



**“Simplify your life. Visit your construction sites online.”**

The real estate development industry has been around for generations. Why do we suddenly want webcams on construction sites? The golden rule of real estate, “location, location, location,” will always hold true. However, chances are the location where you and your consultants do business is not the same as your next development. The use of webcams can improve construction management and help to avoid critical path delays. A webcam gives you the ability to show your projects to potential tenants, investors, and consultants anywhere in the world. You can even have the peace of mind that comes from being able to watch your project’s progress online.

While many people have heard of webcams, few actually realize their potential as a management and marketing tool for the construction industry. The proliferation of the Internet as a common business medium is merging with the recent improvements in affordable digital imaging for some exciting new webcam technologies. Some of these webcam technologies have started to mature beyond the fuzzy web-based video images with which most people are familiar into a more powerful solution tailored for the retail operations and construction industry.

With the recent changes in the travel industry and our economy as a whole, companies are cutting back on unnecessary expenses and investing in high-tech alternatives. Teleconferencing and web-based management technologies to improve efficiency and streamline operations are the main ones. Construction webcam technologies fall right into these categories.

Webcams allow everyone involved in the construction process, no matter how far-flung, to have a presence on the construction site. As design and construction time compression strategies push the limit of our schedules, real-time visual information from the site can assist everyone involved in the construction process. The ability to make informed decisions from reliable information helps to eliminate redundant or inaccurate communications and avoid delays. Webcams can also offer reliable and unbiased documentation that can be used to quickly resolve issues and keep the construction schedule on time.

Many developers and franchisers are using the team concept and time compression strategies to reduce construction schedules. The aggressive pace which has become the standard in the retail industry frequently results in design and cost saving changes being made while projects are under construction. There’s no substitute for being at the site but it simply isn’t possible to have all of your consultants on site, all of the time. Webcams provide a creative solution to this problem. Design consultants have the ability to effectively coordinate revisions with contractors; contractors can coordinate with subcontractors, etc.

Having the capability to show effortlessly a project in real time to prospective tenants or even the general public can be a very useful marketing tool. Allowing investors to watch where their money is going is invaluable. Unlike direct mail campaigns, flyers, brochures, and media, there is little or no per-unit cost when using web-based tools such as webcams for marketing. Many marketing campaigns fail to capitalized on their web-based investment because they don't attract visitors with interactive and useful information.

### Things to Consider

Construction webcams provide an exciting array of possibilities, but there are some considerations when choosing a system.

What are the potential cost savings and what are the hidden costs? Webcams are not all the same. While many off the shelf cameras are inexpensive to buy they require high speed data connections to transmit the video. The infrastructure for inexpensive DSL and cable lines aren't available in most areas, especially on new construction. It's also not uncommon for the installation time on these less expensive high bandwidth lines to take several months or never happen at all, missing the webcams usefulness in being able to document construction progress. Systems that use standard telephone lines are more reliable, better suited for construction sites, and some even provide higher resolution images.

When considering the costs of different systems, factor in your internet connection. You'll need a connection with a high upload speed vs. the high download speed typically desired. Most internet connections for business with the required high upload speed such as SDSL cost much more than the residential equivalents (ADSL) we are familiar with. A residential DSL line can be as cheap as 49 dollars a month but the same line for a business is commonly several hundred dollars. If you go for a video based system don't forget to watch out for those contracts! Typically a contract is required and chances are it's going to extend beyond the completion of construction.

Do you want to save the images to document the construction progress or to produce a time-lapse presentation of the project? Many webcam systems simply push the same image to the web over and over again, overwriting the previous image each time. If they don't store the images automatically then they can't be used for a time-lapse presentation. Also, if you have a webcam system that has the robotic capability to PTZ (Pan, Tilt, and Zoom) then you won't be able to use the images for a time-lapse presentation. Time-lapse presentations require a stationary camera.

Some systems are available that provide the best of both worlds. They allow the user to zoom into and move around the image instead of actually controlling camera at the construction site.

Time-lapse video of the construction process can create an interesting promotional presentation. They can be an effective tool for telling the story of a project whether it is new construction or a historical renovation. If you want to have a time-lapse presentation you will need a system that automatically stores images as well as a place to store them. Most webcams have a low resolution, if you plan to produce a time-lapse video look for a system with at least a 640x480 image, preferably higher.

Who will use the system? Until recently webcams have been mostly a novelty. The low-quality images we're used to seeing don't provide the level of detail needed for the webcam to be used as an effective tool. Also, because many systems require some level of technical expertise for setting up the hardware and configuring the software, not to mention special software on the user's side.

A common misconception is that live images on the web provide something similar to television. They're not. The Internet today does not have the speed to broadcast a television-quality signal although most webcams are based on video technology. Even at their best, webcams based on video technology provide a grainy and jerky image. Although they are interesting to watch as a novelty and can be effective for marketing, their low quality images and high bandwidth requirements prevent them from being a real tool for management. Image resolutions from these webcams are typically 320 x 240 with some more advance systems going up to 640 x 480. Also, many video-based systems require special software on the client side such as Real, Netshow, or Quiktime to display the images in a tiny window. Be aware that a "live image" on the Internet may even refer to an image that is updated just once a day.

What about for security purposes? Another misconception about webcams is that they are the same as security cameras. Most webcams don't record video, the ones that do only store limited amounts of low quality video. If your looking for a solution solely for security then a more typical security camera and VHS may be the way to go. Either way, having a camera on your construction site is a strong deterrent to any thief.

What to look for:

Look for a webcam system with a higher resolution that doesn't require special software. Having a high-quality image every few minutes can be more effective than a low-quality image every few seconds. Even if you are able to get the high bandwidth necessary for a video-based system, the more users of the system, the slower it gets. Most video based systems will support up to five to ten simultaneous users before the speed becomes so slow it can be frustrating.

Many of the online project management websites offer some form of webcam solution that they will host on their website. They are typically off the shelf cameras that can be bought at your local computer store. The websites typically have limited functionality and only show the current picture.

There are also companies that specialize in construction site webcams. These companies offer more reliable, higher quality, turnkey solutions that have been tailored specifically for the construction industry. Some offer automated archiving systems that allow you not only to track construction progress in real time but also to retrieve past images which can be used to resolve issues quickly.

When the first ever webcam came online over ten years ago at Cambridge University it's function was to check that there was coffee in the pot before walking down several flights of stairs. In the last three years the number of webcams has grown 600% and their use on construction sites is no exception. As the technology evolves the potential for these systems to enhance and simplify our lives is substantial. Just as the internet has become an essential tool for business communications, construction webcams are becoming an essential tool for the construction and land development industry.

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