PPHB
ENERGY INVESTMENT BANKING

Energy Technology Musings
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With technology and software beginning to play a much larger role in energy companies day-to-day decision making as well as their planning for the future, PPHB is launching its first monthly issue of the Energy Technology Musings.

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

Insights & Trends

The Digitalization of the Oil Patch

Big data, artificial intelligence, machine learning and software to make it work are becoming hot topics when technologists and futurists consider how the oil & gas industry may evolve. These technologies are grouped under the broad classification of digitalization. While disruptive, the emergence of digital technologies to guide drilling, well completions, and production activities is not surprising. It follows the historical path of industry improvements. Software and data management/mining have been used extensively in the oilfield for years, however advancements in the the digital oil patch are the next step in the evolution of the industry's use of technology to enhance operations and cost structures.

Traditionally, an internal struggle exists between the explorers, who are charged with finding and drilling wells in the safest and most cost-efficient manner possible, and the production departments, who are responsible for maximizing well productivity and ultimate reservoir recoverability, which can be harmed in the drilling of the well. The shale revolution is forcing the marriage of safe and cost-efficient well drilling with ways to maximize well output and recovery. Data and software are increasingly being used as the tool to make this marriage work.

The ability to tap the accumulated knowledge within companies, while mixing in general industry insight, will assist in improving efficiency. This skill will prove critical for a business facing a more challenging and costly future, let alone questions about its long-term viability. Success in tapping the accumulated knowledge could lead to companies shrinking headcounts. However, they may improve their ability to attract millennials and Gen Z youths, the industry's next labor force. A more technologically-oriented hydrocarbon industry may improve its public image, something crucial for the industry's future. Digitalization of the oil patch, while thought to be a whiz bang step, is actually the logical progression of the industry's history, driven by needs and opportunities.

Where is the Love? Opportunity for Field-Based Software Solutions for Upstream Oil and Gas

The upstream oil & gas industry has been traditionally a non-core market for many large enterprise software vendors. Configuring enterprise resource planning (ERP) systems is time consuming, and that character trait doesn't sit well with the volatility that is oil & gas. ERP systems typically are licensed to corporate personnel who load the system with events gathered from the field, but the software is often not a direct match with the need of the company.

As an example, the typical ratio between field personnel and corporate employees in an oil & gas company is 6:1. Based on this ratio, customized field software solutions may be the next big "land-grab" for those selling ERP systems to upstream companies. If the sausage is made in the field, then it makes sense that the processes and information managed from field-based software are likely more valuable than systems lodged at the corporate level where employees are many times out of touch with field operations.

Assuming field personnel to corporate personnel is consistent throughout the industry (which we think it is), the processes and data captured in the field are each more valuable (en masse), then ERP vendors should be chomping at the bit to target this dynamic by way of acquisition.

Notable News

On June 24th, Baker Hughes, a GE Company (BHGE) announced a joint venture with C3.ai, which is an artificial intelligence (AI) software provider. The original press release was marketecture and included all of the trending buzz words but not much more. After a closer look at the C3.ai business, the AI software suite integrates, aggregates, and makes available unified data across ERP, HR, financial, and operational systems making it easier for users (developers, data scientists, and business analysts) to collaborate and rapidly develop AI applications. As part of the agreement, BHGE acquired a minority equity position in C3.ai and a board seat. BHGE plans to deploy the C3.ai Suite across its business to enable BHGE to develop new AI applications that improve core operations and better serve customers.

Related Press Release:

Baker Hughes and C3.ai Announce Joint Venture to Deliver AI Solutions Across the Oil and Gas Industry
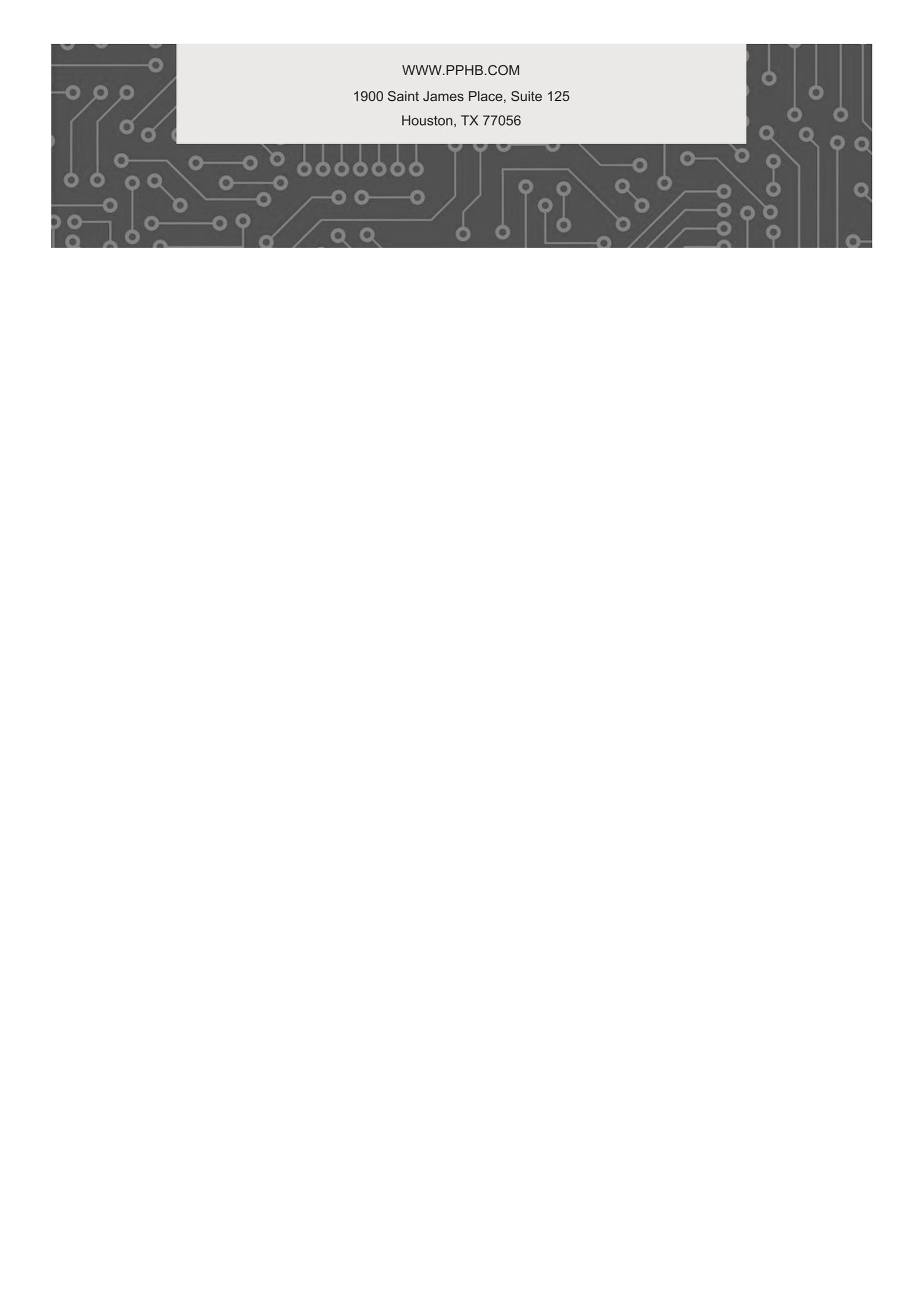
With Big Data moving to the forefront of nearly every management team's focus in the energy industry, there are several challenges that come to mind when trying to utilize data to optimize operations. A couple of the biggest challenges are: i) ensuring all important data is recorded and stored (and done so accurately, reliably, completely, and securely) and ii) providing that data in a manner that can be efficiently and simultaneously retrieved by multiple operating groups that need to process the data for different uses (i.e. operations, finance/accounting, IT, HSE, etc.). These challenges must be addressed cost-effectively, especially since the primary goal of using data is to improve the "bottom line" of the business, leading to a trend in companies looking to third-party vendors to aggregate and manage this data remotely, in the cloud, rather than trying to do so internally. That's why it wasn't a surprise to see two recent press releases from companies (Katalyst and Schneider Electric) offering a solution to these challenges.

Related Press Releases:

Katalyst Data Management Opens New Digital Transformation Center in Houston

Schneider Electric's Enhanced Data Center Operations Services Improve Operation Efficiencies and Reduce Risk