

# Breaking New Ground in Construction Camera Technology

**C**onstruction site cameras aren't just nice-to-have gadgets anymore. Industry professionals have harnessed a new generation of cameras to help avoid many typical project delays and facilitate prompt decisions based on verifiable and visible information. The result is effective quality control and consistent, on-time delivery of projects.

While contractors purchase the majority of construction cameras, commercial and industrial owners make many large-volume purchases as well. Almost any project in excess of \$2 million can see a return on the technology investment by saving money on travel costs for site visits.

Three types of construction camera installation scenarios have emerged: single-use, single-unit purchases for high-profile projects; system purchases by contractors for managing their projects; and large-volume purchases by owners for national and international expansion programs.

Today, construction firms making these purchases tend to be the faster growing and more innovative firms in the industry. Their annual construction volume is typically \$20 million to \$150 million. They usually purchase a few units to start, either for their own use or as mandated by an owner. After installing cameras onsite and experiencing the benefits, firms often begin requiring their use on all projects.

Drivers for this implementation scenario include:

- cost savings from improved coordination and communication;
- better situational awareness for key players and project delivery; and
- improved relations and communications with the owner/client.

The construction cameras assist in

the overall awareness of each project and quickly become part of the day-to-day business processes, replacing or augmenting typical fax, email and telephone communications.

Prior to the existence of high-resolution wireless systems, attempts to implement national programs based on video systems were short-lived because of the low-quality video images and the technical barriers to practical installation.

With the introduction of high-definition systems (three or more megapixels) using cellular connections in late 2003, successful implementations of major construction camera rollouts became a reality. A business shift is occurring as more companies standardize the new construction webcam technology for their national expansion programs.

## DECISION PROCESS

Contractors should consider the following when deciding which system best suits their needs:

- **Resolution:** Three megapixel or higher digital photos make the imaging useful for analysis. Video technology may be fine for convenience store security systems, but it is not appropriate for construction applications.
- **Wireless:** Cellular image transmission helps avoid most jobsite connectivity problems and allows optimal camera placement onsite.
- **Turnkey:** The webcam vendor should be responsible for ensuring the system works right out of the box. Many early frustrations with camera systems result from vendors' unwillingness or inability to provide turnkey service. Use a one-stop shop.
- **Warranty:** The vendor should be pre-

pared to stand by its service and equipment. Construction sites contain hazards, so look for a guarantee that covers the hardware for at least three years and only pay for the time the service is used.

## JUSTIFYING THE COST

Some companies wrestle with the prospect of spending \$10,000 annually on a managed construction camera solution. For a company with 10 significant projects annually, a managed construction camera solution can be \$100,000.

For that investment, the company is protected by the equivalent of 10 years worth of archived construction footage in the first year. The direct savings from more accurate and timely information across 10 projects a year—due to reduced site visits, avoided miscommunications, fewer wasted materials and unnecessary project delays—offset the initial cost.

Data from one of the top national retailers shows that construction cameras can reduce a typical six-month project schedule by up to 12 days (7 percent), primarily as a result of a quicker decision-making process.

As the construction industry faces new challenges from escalating material costs and labor shortages, demand for greater project control and efficiency creates new opportunities. Firms that have begun applying this technology to real-world challenges on construction sites are standardizing the technology—and reaping the benefits.

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