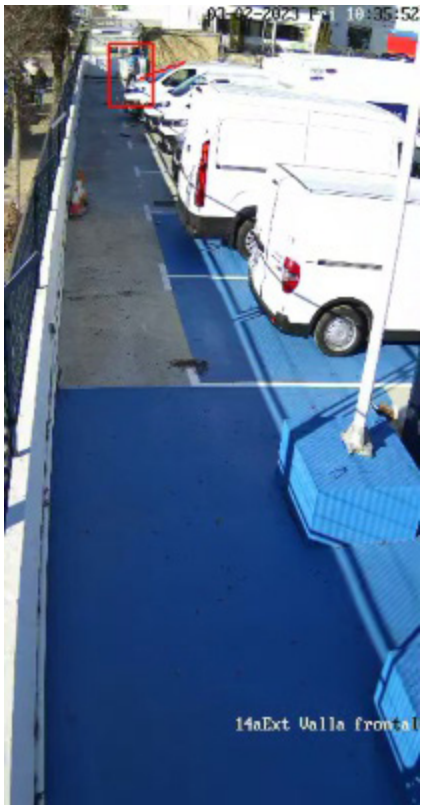
This field of view was so wide that much of the image consisted of **areas that did not require monitoring**.

How did we correct this? After analysing the situation, our support team recommended configuring the cameras in "corridor mode" to improve detection and enhance vertical definition.

To configure the cameras in corridor mode, they must be turned 90 degrees, and the "Rotate 90°" option must







be selected on the camera configuration website for a satisfactory image.

Once the camera was at 90º, it was possible to switch to a 9/16 vertical format and use the zoom and narrow the angle of the lens from 3 mm to 10 or 12 mm without creating blind zones under the camera.

By correcting the camera settings, the area of the perimeter monitored was increased, and the images captured were **sharper and more efficient for detecting intruders at long distances**.

This configuration is also recommended for cameras with Video Content Analytics (VCA), although for these cameras, the "rotate 90 degrees" option may be disabled or may not be visible. That is why it is necessary to disable the VCA mode in the camera and set it to surveillance mode.

Our intelligent video analytics systems are capable of conquering any challenge with their advanced features to get the most from your system and improve your CCTV cameras' detection capacity. Our experts are here to help you to improve your **perimeter video surveillance systems**!