



The importance of innovation in the oil and gas industry

As the availability of “easy oil” diminishes, the industry is focused on finding and developing unconventional reserves — less accessible sources located in challenging environments (e.g., deepwater or shale plays), which involve tight, high pressure and high temperature wells or high hydrogen sulfide concentration.

Higher oil prices make downstream markets very competitive. The operating capacity of the refining industry is constrained and in need of expansion. Crude oil produced today is becoming heavier and sourer while end product quality specifications are tightened.

With a forecast 50-percent growth in global energy consumption in the next 25 years, it becomes critical to come up with more efficient and economically viable ways to meet demand. Innovation seems to be the answer.

Whether it's new drilling methods like hydraulic fracturing or horizontal drilling to extract fossil fuels that weren't accessible a decade ago, completing advanced wells, applying data analytics or new processes to improve refining and manufacturing efficiency, innovation is thriving and future competitive advantage depends on it.

However, innovation in the oil and gas industry is not only centered on improving production and efficiency. Ensuring operations run safely is a top priority. There are several environmental and safety implications of operating in more challenging locations and resources that are more difficult to process. With HS&E risk on an upward trajectory and increasing expectations of regulators, shareholders and communities demanding safer and cleaner operations and products, HS&E innovations have to occur at the same pace as the industry is evolving. Safety companies need to work closely with customers to understand their challenges and develop solutions that fill in safety gaps that appear as risk increases.

One example of this is the creation of vehicles that ensure safety while transiting through red zones — usually encountered where oil and gas from high pressure or highly sour wells are being produced, which offer increased likelihood of an immediately dangerous to life and health (IDLH) atmosphere, due to the presence of toxic and/or flammable gases.

In order to operate inside red zones, personnel have to be under air 100 percent of

the time and tools have to be explosion proof. There was previously no optimal way of protecting staff while in transit or working inside these vast red zones. Now, mobile gas safety technology has been created, filling a critical gap in worker safety in IDLH environments. It can be incorporated into a range of vehicles to enable users to work and travel safely through toxic environments.

Mobile gas safety vehicles are designed to transport people through low- and medium-risk areas, detect hazardous atmospheres and provide sufficient air for a swift evacuation. And the technology has been taken to a new level with mobile gas safety vehicles powered by compressed air, making them intrinsically safe. The vehicles can track a multitude of sensor inputs including environmental, gas levels and vehicle status, which can be monitored remotely. They provide long hours of breathing air without compromising mobility, ideal for situations when work needs to be carried out.

There are also compact personal transports that have onboard gas detection, integrated breathing air and storage space. The transports are highly maneuverable and ideal



Mobile gas safety vehicles provide protection for workers in toxic environments.

for constricted spaces.

This innovation considerably increases the protection of the work force inside and near red zones, and will hopefully encourage the development of a new safety standard in the industry.

For more information, contact Tim Wallace at Wallace@unitedsafety.net, visit www.unitedsafety.net or call (281) 241-1740. ●

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Safety innovations: How one company leads the pack

United Shutdown Safety

In recent years, safety has evolved beyond being a cost center to become a key component in project management, cost savings and increased productivity. United Shutdown Safety (United) prides itself in being instrumental in revolutionizing the safety industry with cutting-edge innovations that provide customers consistent, quality safety services.

“The renewed focus on safety was brought about by key performance indicators (KPIs) such as targeting zero incident rates. As a result, safety companies should now be more driven to provide innovative safety solutions and products to help customers achieve their safety KPIs,” explained Tim Wallace, executive vice president for United in the Americas.

Revolutionizing the safety industry

When asked how innovations usually come about, Wallace further explained United encourages all personnel to talk to their customers to identify problems or frustrations that can be paired with a resource. Often, they have found solving a customer problem or need requires innovation.

One example is United’s innovative range of high pressure air systems. Based on interactions with customers, United identified four main worksite challenges on breathing air supply. These worksite challenges include long distances to end users, work areas located at heights, multiple users with heavy demands and worksites that are constantly changing.

“For example, during a turnaround, dozens of end users need to be connected at one time and moving air storage units has proven to be cumbersome and time-consuming,” said Wallace.

As a result, United designed air manifolds and flow equipment that lower setup time and provide extended reach from air storage sources to end users so refilling can be done without any disruption to tool time. The systems also eliminate the need for raising air cascades, making working at heights more efficient.

Leading the way

The latest breathing air solution United introduced is the Air-Qube™, a high pressure air storage system that can supply 68,000 cubic feet of air. Although it is big on capacity, the Air-Qube is small in footprint due to the cylinders being shorter and lighter than conventional tube trailers. The Air-Qube is stackable, which makes it an ideal solution for facilities where space is an issue.

Since its launch in October 2012, United has demonstrated the unique value of the

Air-Qube in the U.S. market through its use on several large-scale turnarounds.

Continuous improvement

All too often, companies tend to use the commodity approach to compete in the market. United believes in creating value for

its customers through relentless innovation. The company brings proprietary solutions that exceed customer expectations and challenge the status quo.

“By bringing in innovations, we inspire people to do things safer, better and faster. Nothing beats the combination of high person-

nel morale and innovative solutions to achieve your safety KPIs,” Wallace concluded.

When was the last time your safety company innovated to solve your problems?

For more information, visit www.unitedshutdownsafety.com or call (281) 241-1740. ●



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With 27 years of experience and dozens of safety innovations, we take our responsibility for keeping people safe seriously. From innovative Breathing Air Delivery Systems to proprietary Gas Monitoring and Safety Systems, you can count on us to keep your personnel safe.



For more information on how we innovate, visit our website at UnitedShutdownSafety.com or call us at 877-805-5155.



Please visit us at AFPM National Occupational & Process Safety Conference, booth no. 304 and AFPM Reliability & Maintenance Conference, booth no. 167