

The intersection of sustainability and digital

Meeting the challenge of sustainable operations requires embracing innovation and driving high performance.

Lees Rodionov, Schlumberger

Demand from the global community for our industry to employ a more sustainable method of providing access to energy continues to grow. While the global pandemic prompted a drastic change in the way we work, our industry was already undergoing a significant transformation. We have been working to answer the global call to action introduced by the U.N. with the Sustainable Development Goals. We have moved beyond simply meeting an expectation—we are committed to building sustainable operations across the entire E&P value chain.

Meeting this challenge requires embracing innovation and driving high performance, and doing so more safely and sustainably than in years past. Schlumberger is focused on creating technology that unlocks access to energy in this new environment. Customer centricity, digital enablement and sustainability are all elements of our strategy. We see the intersection of the three as an opportunity to steer a transformational change to our industry's operational footprint.

To do this correctly and fully realize sustainability ambitions, the industry must address the entire E&P value chain, starting at the planning stages. This includes managing the environmental footprint, including emissions, throughout the life cycle of our sourcing decisions, in addition to properly managing logistics, facilities, operations and, ultimately, the use of technology by operators.

Schlumberger is leveraging its digital investment internally while incorporating sustainability into engineering and operational practices, in addition to working closely with suppliers. This allows us to mitigate risk, enhance efficiency and more proactively reduce harmful environmental impacts from our operations. For example, we can complete remote digital inspections and prognostic health monitoring of field equipment, which decreases necessary visits to the well site, simultaneously reducing emissions and safeguarding workers.

Another example is how we integrated smart systems throughout the operational logistics workflow in Saudi Arabia to reduce the number of partially loaded trucks. Insight gained from that analysis enabled us to lower the logistics mileage driven, reducing vehicle-related emissions in Saudi Arabia by 21% over just two quarters (fourth-quarter 2019 to second-quarter 2020).

For our customers, Schlumberger can eliminate manual operations and downtime through the use of intelligent Industrial Internet of Things (IIoT)-enabled systems. The incorporation of edge computing—for example, through Agora, a Schlumberger startup venture focused on delivering

edge computing and IIoT solutions to the oil and gas industry—enables production engineers to quickly analyze rod pump condition data to take corrective actions with no delays. This allowed one operator to increase production by 5% and reduce driving to the well site by 5,500 miles per month.

Additionally, by evaluating customer operations from site preparation through to production, we are able to model environmental metrics (e.g., emissions, waste, water, etc.) during key upstream and midstream activities. Doing so aids in understanding the environmental trade-offs of various operational choices during the planning stages.

By combining our digital domain and technological expertise with our leadership in sustainability, we are driving high-performance sustainably jointly with our customers and suppliers. As the global community calls upon our industry to deliver safer and more sustainable means to provide access to energy, we must leverage digital enablement to deliver more sustainable operations and to positively impact the communities where we live and work. +

Editor's note: Lees Rodionov is the global director of sustainability with Schlumberger.



(Source: Schlumberger)