

EXECUTIVE VIEWPOINTFERNANDO ASSING, PRESIDENT AND CEO,
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Plug & play technology that compounds value

When oil and gas prices began to drop in 2014, companies, including Tesco Corporation, intensified their efforts to reduce drilling costs and improve rig efficiency. Companies have focused on equipment automation and digitizing performance metrics, to take corrective actions faster, to replace inefficient legacy processes and reduce cost.

Those that could afford to upgrade to new and automated equipment have done so. These additions have enabled some to optimize processes and reduce the number of people working in and around rigs, while improving safety and maintaining operational consistency. But this has not been cheap. Three years later, some of the same companies are still searching for more cost-effective ways to implement automation.

When is automation enough? Drilling automation is often interpreted as being limited to adding electronic controls and associated data processing and management. However, the playground is much bigger.

From Tesco's vantage point, drilling and rig automation includes all equipment, components and processes that remove people from harm's way and make critical-path activities highly repetitive in a cost-effective way. This is particularly true in everything involved with pipe handling, including operating the top drive. There is not a one-size-fits-all solution. Some have chosen new state-of-the-art equipment, while others have preferred to upgrade existing equipment.

Our technologies should respond to both demands. We continued to invest during the downturn and are now focused on commercializing several new technologies like the Compact CDS, the side-entry Cement Swivel, and the Multi-Plug Launcher (MPLS). We also are testing our Pipe Drive System (PDS) and are deploying our new Automated Rig Controls (ARC) system, which can be retrofitted in existing electric top drives, as well as new ones.

The availability of relatively modern, used equipment—due to overcapacity—has changed the equation and allowed smaller companies to upgrade to stay competitive, at a fraction of the cost. By upgrading existing rigs and automating components, smaller rig contractors can apply proven technologies at a significantly lower cost and eliminate most of the risks of new technology adoption. By doing this on an existing rig, the lifespan and performance of the rig can be extended meaningfully. With dayrates so low, and with so much uncertainty around oil and gas prices, we see more companies choosing to upgrade their rigs instead of ordering new ones.

To meet the needs of both types of customers, our approach has been to develop technologies that have very simple design philosophies: 1) be plug-&-play, 2) be very simple and highly portable, and 3) add demonstrable performance and value to most rigs on day one. This should open the market, remove adoption barriers and fit more budgets. One example right now is that clients are upgrading their top drives to increase power, instead of replacing them. This can be done during a scheduled downtime, such as a recertification, or when the need for more power becomes apparent.

Most tubular handling and running in a rig will be automated within the near future, including handling and running drill pipe, casing and completions. To drive adoption, this will require technology providers to sell, rent and/or run such equipment cost-effectively.

More green hats on the rigs. A Graves and Co. report published on May 9 estimated that the industry had lost more than 350,000 jobs since mid-2014, and that those employees have either been replaced by less-experienced workers or their jobs were completely eliminated. This is another reason to push for automation. Faced with this reality, automation is not only desirable, but also required to mitigate the increased risk of human error and to reduce the high legacy training

and development needs. Fail-safe, easy-to-use, easy-to-install technologies will surely find their way into rigs faster in the near future as the industry faces the new demographics. "One-button" operations may be the new way.

Tesco's ARC system is an example of a simple plug-&-play technology that can be adopted by most Tesco electric top drives. Once a top drive is "ARC ready," the operator, or even the driller on the rig, can choose to implement any of the ARC functionalities with the touch of a button. Fit-for-purpose commercial models can then ensure that the client pays for only the automation it needs, when needed.

Portability is key. In our industry, plans can change at a moment's notice, so equipment must be as mobile as the crews. Automated equipment that is easily transferable between rigs will have higher utilization rates, meaningfully improving capex economics and lowering costs.

Stand-alone value. Any system's limitation is often dictated by the weakest component. Accordingly, high performance is often associated with "packages," within which all components operate at similar standards. However, smart technologies must create sufficient value as a stand-alone tool first, before enjoying the compounding benefits of the "packaged" approach. This gives clients the option to select tailored solutions to meet their investment thresholds while significantly improving performance.

The ability to introduce and value each tool individually also may facilitate technology adoption by reducing the required investment, and the perception of risk and complexity in what is a conservative industry. Incremental change is sometimes the easiest and most change. **WO**

■ FERNANDO R. ASSING has served as president, CEO and director of Tesco Corp. since 2014. Prior to that, he served as executive vice president and COO from December 2013, with additional senior positions since May 2009. Prior to joining Tesco, Mr. Assing served in multiple management positions with Schlumberger and Technip. He is a board member of the Greater Houston Partnership. Mr. Assing graduated from Jose Maria Vargas University in 1991 with a degree in civil engineering.