

The lifting business

Audrey Leon chats with Schlumberger to learn about the latest technologies available for artificial lift.

OE: What's your latest innovation/product in artificial lift technology? Please explain the technology and how it works.

Khaled Elsheikh: The industry is moving to a digitally enhanced age where it is critical to pair equipment with data collection and precise interpretation to expand well performance. The Lift IQ production lifecycle management service is the premiere monitoring and surveillance platform for optimizing artificial lift systems. From monitoring hardware in a single



Khaled Elsheikh, vice president of marketing and technology, Schlumberger Artificial Lift Solutions.

well to optimizing equipment and operations across an entire field, customers can choose the level of service to suit their needs. The Lift IQ service taps into the renowned engineering,

manufacturing and surveillance expertise of Schlumberger with access to global service centers 24/7/365.

Monitoring and surveillance minimize downtime, maximize production, and reduce total operating cost. Once considered only for high-value offshore wells, the Lift IQ service is increasingly important for achieving economic targets in large brownfields, especially where wells are widely dispersed or where in-person troubleshooting expertise is limited. Data is transferred via satellite or cellular connections to and from remote locations, hostile environments, and sites with limited or no data acquisition capabilities. Schlumberger Artificial Lift Surveillance Center engineers use the data to correct discrete problems, update pump regimes to match fluctuating conditions, or identify underperforming wells that could benefit from further pump optimization.

The Lift IQ service provides access to all critical wellsite data in one cohesive, solutions-based software platform. It seamlessly merges data for quick and easy management of all monitoring and troubleshooting requirements: well and field performance indicators; alarms and events management; and diagnostics and optimization.

OE: Where do you see artificial lift technology going in the future?

Khaled Elsheikh: Three key technology advances are occurring in artificial lift.

First, is the digital era of artificial



Dedicated Schlumberger surveillance engineers monitor alarms to prevent or mitigate adverse events, diagnose probable causes, and recommend remediation measures—all in real time. Photo from Schlumberger.

lift. The progression of artificial lift is twofold: the advancement of equipment functionality running in parallel with gathering and interpreting data metrics for well optimization. Adding sensors and measurements is the first step to run-life improvements; however, analyzing and interpreting this data is critical for enhanced well performance. This next generation of artificial lift closes the loop to achieve a holistic approach to run-life. Providers must configure all aspects of digital innovation including connectivity, data security and transmission, automation, custom calibration, interpretation, and response speed—all in real-time. The end game is to avoid shutdowns and prevent failures with automated feedback control, which leverages

machine learning, robust analytics, and engineering expertise to optimize well operations.

Secondly, alternative deployment technology is a key area of development for the industry and all service companies are introducing some great innovations in this area. ESPs are often selected as an optimal artificial lift method; however, conventional ESPs are run on heavy jointed tubing, which frequently requires a rig or hoist for maintenance and failures. These interventions defer production, increase costs, and delay operations. One example of alternative deployment technology is the ZETeCS Shuttle rigless ESP replacement system, which “shuttles” standard ESPs through tubing on wireline, coiled tubing, or sucker rods without a rig or hoist.

This technology minimizes production deferral, operating costs, HSE risks, and disruptions to operations. Moving forward, new technology in alternative deployment will further advance artificial lift wells by simplifying preventive maintenance and lifecycle management in changing reservoir conditions.

Thirdly, managing the production lifecycle is critical to overall well success. Operators change from one lift methodology to another throughout the well's life. It is beneficial to make these transitions as seamless as possible, ensuring timely changes and choosing the best technology for well optimization. Companies utilizing the full suite of artificial lift will benefit directly from the industry moving toward a comprehensive approach to enrich well life. **OE**



Optimizing wells through monitoring and surveillance is proven to minimize downtime, maximize production, and reduce total operating cost.

Image from Schlumberger.