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INDUSTRY LEADERS' OUTLOOK 2026

# Automation and AI will help the Middle East navigate energy's next frontier

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As the global energy landscape evolves, the Middle East remains a focal point of opportunity and complexity. For 2026, the region's upstream sector faces a dual imperative: to sustain production amid maturing reservoirs and to accelerate innovation through automation and artificial intelligence (AI). These forces reshape how operators approach field development, asset recovery, and operational efficiency.

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## MARKET DYNAMICS AND STRATEGIC EXPANSION

The Middle East's oil and gas activity remains tied to global price fluctuations and the strategic decisions of OPEC nations. While some countries have experienced variability in investment and output, others, such as Kuwait, Iraq, and the United Arab Emirates, work to expand their production capacity. These nations invest in infrastructure and technology to maintain or grow their maximum sustained output, even as they confront complex reservoirs.

Reservoir maturity presents a challenge on the rise. Fields that once delivered high yields with minimal intervention now require advanced techniques to remain viable. The cost of extraction increases as a result, and operators experience additional pressure to deliver more with less. In scenarios like this, service companies play a critical role.

## AUTOMATION IN ACTION: HOW TO DRILL THE WORLD'S LONGEST WELL

One of the most compelling examples of automation's effect is the industry's progress in drilling extended-reach and record-length wells. These achievements speak to the potential automation brings to oil and gas production. Integrated automation and remote operational capabilities help teams execute complex well plans with fewer interruptions, stronger consistency, and faster learning cycles—supported by real-time monitoring and intelligent execution.

This progress underscores the transformative potential of automation in well construction. It highlights more than speed; automation provides consistency, precision, and the ability to replicate success in complex environments.

## CEMENTING INNOVATIONS GO FROM LAB TO FIELD IN MINUTES

Beyond drilling, automation can revolutionize cementing operations. Through modern software platforms, teams can collect and analyze large volumes of data to design optimal cementing solutions in minutes, a process that once took days. This data-driven approach can improve well integrity, longevity, and economic value.

More important, a digital approach to cementing operations streamlines the testing process. As service providers narrow down the required lab work to a smaller, more targeted set, operators can accelerate readiness and execution while maintaining confidence in design quality.

## UNCONVENTIONALS EXPAND THE ENERGY MAP

The Middle East currently experiences a rapid expansion of its unconventional resource base, particularly in gas. Saudi Arabia leads the charge, but other nations, such as the UAE, Algeria, Bahrain, and Qatar, also explore the potential of unconventional development. These efforts prove critical to the replacement of depleted reserves and diversification of energy portfolios.

To make these plays profitable, operators must shorten the knowledge curve and optimize recovery. Intelligent fracturing workflows supported by real-time diagnostics, adaptive designs, and closed-loop optimization can help accelerate learning in early-stage development. In fields where uncertainty remains high, these capabilities provide actionable insights that improve recovery and support faster progression from appraisal to scaled development.

## AI AIDS IN PRECISE WELL PLACEMENT

As geological complexity increases, traditional geosteering methods no longer suffice. AI and automation now allow operators to analyze thousands of data points in real time, which helps ensure they place wells in the most productive zones. This shift not only improves recovery but also maximizes the value of every barrel produced.

The ability to make data-driven decisions in real time provides a competitive advantage. Operators who embrace these technologies better position themselves to navigate the challenges of reservoir variability and deliver consistent results.

## MODEL COMPLEXITY WITH CONFIDENCE

Data sovereignty and cloud adoption show constant evolution in the region, and operators face a greater requirement to deploy local data centers to manage their applications. Scalable earth modeling and ensemble modeling capabilities can play an important role in managing reservoir uncertainty.

As marginal fields become the new frontier, ensemble modeling provides for more accurate forecasting and decision-making. It allows operators to simulate multiple scenarios and account for variability, which helps ensure they can make informed choices in complex environments.

## ARTIFICIAL LIFT BOLSTERS FIELD REVITALIZATION

As fields mature, the demand for artificial lift and well intervention grows. Electric submersible pumps and other lift technologies become central to the maintenance of production levels. Coupled with the rise of unconventionals, this trend underscores the importance of integrated production strategies that address both surface and subsurface challenges.

The growing demand for artificial lift technologies reflects a broader shift toward field revitalization and long-term asset management—where reliability, surveillance, and optimization become just as important as initial development planning.

## THE ROAD AHEAD: EFFICIENCY, RELIABILITY AND VALUE

In 2026, the ability to adapt will define the Middle East's energy sector. Automation, AI, and digital transformation no longer serve as optional. Operators must embrace these technologies to remain competitive, and service companies must innovate in ways that deliver measurable value.

Whether through complex well construction, accelerated cementing workflows, improved subsurface understanding, or strengthened production optimization, the focus remains the same: achieving higher reliability, greater efficiency, and improved asset recovery.

The region has a bright energy future, but it will require bold action, strategic investment, and a relentless focus on innovation. With the right tools and collaborations, the Middle East can remain a world leader in energy production and set new standards for performance and sustainability. **WO**

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