

Low oil prices have energy companies slashing budgets across the board. But Tim Kridel finds some bright spots in their use of AV, such as increased surveillance deployments.

# Is AV over a barrel?

It's been a little over five years since BP's Deepwater Horizon oil rig experienced a blowout. Known in the energy industry as "Macondo" after the Gulf of Mexico region where it occurred, the disaster is an example of how one industry's problems sometimes create opportunities for pro AV.

To help catch leaks, fires and problems before they get out of hand, oil companies are increasingly installing surveillance cameras, particularly at remote and unmanned sites. Even when they have telemetry systems to monitor those facilities, the cameras provide an additional layer of protection.

"Over the past two to three years, there was definitely an increase in bandwidth usage related to video surveillance applications," says Keith Johnson, senior vice president and general manager for energy at SpeedCast, which provides satellite and other communications services. "We saw an increase in the interest level of installing cameras where they have pressure/flow gauges."

Surveillance spending also is driven by thefts at on and offshore facilities, as well as political unrest when locals view foreign oil companies as pillagers of their natural resources. Whatever the

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reasons, surveillance also is an example of how the energy industry still has ample opportunities for pro AV even amid depressed oil prices.

The state of the energy sector bears watching by more than just the AV firms that target oil and gas companies. In countries whose economies are heavily dependent on oil revenue, contractors in every trade – not just AV – are increasingly facing late payments, regardless of whether they're working for the government or a private entity. For example, in March, the Wall Street Journal reported that the Saudi Binladin Group is billions of dollars in debt after Saudi Arabia's government slashed infrastructure projects and oil subsidies.

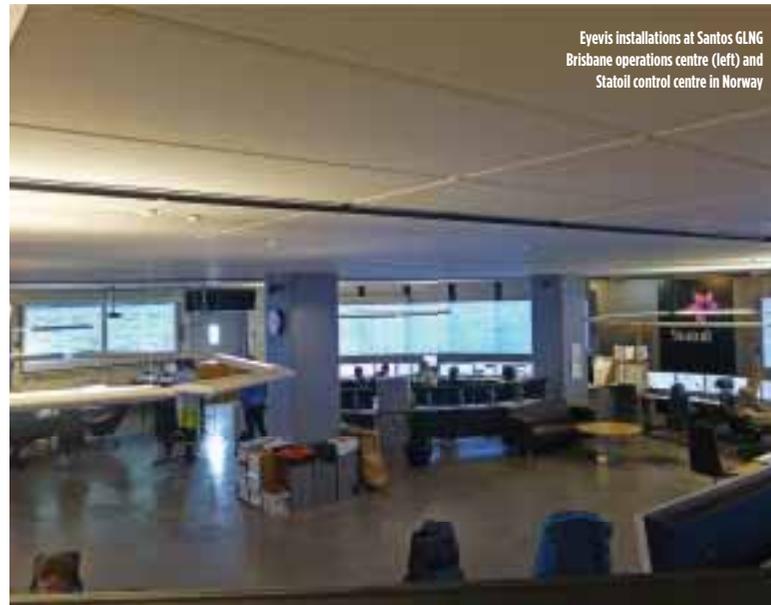
"It happens, [but] I would not say that this is happening everywhere," says Igor Isheev, Polymedia CTO. "Often the cause of the late

paying is some intermediate subcontractor in the whole chain of project contractors who has a problem and as a result cannot pay the others."

Late payments can be particularly challenging for AV firms that focus on just one or two countries because their cash flow isn't spread across several economies.

"In these states, we usually have to accept the long payment terms," says Max Winck, eyevis PR and marketing manager. "So it always takes time to get the return for the investment we have when we start our production.

"But that's normal in project-based business. Due dates for payments are long, but in the end they always pay. Of course, the more companies are in between us as the manufacturer and the final >



Eyevis installations at Santos GLNG Brisbane operations centre (left) and Statoil control centre in Norway

< customer, the longer it takes.”

Another country-specific factor is national pride. If an AV firm is based in the same country as an energy facility that needs help, it often has a competitive edge over foreign integrators. That’s because multinational energy companies are increasingly publicising how many local contractors they use in order to show that a lot of the money and jobs aren’t going to foreigners.

“The major oil companies, because of the downturn and the limited staff, they’re typically utilising local contractors wherever they can,” Johnson says. “Very seldom are their people going out to do the installations. It’s also much more cost effective to use locals, and if locals are seen doing the work, there’s not as much resistance to having the expats doing the work.”

### On the cutting edge of technology... with a few caveats

Energy companies have a reputation in pro AV as being early and aggressive adopters of new technologies.

“[One] reason that creative and leading AV solutions find a home in the energy sector is because they use a lot of visual tools and aids to complete their job,” says Nathan Nye, Datapath vice president of North American sales. “4K, higher resolution cameras, IP connections, etc. all have homes and uses within the energy cycle. Not all vertical markets can make that same claim.”

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- Nick Riddalls, Dolphin Geophysical

That’s because they can justify the price premium for, say, a 4K or 8K display if it enables them to ferret out oil and gas reserves they otherwise might overlook.

“4K is one example of how a new technology has enabled energy companies to become more granular with their geological models, ensuring a more precise operation,” Nye says. “Couple that with the ability to share that data instantaneously through IP video encoding across wide swaths of land and ocean, and receive immediate feedback from experts not locally on site, has become invaluable.”

But drill deeper, and nuances start to emerge. For example, eyevis primarily works on control rooms that handle generation and dispatching.

“Here we see the trends common for the control room industry, which means a growing number of IP-based signals that need to be integrated and request for collaboration between different sites,” Winck says. “In terms of resolutions, 4K becomes automatically an issue when you add more than four displays in a video wall. So it’s nothing particularly new there.”

Other AV firms are seeing good demand for 8K. “We are using more than 4K resolution when

installing display systems for control rooms and situation centres of oil and gas companies,” says Polymedia’s Isheev. “The typical videowall has 8K resolution.”

Some of eyevis’ videowall projects are reachable only by helicopter, such as oil rigs in the North Sea. Those are noteworthy because they’re examples of why energy companies often prefer pro AV gear, unlike other verticals where consumer hardware often gets the sale because it’s cheaper.

“They are still willing and able to pay the higher prices for really professional equipment,” Winck says. “The simple reason is that the sites where the AV equipment is installed are located in the middle of a desert on an oil platform, or other places where service may take some time just to travel there. So they need a highly reliable product which minimizes the risk of expensive downtimes.”

But for locations that aren’t remote, or for applications that aren’t mission critical, energy is like every other vertical when it comes to using gear that’s consumer grade or a generation behind. Arguing that pro gear lasts longer doesn’t necessarily change minds.

< “Longevity is an interesting point, but things change so quickly,” says Nick Riddalls, processing manager, at Dolphin Geophysical, whose products include seismic software. “Three years ago, a 4K screen cost you an arm and a leg. Now \$500 gets you a 46-in 4K screen.

“The fact is, you buy one, and if it breaks, so what? Buy another one, and it will be half the cost.”

## Network needs evolve

Shell is among the energy companies that have slashed spending to ride out the slump in oil prices. One bright spot is that AV systems are among the tools that those companies use to identify reserves and other assets. So continued spending on them can be justifiable if the company believes it will help them quickly capitalise when prices rebound.

Another bright spot is that even a seven-figure control room project is pocket change compared to the myriad big-ticket items that energy companies typically buy.

“In the scheme of exploration budgets, the AV-IT side isn’t a very large part when compared to an oil rig or a survey,” Riddalls says. “That said, given that a lot of companies have downsized, we do have spare equipment knocking around that we would use first instead of buying new. Even though some of it is slightly outdated, the fact is it’s hard to justify spending money on new monitors and displays.”

Surpluses in other areas also make it tough to discern where and how AV usage might be rebounding. An example is the way energy companies buy bandwidth in bulk.

“Some of these companies have bandwidth tied to a region or fleet,” says SpeedCast’s Johnson. “Therefore, because they don’t have as many rigs or ROVs working, they’re spreading that bandwidth across all of them, even the ones that aren’t in use. So they’re not having to request additional bandwidth right now.”

Johnson thinks increased surveillance usage is consuming some of that surplus. If so, and if that trend continues, it bodes well for sales of AV gear.



“If the market hadn’t suffered over the past year to 18 months, I think it would be a lot easier to validate the increase in bandwidth usage,” Johnson says.

Over the long term, however, bandwidth usage will increase across the board to accommodate trends such as higher resolutions and more surveillance. Hence the importance of deploying a network with enough headroom to support future traffic loads.

“One concept that all energy companies understand is infrastructure,” says Datapath’s Nye. “This is a great advantage when it comes to AV technology adoption because they already understand that in order to accomplish certain tasks, it is going to require investment in the infrastructure.”

“Now there is no guarantee they will make the investment. However, they are willing to have the conversation, and that is key, given what some of their applications are.”

But here’s the catch: In most verticals, AV firms lament that they’re typically brought into new facility or major remodel long after the architect, general contractor and the client all have made major decisions. Then it’s up to AV to make do, which often is challenging, such as a conference room filled with so many windows that all of the displays and cameras are constantly fighting sunlight. So in the case of bandwidth and the energy vertical, the challenge is to get a seat at the table early enough in the project to ensure that the necessary budget and connectivity are there.

“Nothing is worse than having a company ask for a sophisticated solution, [and] only at the 11th hour say, ‘Our network or our storage capacity cannot support this solution,’” Nye says. “It should be one of the first parts of the conversation, not the last.”

Bandwidth also determines the types of AV equipment used. For example, although videoconferencing is increasingly common in remote locations such as offshore platforms, it often doesn’t use the same resolution as the systems back at headquarters.

“Typically they’ll have some videoconferencing, but it’s not going to be the latest and greatest, and it’s going to be 1080, not 720,” Johnson says. “When you’re talking about corporate, the home offices, they’re extremely cutting edge. They have multiprotocol label switching (MPLS) out to almost every one of their sites, in terms of their office locations.

“To the extent that we’re providing networks over our satellites, there’s MPLS connectivity to each teleport. That’s definitely a growing trend for the major energy companies, whether they’re a producer or a service company.”

Some applications are just too big for satellite, cellular or wired networks that use legacy technologies. One example is 3D and 4D seismic work.

“The files are too large to send over satellite,” Johnson says. “They’re still taking that information on tape and helicopter or boat back to shore.” ☞