

ENERGY TECHNOLOGY MUSINGS

An offshoot of Musings from the Oil Patch, Energy Technology Musings will focus and provide commentary on notable insights, trends and news related to technology and software within the energy industry.



STRATEGY AND POLICY DRIVE ENERGY TECHNOLOGY EFFORTS

The oilfield is all about managing costs. For producers, improving profits requires finding ways – any way – to lower the cost of finding and producing oil and gas. For the service industry, cost reduction pressures are weighing on company staffing and operational efficiency. For both, technology is viewed as a vehicle for accomplishing their goals.

A new overarching pressure is being applied to not only the oil and gas business, but the entire corporate world. That pressure is coming from an increased focus on environmental, social and governance concerns: the ESG movement. Activists promoting ESG, coupled with institutional investors and lenders, have found that companies possessing the highest ESG ratings create greater shareholder value. Given energy's low rankings and perceived lack of concern over ESG factors, companies are suddenly being forced to up their game. For the oil and gas industry, recognizing new technologies, such as those

that can reduce well failures, has become a key focal point to help improve ESG rankings.

However, recognizing new technologies and implementing them are often two very different tasks. The most promising new technologies need to be identified, but then energy companies must bear the risk of applying them in real-world conditions. This runs the risk of failure, which adds incremental cost and embarrassment to the equation. There are often markets outside of the oilfield where these technologies can be tested with lesser financial and environmental risk. This is a worthwhile undertaking.

The energy world must constantly scan the horizon for technologies from other industries that might be applicable in the oil patch, while also seeking neighboring industries to test them with the potential of lower failure costs. While this approach may be criticized as being too conservative, the 170-year history of the oil patch has generally benefited from such an approach in adopting new technologies. 🦋

COMPANY SPOTLIGHT



Background: In 2012, the University of Houston was awarded a \$2.6 million research grant from the Department of Energy to develop a cement additive that could be used to monitor the structural integrity of cement in real-time. In 2016, a group of entrepreneurs, led by Ody De La Paz, won a competition that enabled them to obtain an exclusive license to the intellectual property, and they formed Sensytec to finish R&D and commercialize the technology. Since then, the company has introduced its Smart Cement solution to the oil and gas industry as well as the construction industry.

Value Proposition: Sensytec's proprietary cement additive is made up of very fine fibers that have conductive properties, enabling data to be collected on any type of stress that is applied to the cement structure. The technology gathers this data during both the curing process and throughout the entire life of the structure, which means it can detect if the cement does..... [READ MORE](#)

For this Company Spotlight, we interviewed Sensytec Co-Founder and CEO, Ody De La Paz, about their efforts to make the oil and gas industry more environmentally friendly and cost-effective.

Sensytec is developing a smart cement technology that pairs a proprietary additive with data monitoring and analytics software to help companies enhance cement integrity by monitoring cement conditions near real-time. For more information on Sensytec, please visit sensytec.com.

SensOLeak



For this Company Spotlight, we interviewed Sensoleak Founder and CEO, Shoshi Kaganovsky, about how they are using smart technology to resolve pain points in the oil and gas pipeline sector. Sensoleak provides software solutions that combine artificial intelligence (AI), machine learning (ML), engineering, physics and internet of things (IoT) to accurately detect and prevent critical leaks in pipelines. For more information on Sensoleak, please visit sensoleak.com.

Industry Pain Point: Pipelines are considered the safest and most dependable form of transporting oil and gas, but a leak can be detrimental if undetected or falsely detected. Traditionally, the most common leak detection method for pipeline operators is the supervisory control and data acquisition ("SCADA") system. The SCADA system collects data from sensors that are equipped to the pipeline and relays the information to a control room, where trained operators identify abnormalities. The substantial amount of irrelevant data and reliance on human analysis leads to repeated missed leaks and false alarms.

Failed Technology Introductions: Many new technologies have been introduced to the industry over the years, attempting to "reinvent" operators' pipeline monitoring operations by installing new sensors and using statistical algorithms to predict failures. None of these technologies have experienced widespread adoption due to poor accuracy, high number of false alarms and the significant costs associated with..... [READ MORE](#)

NOTABLE NEWS

GoExpedi's e-commerce platform for procuring industrial and energy maintenance, repair and operations (MRO) is quickly gaining momentum. GoExpedi provides more than 200,000 critical parts and supplies, with complete transparency on price, supplier choice and availability. GoExpedi currently serves a diversified portfolio of over 20 customers, including two of the top five drilling contractors in the US. The investment was led by Top Tier Capital Partners, alongside CSL Ventures, Crosslink Capital, Bowery Capital, Blue Bear Capital and other current investors. 🦋

Related Press Release

[GoExpedi Raises \\$25M Series B to Accelerate Market Expansion](#)

Ingu Solutions, through its Pipers technology, provides miniature inline sensors to detect leaks, geometric defects, magnetic anomalies, and deposits for out of reach liquid pipelines. The sensors perform measurements, such as movement, temperature, and magnetic field within a liquid, and it is suited to measure the actual flow behavior of liquids in pipelines. Capital providers for the transaction were Energy Innovation Capital and Chevron Technology Ventures. 🦋

Related Press Release

[Ingu Raises Capital To Scale Miniature Pipeline Screening Tool](#)

Plug and Play is a Silicon Valley accelerator program that entered the Houston market in 2019. The organization has 30 other locations all over the world and has made early stage investments in the likes of Dropbox, PayPal, Lending Club.

"We used the technology focus areas of our corporate partners to source 100 startups with commercial viability in Houston," Payal Patel (Director of Corporate Partnerships) says. "Through consultation with our partners and voting at our Selection Day event in September, we ultimately narrowed the group to 15 startups we believe we can provide value to over the next few months." 🦋

Related Press Release

[Plug and Play announces 15 energy tech companies for inaugural Houston cohort](#)