4 Exciting Video Features for Your Intelligent Fence
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Intelligent Fences have long been used in protecting perimeters of critical facilities and borders. As an owner or security director at such facilities, it is very likely that you may already have one of these systems helping you monitor your perimeter. As such, you understand how they work, as well as, their advantages and disadvantages. What you may not realize is there are several exciting video features that can augment almost any type of smart fence system you may currently have installed. These features can help your smart fence be even more effective and help reduce the workload on your security force. Highlighted here are four exciting video features you should consider adding to your smart fence system.

1. VIDEO with SLEW-TO-CUE

This may seem like a no brainer, but in reality many critical facilities are not combining basic video functionality with their fence sensors. One of the first actions a security person must take when they receive an alarm is to validate it. An obvious advantage of steering a camera to the intrusion is the ability to actually see the object of interest and to be able to receive this information in a timely fashion. Studies show that vision is the dominant sense for humans. In much the same way that dogs favor smell, when placed in conflict with other senses, humans will overwhelmingly select and accept the decision that favors a visual input. So even though the fence system may be providing a highly accurate alarm, the human security personnel inherently desires a quick visual confirmation of the event.

Today’s technology allows a PTZ camera to be steered to the exact latitude, longitude and elevation of a fence alarm and provide the security person instant gratification with a video clip. This is commonly referred to as “slew-to-cue.” Even with fence systems that only provide an alarm for a section of fence, sophisticated video systems can point to the zone and then zero in on the exact point of intrusion.

2. ALARM COLLABORATION

All intrusion systems make tradeoffs between probability of detection and false alarm rates, including fence systems. One way to maintain a high probability of detection while lowering the false alarm rate is to combine alarm information from multiple sensors and analyze the results before raising the alarm to the user. As previously discussed, a fence system can easily be augmented with a PTZ camera to automatically “slew to cue” to a fence alarm and provide instant video footage of the event. Through the use of video analytics, this can be taken a step further and allow the “AND-ing” of alarm information from the video and the fence. In this situation, once the camera has been steered to the location of the fence alarm, video analytics can be enabled to not only look for the intruder, but be very specific in the type of intruder that is of
interest. Only intrusions detected by both the fence AND the video analytics are raised to the attention of the operator. This not only reduces false alarms, but allows the security force to be more efficient by reducing the number of events that need to be validated. This enhancement can also be added through the use of fixed cameras, provided they have a view of the fence line. If there is video analytic coverage of the fence in addition to the fence sensor, one can provide protection if the other is down. For example, if the fence system is out of commission for a time, the video analytics can still provide protection. Or if the video analytics cannot “see” due to heavy fog or lack of illumination, the system can be aware of this condition and therefore the fence sensor alone can cause an alarm.

3. **PTZ AUTO FOLLOW**

Another exciting advancement is the ability to autonomously control a PTZ camera. In today’s technology this doesn’t require a second camera to provide position information. The same camera that is used to steer to the point of the fence alarm can now engage the target and follow it automatically. Without this feature, the first responder is required to take physical control of the camera and manually track the intrusion. With this **PTZ Auto Follow** feature, the first responder is free to react to the situation without the need to also have to control the camera. Often time there is confusion that this type of feature is only available on newer camera models, but in most cases, this capability can be added using your current cameras and video management system. This feature allows for more useful video forensics, as the video footage stays focused on the intrusion and the subsequent actions. In addition to automatically panning and tilting the camera, more sophisticated video analytics also zoom the camera to keep the intruder in view should they move closer or farther away from the camera.

4. **SCAN TO TARGET**

When detecting at long ranges, or detecting fast moving targets, margins of accuracy can compound. These might include the accuracy of the cameras PTZ, camera position drift, installation variances, accuracy in the fence’s reporting position or just a target that is moving quickly. The result: when the camera is steered to the point of intrusion, there is nothing there. **“Scan to Target”** was introduced to address this issue. This feature is designed to engage when the camera is slewed to a location, based on a fence alarm, but no target is found. In this case, the scan to target algorithm is invoked and causes the camera to scan the area where the alarm was reported in an attempt to acquire the target, in which case PTZ auto follow would ensue, otherwise control is passed on to operator for manual viewing.

Security Systems need to be flexible. As world situations shift, operating procedures are modified, government mandates arise and budgets change, your security system needs to adapt accordingly. Luckily this doesn’t always mean you need to install a new system, in many cases you can just augment your existing equipment. Adding new video features to your smart fence installation, such as the four outlined here, might be a valuable consideration. 
**Fence Integration:** Critical Facilities often have large fenced perimeters which make the use of an intelligent fence an attractive security measure. Although intelligent fences are great detection devices, you still require eyes on the intruder. Check out this article describing how the combination of video analytics and intelligent fences can be used to protect these critical facilities.

**Combining Sensors for More Efficient Perimeter Protection:** Fence Intrusion Detection Systems and Video Analytics are both effective perimeter systems. This white paper looks at some of the attributes of each and explores how the combination can result in a more efficient and effective system.

**31 Flavors of Camera Auto Follow:** Camera Auto Follow, the ability to track an intrusion hands-free, is a very powerful feature to consider as an addition to your security arsenal. This white paper addresses the various auto follow terms that exist in the marketplace today and helps to educate on the varied functionality.

**About PureTech Systems**

PureTech Systems Inc. is a manufacturer of wide-area perimeter surveillance software solutions including internally developed outdoor video analytics, PTZ Auto Follow, multi-sensor integration and a map-based (real object size) command and control. It is offered to fortune 1000 firms, petro-chemical, water and electric utilities, seaports, airports and federal, state and local governments. With headquarters in Phoenix Arizona, PureTech Systems serves national and international markets. To find out more about PureTech Systems Inc. visit our website at [www.puretechsystems.com](http://www.puretechsystems.com), follow us on [Twitter](http://twitter.com) or sign up for our [email list](mailto:).