

Artificial Lift Company Adopts VTScada Software for Remote Oil Well Optimization

A privately owned international artificial lift service company in cooperation with Trihedral UK Limited™ recently completed development of a VTScada-based software application that provides centralized remote monitoring for their variable speed drive controllers. This solution has been successfully implemented at oil fields in Kuwait, Saudi Arabia, and South America.

Variable Speed Drive Controllers

This award winning company develops next-generation monitoring and control solutions. From their offices in the UK, the Middle East, Africa, and Asia, they oversee well installations in over twenty countries. Their variable speed drive controllers are self contained panel-mounted systems designed for remote oil wells. They provide detailed recommendations for well optimization based on key readings such as pressure and temperature. For example, its sophisticated algorithms may determine that increasing pump frequency by 10 Hz will produce an additional 1,500 barrels of oil per day.



A panel-mounted variable speed drive controller.

VTScada™ Software from Trihedral

Keith Donaldson is an engineer and Business Development Manager with Trihedral UK. "Having these panels on-site is fabulous until you realize that these wells are often located in the centre of a jungle, or the desert, or offshore. The company needed a way to display that information remotely." Rather than use a high-bandwidth solution like remote desktop, the team took a SCADA-based approach. "We used our VTScada monitoring and control software to create an application that looks identical to the panels but renders its own displays from process data transferred from the wells. Typically, the system transmits data over GPRS on a cellular network but it can also use satellites or networks," adds Donaldson, "It's actually transport independent."

Centralized Data Storage

The VTScada application compiles remote process data in its own built-in historical database allowing operators hundreds of miles away to run reports and view trends without latency. The solution also gathers data from multiple remote sites into a single database allowing operators to see how well their entire well field is optimized.

Highly Customized Graphics

The key to the application's success is VTScada's ability to duplicate the on-site panel displays. Integrated tools allow developers to highly customize the look and feel right down to the individual parts of the meters. You can even add multiple needles to a meter to indicate set points, alarm points, alarm trips, and trip levels. VTScada is also unique in that it can render a two-dimensional graph where neither axis represents time. "These panels display well depth versus well pressure," says Donaldson. "We can render that graph exactly. Most other products require one axis to be time-based."

Although the combined system is up-and-running, Donaldson and the Trihedral team continue to build on its functionality. "We've recently been working on adding Electrical Submersible Pump technology (ESP). In our latest phase of development we are bringing online the Progressive Cavity Pump (PCP) panels. A couple of weeks ago we completed custom reporting so operators could get daily emails detailing how their wells are performing. This is just the beginning."

For More Information

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