

Real e-business solutions can boost rig efficiency

“DESPITE THE TREMENDOUS interest, the reality is that e-business in the exploration portion of the energy sector has been mostly just hype.”

That's the opinion of **Chris Papouras**, President of **Epoch Well Services**, a provider of rig instrumentation and reporting software to drilling contractors and operators. Epoch systems and software products are currently installed on over 500 rigs and in 100 offices throughout the world.

“E-business is a hot topic in the industry right now,” he said. “Everyone is investing time, energy and money in it. Unfortunately, our industry has been a laggard with respect to taking advantage of existing technologies. Look around, and you will not find many successful models.”

Papouras went on to say that his company has been implementing e-business solutions for its customers for over 3 years. Epoch's product RIGREPORT™ has automated the contractor's Daily Drilling Report and is now installed on over 300 rigs. What was originally a Daily Reporting System has grown to include payroll, purchasing, operations and human resource processing.

“The biggest benefits can be achieved when a contractor looks to automation to bring about both process improvements and operations improvements,” said Papouras.

PROCESS IMPROVEMENTS

Process improvements include the automating of payroll, purchasing and safety and human resources. When automating payroll, information entered at the wellsite is automatically processed into a company's ERP system.

“Even though rig counts have tripled in the past 2 years, our customers have been able to handle the increased workload with the same number of staff,” said Papouras. “We've eliminated most of the paper handling.”

Epoch's RIGREPORT™ also streamlines purchasing, allowing field personnel to enter purchase orders and track orders against a pre-defined basket of items.

“Two years ago, it was unheard of for office managers to have updated information on what rig personnel were order-

ing,” said Papouras. “Today, however, it is possible to know exactly what was purchased that day, how much was spent, and whether or not it was part of a pre-negotiated basket.”

Since materials purchasing can be monitored at the rig, the cost per purchasing transaction can be reduced considerably, according to Papouras. As companies centralize purchasing and negotiate company-wide deals, this tool will become even more critical in delivering purchasing economies, with some Epoch customers already realizing a savings of as much as 5% of their annual rigsite purchasing budget.

“Incident reporting can also benefit from electronic processing,” said Papouras. “It eliminates some of the steps previously necessary to achieve compliance, saving time and manpower. Now safety personnel can focus on really improving safety, not just reporting safety statistics.”

OPERATING IMPROVEMENTS

Although process improvements can result in real, measurable benefits, the biggest value of automation, according to Papouras, is from using data to implement changes in operations.

For example, one area where the electronic streamlining of processes is having an impact is in tracking downtime. Downtime can now be recorded in instances per hour, along with the root cause of the problem.

“Once you know what is causing downtime, it is possible to eliminate or reduce it significantly,” said Papouras. “We are now coding downtime by SCRs, by pumps, by engines, whatever the customer wants. One of our customers discovered that over 30% of his downtime was attributable to one reason. With proper training of rig hands, this cause of downtime was almost entirely eliminated. This would not have been possible without accurate and timely data collection.”

Automation will also bring to the drilling industry the ability to store, retrieve and analyze historical information.

“Once a system is in place, a company can instantly retrieve and analyze historical records, including such information as what problems rigs encountered in certain places at certain depths,” said

Papouras. “This can greatly facilitate well planning, and ultimately reduce the cost of the well. Previously, information like this was stored in the heads of drillers and toolpushers and was lost to the company if they left.”

REQUIREMENTS FOR SUCCESS

According to Papouras, there are several requirements for success in implementing real e-business solutions. First is the commitment of senior management to a long-term solution and to guide the organization in this evolution.

Next is the recognition of practical realities. Any automation system must be user friendly so that it can be taught to oilfield workers with little or no computer experience. For any solution to work, the data must be accurate and timely and this requires acceptance and use by the field.

Finally, any automation system must have demonstrated benefits. Whether benefits are measured in time savings or operational improvements, implementation must be geared to achieving benefits immediately, not solely so that participants can say they are involved in some form of e-business.

UNLIMITED POTENTIAL

According to Papouras, the biggest benefits that will result from automation will come from soon-to-be-realized improvements in communication between the rig and the office.

“I think the only thing keeping e-business from achieving its real potential in the drilling industry is the need for continuous transmission of data in real time,” said Papouras. “This problem will ultimately be solved with the use of satellite technology. In fact, we are currently installing satellite transmission and reception capabilities on the rigs we serve, in order to go from batching the information we gather to continuous transmission.

“If the processes involved in the daily running of a rig are really going to be streamlined, you need continuous contact with the rig. When this is achieved, the industry will really begin to enjoy the benefits associated with this type of e-business.”

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