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## Remote monitoring

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Remote monitoring is not new. The ability to transmit video signals to a remote location was developed in the early 1970s, with an improved 16-bit technology coming in 1982.

Remote monitoring is a term with many different meanings. For a security manager, it offers an ability to prevent break-ins and other criminal damage to a facility, by monitoring the place from a remote location. An IT manager, on the other hand, would probably prefer to use remote monitoring to check the performance of key corporate servers. But, for a store owner, remote monitoring might provide the ability to monitor the success of the latest in store promotion or quality of service by staff in a particular store, regardless of actual location. In short, remote monitoring offers very different benefits according to one's point of view.

Remote monitoring does not automatically include the use of video, but in most situations, video will transform the remote monitoring experience. This article will primarily focus on remote monitoring, in combination with use of video, as seen from the security market's perspective.

It has always been of interest for human beings to protect their assets. We expect to use physical technology such as fencing, steel bar covered windows and secure locking systems, as a deterrent. But these systems are not at their most effective unless complemented with some sort of surveillance monitoring. Even the most advanced combination of perimeter systems and secure buildings can face unwanted intrusion, and if this is the case, it is of vital importance to notify security staff and the police as soon as possible.

This is normally done by using some sort of intrusion detection system, which in most cases is connected to a central alarm centre or directly to the police. But as the number of systems installed has increased, and number of alarm incidents has risen sharply, police forces worldwide have found themselves unable to respond to all alarms in a timely way. Worse than this, most police forces today do not accept a normal electronic alarm notification as indication of a crime in progress.

To receive proper attention from the police, it is in most cases a requirement for visual verification of the cause of the alarm. This can be achieved either by physically sending a security guard onto the site itself and getting him to report back to the police by radio or mobile phone, or sending video evidence which can be gathered and sent from a remote location.

Clearly the ability to gather and send visual evidence remotely is a significant bonus in terms of manned guarding savings and speed of response to security incidents. It also provides increased safety for security guards who no longer need to endanger themselves by walking into potentially dangerous situations such as an armed robbery in progress.

### **Historical view**

The term remote monitoring is nothing new for people involved in today's security business. The ability to transmit video signals to a remote location was developed in the early 1970s, with an improved 16-bit technology coming in 1982. This, at the time, groundbreaking system allowed for transmission of black/white images at a rate of around 30-60 seconds per image, using ordinary telephone lines.

Technology evolved during the 1990s, and a couple of systems dominated the market, providing dial-up transmission over PSTN and ISDN lines. Common for most systems of this age was the so-called box-to-box concept, whereby video was converted back to analogue signals at the receiving end, and then presented to the viewer using ordinary analogue monitors.

In the late 1990s the first software-based systems were introduced. These allowed the use of a normal PC for remote viewing and storage of images. By now, also the types of systems available on the market started to broaden as the market was segmented. But systems were still of a proprietary design, whereby different systems had minimal or no ability to work together. At this time larger alarm central stations started to fill up with different systems. Today it is quite common to find alarm central stations with five to 10 different systems installed, each with its own dedicated ISDN and PSTN lines, control panels and monitors.

### **Current market**

As new technology has started to be commonly used, it has also changed the definition of remote monitoring. While in the past remote monitoring was mainly about a remote security guard watching in a central location, today the remote monitoring centre will add value by also analysing video and onward transmission of key data to relevant authorities and contacts. Some remote monitoring operations provide more specific analysis such as POS reports and footfall analysis information to store managers in the retail market.

Another trend that can be seen, provided by the movement to network-based connections, is the ability to have a more flexible approach to the location of an RVRC (Remote Video Response Centre). In the past, most centres were located in the local area they monitored, partly driven by the benefit of knowledge of the local neighbourhood, and partly for cost reasons. But as globalisation accelerates and focus remains on cost reduction, location or relocation of a response centre or customer service centre is increasingly driven by available infrastructure and the cost of operation per customer.

The key driver in all this is that the communication platform used no longer sees any geographical limits. It is now possible to provide permanent quality connections at an acceptable price point throughout large swathes of the developed world. Broadband connectivity is today being provided to almost all parts of the world. In some cases there are financial support schemes available from governments to stimulate increased usage in schools, hospitals and other parts of the public sector.



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