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TECHNOLOGY

magazine

Examining the Digital Technology Industry and Innovations in Oil & Gas



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Cameras Improving Energy EPC Management

Starting at a total annual cost of less than \$10,000, professional construction camera services enable owners and their contractors to bring the entire team together, regardless of distance, language, or time constraints.

Wireless solar-powered web cameras are changing how construction projects are managed. Construction-camera firms allow management to bring teams together virtually, eliminating some travel cost and time.

“Professional construction camera services allow project managers to eliminate that ‘disconnected’ feeling for those not on the jobsite,” Chandler McCormack, president of OxBlue Corporation, an Atlanta-based purveyor of construction webcam solutions used in the oil and gas industry, told Zeus Technology Magazine.

“You’re not going to replace site visits with cameras,” Chandler admits. “However, you can’t physically have all your people on site all the time. When each team member’s opportunity to view project status or ability to make an informed decision is limited by the frequency of their site visits, cameras fill in the gap.”

Three Approaches to Camera Technology

Purveyors of construction cameras can take multiple approaches to delivering images to their clients. One popular approach is pan, tilt, and zoom (PTZ) cameras, which allow the camera to be operated via the web from a virtual dashboard.

Texas-based OnsiteView offers wireless cameras that use PTZ technology. Jeff Tomlins, the owner of OnsiteView, states that his cameras can rotate 360 degrees, tilt up and down 110 degrees, and zoom in to enlarge an image 27 times. A camera with a wireless Internet connection rents for \$595 a month, he said.

Other camera-system vendors offer video systems, similar to surveillance video used for security systems. Video, however, can be more cumbersome to manage, as the file sizes are larger and resolution tends to be lower. Construction team members tend to need high resolution to zero in on specific equipment or features.

OxBlue has opted for high-resolution photos taken from a fixed camera and uploaded in 15 to 20-minute intervals. By taking photos with as many as 8 megapixels of detail, management can zoom in on specific features. See Figure 1.

A high-level comparison of three construction camera purveyors is provided in Table 1.



Table 1: Selected Purveyors of Construction Webcam Systems

Company Name	Product Focus	Price ranges	Online
OxBlue Construction Cameras	Offers rugged high resolution (3,4,6, and 8 megapixel) construction cameras specifically for communicating and documenting construction progress. OxBlue systems transmit over cellular signals and offer solar options for a truly wireless solution. Pricing is all inclusive, there are no contracts, hardware is covered by a lifetime warranty and the client only pays for what they use.	\$4,800-\$12,500/year	www.OxBlue.com
Earthcam Webcam Network	Offers over 700 IP based network camera solutions that include streaming video, wireless cameras, and leading edge webcam solutions to vertical markets from entertainment establishments to construction. Pricing depends on hardware, annual software license, configuration fees, shipping, recurring archive charges, connectivity charges and support fees.	N/A	www.earthcam.com
Onsite View	PTZ and high-resolution megapixel cameras with solar power units optional controlled via the web dashboard.	~\$7,000 to \$50,000/year	www.onsiteview.com

Four Reasons Why Project Teams Use Web Cams

McCormack explains that there are many reasons why webcams are growing popular among construction project teams; however, four stand out:

- 1. Ability to make decisions.** When an issue comes up at a particular job site and a decision has to be made, the contractor, consultants and developer have an immediate and clear understanding of the issue and as a result they are able to react faster.
- 2. Management by exception.** Clients don't have to wait for regularly scheduled site visits to learn they are falling off schedule or that there is a problem. Instead of spending resources to determine the status of projects, the clients can spend resources concentrating on solutions.
- 3. Dramatic travel time savings.** McCormack explains that many clients work on multiple jobsites simultaneously. Some clients can reduce the number of overall site visits, for themselves and their consultants, by 35%, he said.

"It is a substantial savings," McCormack said. "It can be more than ten thousand dollars in savings, and

that's on a small project."

- 4. Increased site visibility.** McCormack says that clients actually feel like they have more site visibility because everyone is looking at the jobsite cameras as needed. Before a consultant makes a visit, he or she can see when it's a good time to make the visit. Project managers can monitor activity. Owners can view progress. Contractors are able to coordinate subs and materials deliveries.

Integration with Project Management Software

Increasingly, vendors of webcam systems are allowing project management teams to integrate the webcam features into major project management software systems, such as e-Builder, Constructware, and Primavera.

OxBlue has developed an application program interface (API) for one of their major partners and plans to make the API available to their clients. They are a few weeks from officially announcing the new feature, but its already being used for live projects.

"We've got this great resource for clients, access to millions of images of their projects. By opening up the API to them, clients will have access to view images in

any way they like using their existing project management systems.

Wireless Communications

Construction camera systems can use a variety of methods to transmit data. Land line systems were the original method, then local wireless connections, now some companies specializing in cameras for construction sites have standardized on offering cellular or even satellite connections as part of the service.

By offering wireless capabilities, cameras can be placed almost anywhere on the jobsite without data cables. Cellular coverage has grown more comprehensive in recent years. Thus, more vendors are using cellular signals coupled with solar power units to uplink photo images.

Project Management Software

One engineer, Al Kaplan, formerly a vice president of LNG with Marathon Oil Company, explained that the contractors commonly supply project management software to owners.

“The software has financial, budgeting and other features that the contractors would use, and we [oil company executives] seldom used,” Kaplan said. “In all honesty, the oil and gas company owners keep projects between the ditches, but it is the contractors that use project management software daily.”

Both Kaplan and McCormack noted that London-based Primavera (<http://www.primavera.com/>) is a leading name among project management software systems for large oil and gas engineering, procurement and construction (EPC) projects. The software is noted for its collaboration, corporate governance, and



Figure 1: Wireless webcams for construction can transmit high-resolution photographs, PTZ photographs, or video.

the measurement of performance towards objectives and financial performance of the project as a whole. The company was purchased by Oracle in 2008.

According to Primavera, they are the largest

Five Factors to Consider When Selecting Construction Cameras

1. Ease of camera setup: Look for systems that are self contained and don't require extra equipment at the jobsite.

2. Reliability: Construction sites can be harsh environments. Use a construction camera that is ruggedized, is made for outdoor use and has its own heating and cooling.

3. Quality of the image: For projects smaller than 5 acres look for a 4 megapixel system; for larger projects, 6 megapixel systems are available.

4. Method of data transfer: Chose a system that doesn't require landlines; cellular solutions simplify installation and maintenance.

5. Warranty and Contracts: A lot of things can happen on a jobsite. Select a camera service which offers a lifetime warranty and doesn't lock you into a contract in case your project is delayed.

Source: McCormack, C. "How to pick a construction camera." *www.Articlesbase.com*. Feb 10, 2009.

Table 2 Selected Project-Management Software Systems Common in Oil & Gas

1. Autodesk® Constructware® (www.autodesk.com/constructware) is a part of the Autodesk Collaborative Project Management suite, targeted towards construction project management and collaboration.
2. e-Builder: (www.e-builder.com) focuses on mid- to large-size corporate owners and design firms. Key differentiators, rapid implementation, low cost structure, flexibility - buy only needed components, live customer service, and exclusive focus on the construction industry.
3. Primavera: (www.primavera.com) targets architecture, engineering and construction firms with more than \$500 million annual revenues as well as public and private owners and operators.
4. Procore: (www.procore.com) is a provider of project management software for contractors. The service is designed to be used by the field superintendent at the job site. The company claims to allow users to manage project scheduling, RFIs, communications, punch lists, change orders, photos and documents all from one online interface.
5. Prolog: (www.meridiansystems.com/prolog) claims to have automated all aspects of the construction lifecycle, from project design to close out. It is reported to be the market share leader in project management software among general contractors larger than \$100 million in revenue.

provider of collaborative project management solutions. They have strategic alliances with SAP, IBM, Accenture, and BearingPoint.

Table 2 below provides a list of five selected project management software systems commonly found in multi-

national EPC projects.

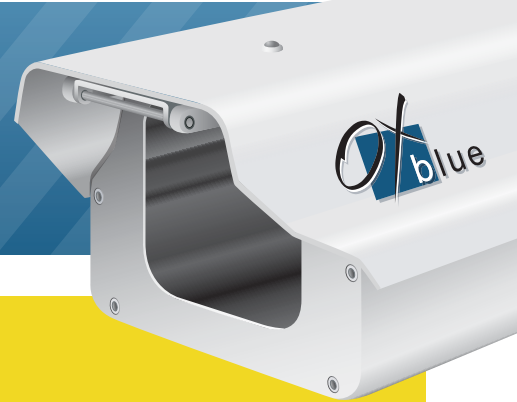
For smaller projects, TopTen Reviews ranks Microsoft Project highest for project management and resource management. Kaplan agrees, "It integrates with other Microsoft products and is easy to operate."

SEMStar5 Wins OTC New Technology Award

The Offshore Technology Conference (OTC) has recognized GE Oil & Gas for technology innovation by awarding it the "Spotlight on New Technology Award" for its next generation subsea electronics module, the VetcoGray SemStar5. The award recognizes new and innovative technologies that will significantly impact offshore exploration and production.



Why OxBlue?



Welcome to OxBlue, where a picture is truly worth a thousand words!

OxBlue is the leader in construction webcam solutions that bring all your projects within view, allowing your construction team to stay up to date and up to the minute on every construction site.

Full service:

OxBlue handles the hardware, connections, servers and software.

Hi-definition images:

No grainy video here. OxBlue uses proprietary camera systems to deliver top of the line results.

Cellular connections:

OxBlue has cut the cord on clunky dial-up image transmission with the industry's first nationwide, automated cellular solution. Mount cameras anywhere, forget about configuration nightmares, start viewing your jobsite immediately!

All in one system:

No data cables or configuration settings, just plug it in, OxBlue takes care of the rest.

National service:

We specialize in full service construction webcams where and when you need them. Our systems are installed across the country and around the world.

Dedicated support staff:

OxBlue will walk you through the installation of the system, maintain it, and if something goes wrong, we're going to fix it. We'll be there when you need us and we will be accessible to you 24 hours a day.

Simple pricing:

One time hardware cost and a recurring monthly service fee. You only pay for the service you use. No hidden fees or other charges.

No contracts:

Our service is so good we don't need contracts and if your system is not running, for any reason, you do not pay!

Warranty:

OxBlue's offers the only lifetime warranty in the industry.

We're committed to our clients and we deliver results.

Have A Question?

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