

# Working together

## How intrusion detection and video surveillance technology can work together effectively

By Ulrich Schwieger, Technical Director, HeiTel Digital Video GmbH

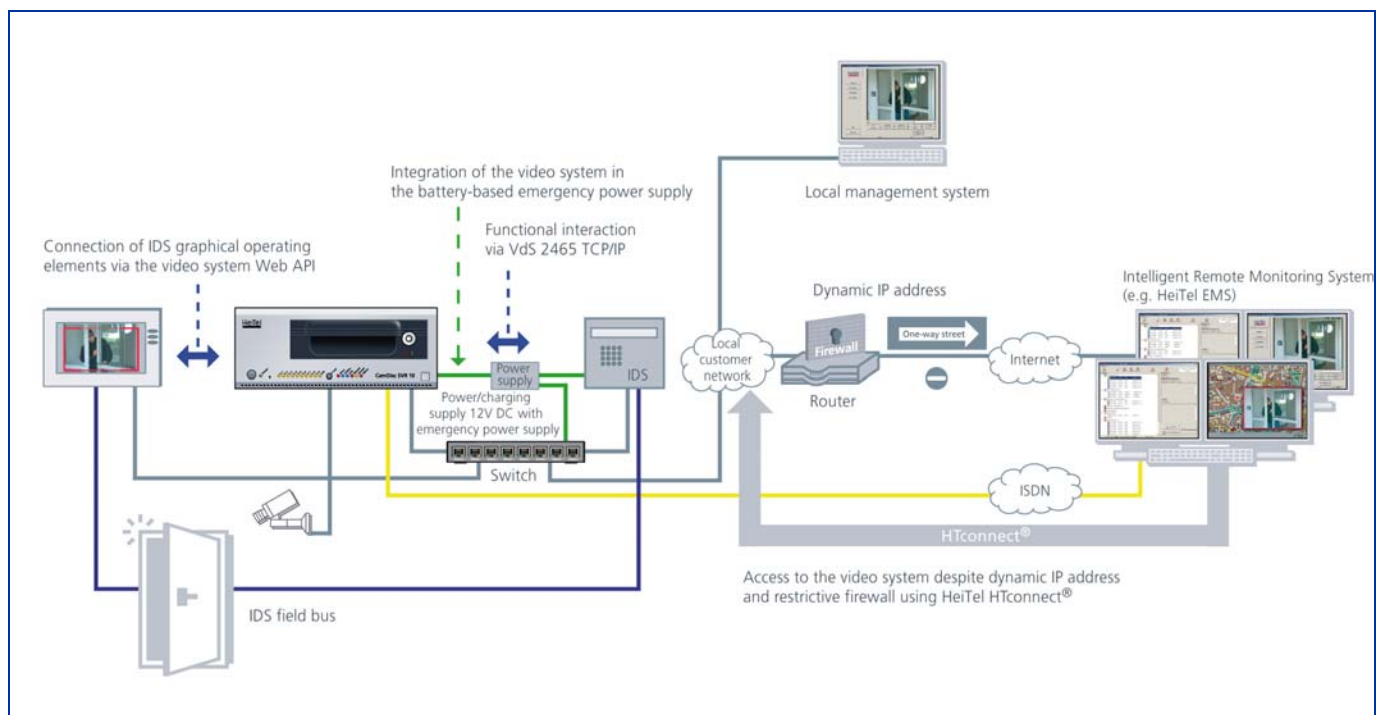
*In the past, when people talked about “security technology” they generally meant intrusion detection systems (IDS) and the alarm call to the remote monitoring centre (CMS).*

*In the past few years, all that has changed. Today the term “electronic security technology” covers several fields, generally intrusion detection and alarm systems, access control systems and video surveillance systems.*

*End users who want to equip their sites with electronic security technology that encompass all these fields will increasingly want interdisciplinary and global security solutions which integrate the individual systems on different levels into a logical and convenient overall solution.*

Solutions have therefore been established in the field of intrusion detection technology and access control which enable such integral systems to be set up using multifunctional products and system components. For example, today there are intrusion detection panels and their associated peripheral products that include extensive access control functions in addition to their conventional tasks.

In the world of video, things have often been very different. A lack of cross-system interfaces means that system integrators can only integrate video systems with intruder detection systems in a very rudimentary fashion and with the associated expense.



Example of an integrated system using intrusion detection integrated with video surveillance technology

### Functional interaction through a standard interface

The need for comprehensive security designs based on video surveillance and intrusion detection has increased continuously in recent years and even insurers are placing more weight on the concept. As a result, a couple of years ago in Germany, VdS embraced the subject and laid down a set of guidelines - VdS 2365 Part 1 to VdS 2365 Part 5.

These define the requirements for video systems, which can be integrated with intruder detection systems.

Among other things, the functional interaction of video surveillance systems and intrusion detection systems at a system level is vitally important.



*This is what teamwork between Intruder detection System (IDS) and video surveillance technology looks like: The IDS detects an intruder (e.g. using motion detection or door contacts) and alarms the CMS, whose personnel can assess the situation thanks to the video images, address and maybe scare the intruder away via audio transmission - and alert the police.*



To this end, an appropriate system interface was defined, through which both intrusion detection systems (IDS) and video systems could communicate using a standard transmission protocol with high availability and functional security.

This now gives installers and system integrators the possibility of creating complex and comprehensive system solutions, which can be individually customised for the customer's specific site requirements.

Today, products that are equipped with the VdS interface have become firmly established on the market, which has resulted in growing numbers of cross-system solutions being created.

## Application examples

What can video system interfaces do? First and foremost, the interface acts to mutually control the video system and IDS. Furthermore, both systems can reciprocally reproduce the relevant statuses of virtual and physical reporting points for the other system.

The transmission of video images or video sequences by the other party is not envisioned - but in this case it is neither necessary nor required as the VdS interface only ensures functional interaction and reciprocal control.

### Intrusion detection system controls video surveillance system

The video system can be triggered by the IDS according to the site specific conditions; for example, a door being opened or a motion detector being activated can cause the IDS to instruct the video system to send a relevant camera to a pre-set position and trigger the recording of video from the said camera. The information sent from the IDS to the video system can of course cause a dial-up situation through to the monitoring centre.

Video-based alarm functions range from automatic e-mail notifications through to video alarm transmission to the monitoring centre.

These are generally functions which were available in the past in a rudimentary form - although without functional interaction through the system interface. However, there was a considerable labour and materials cost associated with hard-wiring the two systems together. With the Vds based interface, installation labour costs are greatly reduced and system configuration set-up is likewise very much faster and easier.

### Incorporation of video system functions in intrusion detection systems

Modern video systems often provide powerful video analysis functions, such as motion detection and camera signal monitoring for tamper, which allow the cameras to be monitored for turning, covering, defocusing and loss of signal. Such functions can also be provided for an IDS, via the system interface. The IDS can then use this information, for example, to conduct qualified motion detection for selected areas (double knock) in connection with conventional motion detectors (PIR, Microwave etc). Furthermore, the system status of the whole video system is monitored by the IDS and can be displayed using the available operator interface.

### Integration at management level

Video transmission is a key subject for many monitoring stations and along with traditional alarm transmission; it's increasingly becoming the core business.

For some time, the industry has been shifting the focus from alarm verification and alarm testing over to video based services. Automatic camera tours, remote control of sites (gates barriers, doors etc), live video surveillance, monitoring set/unset times etc have all become common tasks.

Video system technology is now integrated into many third-party products and management systems and in particular has become almost standard in monitoring centre technology.



*For central monitoring stations, the effective interaction of intrusion detection and video surveillance technology is very important and has now become central to their business.*

With sites that include integrated Intruder Detection System (IDS) technology and video technology, video images are transmitted to a central monitoring centre in addition to the conventional alarm data. For this, the monitoring centre needs both live images and recorded images from the video system. Integration of video receiving technology into an existing IDS software package gives the advantage to the operator of only having one system interface to use. What's more, system data and site information can be bundled and managed cross-system via the central database.

Appropriate servers are available for integrating video technology into existing monitoring centre systems. These are high-performance video receiving systems, which can be integrated into existing monitoring centre applications via a TCP/IP interface.

Video-based remote service functions include 24/7 monitoring (always on line), monitoring camera signals, monitoring components connected to the system (e.g. hard disk drive) and

additionally the continuous monitoring of the communications path between the remote site and the monitoring station.

There's also an extensive range of hardware and software products, which allow existing video systems to be integrated into central management systems via phone and IP networks (ADSL, DSL 3G etc).

The application and access possibilities range from iPhone/Smartphone, through PC-based software solutions and videowall applications to high-performance video servers which can also be integrated into existing monitoring centre systems.