



Powered By

ISENTRY



Artificial Intelligence Video Management

ISDS AI Overview

The ISDS AI system is an automated video analysis system. It uses Artificial Intelligence (AI) to learn the normal behavioural patterns of objects observed by a video surveillance camera. When an object displays activity that does not fit the model of normal behaviour, the system highlights it as unusual activity and can perform a number of automated responses. ISDS AI transforms a security environment from passive to active.



ISDS AI uses Computer Vision, developed for autonomous robots, to track every moving object in the camera's view. It measures the size, shape, speed and direction of motion of every object it sees. It builds up a model of this behaviour, which it considers normal. When an object moves in a way that does not fit the normal model, ISDS AI identifies it as unusual.

ISDS AI's vision system works excellently at night as well as during the day. Flashing lights do not distract ISDS AI. Even in low lighting, it can track its targets accurately. ISDS AI also excels in outdoor environments. Its vision is not tricked by clouds or lighting changes. It even learns the normal behaviour of the wind blowing in the trees and ignores it. Regular traffic, whether vehicular or pedestrian, is learned over time and will not raise an alert.

It is able to co-exist with existing surveillance systems extending their detection capability by utilising its advanced artificial intelligence engine.

Unique Capability

The unique ability of the ISDS AI system is the ability to self-learn any given environment, detecting unusual activity and ignoring normal activity. This makes the system far superior to Video Motion Detection (VMD) systems, particularly in busy environments. ISDS AI is able to filter out around 95% of the "normal" motion observed and only react to the remaining 5% of unusual activity.

As a result of this ability, there are 5 features that can only be achieved using ISDS AI:

1. **Immediate Detection and Response to Incidents.** ISDS AI can filter out 95% of normal motion video and only present video with unusual activity to operators. As operators are not flooded with lots of boring video and only unusual activity is presented, the operators are more alert, resulting in increased vigilance and incidents much less likely to be ignored or missed. **Result: improved situational awareness and the ability to achieve an effective, immediate response to incidents.**
2. **Multiple Camera Analysis and Management.** Sites with many cameras are generally unable to effectively manage the large amount of video information. Consequently, most of the video input is ignored. Operators are often required to constantly scan many video inputs which is not possible for humans to do effectively resulting in very little video effectively monitored. ISDS AI acts as a first line filter and removes 95% of the uninteresting video. It then schedules viewing of the remaining 5% so that one operator can watch one screen. Additionally, ISDS AI can hold lists of alert videos while operators are away from their desk, and can offload camera responsibilities from one operator to another. **Result: significantly lower human resource costs, enhanced effectiveness of monitoring and increased job satisfaction for operators.**
3. **Active PTZ Camera Control.** When ISDS AI detects unusual behaviour, it can autonomously control a PTZ camera to zoom in on the target and track the target as it moves through the scene. The system is able to obtain excellent high quality images because the PTZ camera uses optical zoom to monitor the target. Optical zoom is the best way to get high quality images. Only ISDS AI can autonomously command a PTZ camera to target unusual behaviour. **Result: high quality images captured autonomously for accurate identification.**



4. **Ultra-Long Duration Video Archive.** The ISDS AI system records all video at high quality. However, as ISDS AI can discriminate between normal and unusual activity, it can apply different compression levels to archived video. After a few days, ISDS AI will 'reduce' the uninteresting archived video by storing it at a lower resolution. Video of unusual activity remains archived at the high resolution which means that 95% of the video can be reduced to 10% of its original size. ISDS AI can achieve video archiving durations over 10 times longer than any Video Motion Detection system. **Result: significant cost savings on disk, reduced cost of management, and confidence that necessary images are identifiable and high quality.**
5. **Left Object Detection.** ISDS AI will detect when an object that has been left unattended and notify the operator of the event. Not only will the object be highlighted but the person leaving the object will be highlighted too. If the operator is not available to view the footage immediately, ISDS AI will hold it until they are able to do so. **Result: objects that are left unattended will be highlighted along with their owners.**

To find out more about any of our solutions and how ISDS can help you with your security needs please contact us at:

Sales@isdsltd.com or Free phone: 0800 0329935