

Intelligent Video?

During the past few years there has been a proliferation of companies marketing what has been loosely described as intelligent video. I say loosely because I am yet to find one intelligent video system that passes basic performance tests, let alone qualifies to be called intelligent.

Some of these systems claim detection capabilities such as:

- * Perimeter protection.
- * Object left.
- * Object/vehicle tracking.
- * Vehicles parked for prolonged periods.
- * Facial recognition.
- * Numberplate recognition.
- * People counting.
- * People loitering.
- * Behaviour identification.
- * Etc.

For the past few years I have been recommending to my clients that they wait until a few of the twenty or so available intelligent video systems come out of Beta and we then carry out suitable and practical tests for these systems. Most intelligent video demonstrated tests on CD or DVD are carried out in a sterile and non busy environment which may allow even the poorest performer to appear satisfactory. Also, most demonstrated tests are carried out in an environment as free as possible of anything that may create a nuisance alarm, or cause the system to fail a detection test. In other words, not the typical environment we have to live with.

Most manufacturers and suppliers of intelligent video systems claim their systems are capable of carrying out a number of different functions. This claim might be more difficult than a software engineer may first consider. It

makes sense that a single function system would be easier to engineer than a system with a number of different functions and multiple image analysis processes. It might also help if a full and complete understanding of the video signal being analysed was understood.

So what's the answer? Let's test a few systems!

One of our clients had a particular problem which required a reasonable quality perimeter protection system. This application required performance similar to those old fashioned Video Motion Detection (VMD) systems, which is the way VMD is referred to by some of the intelligent video suppliers. The good thing about using a site where VMD could be used is that we would have a comparison of performance under similar conditions of previous test results of VMD tests, carried out under similar conditions, on a number of VMD systems by Sandia Laboratories, the Home Office and LSA in the 90's.

The interesting thing here is that you would expect today's you beaut technology would leave the old fashioned VMD technologies of the 90's in their dust. You certainly would if you believed the hype from some of the intelligent video engineers and suppliers.

A part of the intelligent video perimeter test criteria was:

- * 95% of intruders will be detected by the intelligent video system during a 24 hour period.
- * The intruder may attempt to enter the test zone from any position of the perimeter.
- * The intelligent video systems will be capable of operating and performing to this test criterion under all environmental conditions likely to be experienced at the test site.

The intelligent video systems will perform to the above mentioned

intruder detection percentage with the following conditions:

- * The intruder tests will be performed with individuals of average height and size.
- * Detection tests will be performed at any time in a 24-hour period and in any weather.
- * The intruders will be dressed in a manner to blend into the background.

Using the same test criteria above for a number of VMD systems in 1995, Sandia tested 13 VMD units and LSA tested 11 VMD units and it was found that 6 and 4 VMD units respectively detected between 93% and 99% of intruders. The main criteria difference with the intelligent video systems tested was that the intruders were dressed in bright safety jackets, which make detection much easier, and the 2 intelligent video systems tested only detected between 50% and 60% of the intruders. This is a clear and resounding intelligent video failure with this application.

SE&N and LSA will continue to monitor and test intelligent video systems with various applications under various conditions and keep you informed.

I have no doubt that one day technology will allow us to test some intelligent video systems and find they actually perform as per their specification and hype.

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