



## KPMG ANALYSIS

# Video Surveillance Market Goes Digital

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By Dave Pelland, Managing Editor, Digital Insider

The mass deployment of digital surveillance equipment is creating market opportunities for technology companies with strengths in data networking and storage.

Like consumers replacing VCRs with digital video recorders, surveillance is shifting from analog to digital. Most of the market still relies on analog cameras, but many of those are being phased out as digital cameras and recorders offer sharper resolution, increased recording capabilities and have more advanced features than analog.

"We see a lot of security companies learning [information technology], and we see a lot of IT companies learning security," says Mark Wojtasiak, segment manager for surveillance products at disc drive provider Seagate. "We see the two merging in some cases, and we see traditional IT manufacturers moving into the physical security space."

The surveillance market is attractive for several reasons. Traditional customers such as government, retailers and casinos are adding Internet protocol-based cameras and storage for the sharper images than analog counterparts can provide, as well as the ability to add analytical software that can recognize faces, count crowds or identify "undesirable" behavior.

In addition, manufacturers and distributors are using digital video to reduce employee theft and workers' compensation claims.

"There's a convergence that's happening today," says Wojtasiak. "We're seeing more traditional IT-facing companies, such as manufacturers or solution providers, having a stronger hold in the [security market], and we're seeing more IP surveillance adoption."

### 'It's not Just About Security'

Educational institutions, concerned about student safety in the wake of high-profile shooting incidents, are emerging as a new market, and colleges are providing online video feeds of sporting events from wireless cameras.

"It's not just about security," says Kurt Sauter, director of product marketing for wireless networking provider Xirrus. "Some [school] districts allow parents, [for] grades such as kindergarten, to log in and see what's going on in their kids' classroom. And the ability to stream live games over the Web is great for alumni who want to follow sports at their alma mater."

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Perhaps digital cameras' strongest attraction is the sharp images they can produce. Traditional analog closed circuit television (CCTV) security cameras generally have 288 lines of resolution, while the latest digital cameras offer up to 1,536.

"Digital video provides better quality and higher resolution, and you can build intelligent systems with preventative capabilities," says Peter McKee, marketing director of security technology provider Mobotix Corp. "If you look at the analog CCTV industry, that [technology is] very reactive -- you record what happens and later look to see if you can see the perpetrator."

In contrast, digital cameras can be supplemented with software designed to recognize the faces of known criminals, or unwanted objects such as a briefcase left on a train platform. Some cities have even deployed cameras in high-crime areas that recognize sounds such as gunshots.

In office buildings, digital video cameras can also be linked with infrastructure elements such as access control systems, heating and air-conditioning systems, and fire alarms, which are also available as digital and IP-based products.

Tying these systems together allows companies to set up surveillance systems that can automatically notify authorities and begin recording and sending live video if an intruder tries to pry open a locked door, for instance.

"Network people have long provided networking and storage services," says Mobotix' McKee. "Now more of them are providing video surveillance because it's a technology they can understand, and it fits neatly into a network. Any device that has an IP address can be integrated into a network."

### **Storage Opportunities**

The growing use of digital video means companies have more video data to store and manage, which in turn creates opportunities for vendors to offer networked storage arrays, as well as hard drives customized for security applications.

Security-related hard drives, which commonly offer up to 1 terabyte of capacity, have fewer moving parts and tend to be more reliable than PC hard drives.

Another factor driving adoption of digital cameras is the relative ease with which their video signals can be distributed over Wi-Fi networks. Wireless cameras, which are flexible and inexpensive to install, are replacing traditional hard-wired cameras, especially in outdoor locations such as parking lots, loading docks or truck yards.

"Any time you have to pull cable, the cost of the cable runs outweigh the cost of the hardware you're installing," says Xirrus's Sauter. "Companies are trying to get away from running copper wiring."

Security providers are also looking forward to the adoption of the wireless 802.11n Wi-Fi standard, which promises faster speeds and data-transfer rates than existing standards. The higher speeds will better support wireless video signals.

"The intersection of 11n with Wi-Fi and remote surveillance makes things work much better, and is really where the ability for remotely staged cameras will take off," says

Sauter. "[The standard] will provide not only higher data rates, but also a more robust link for wireless surveillance cameras."

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