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Software Gives Unique Insight Before Drilling

A couple hundred energy analysts and industry leaders got a glimpse into the future, thanks to a presentation by Paradigm at a technology forum held recently in Houston.

Taking center stage at the forum was enterprise software developer Paradigm's newest brainchild, Rock & Fluid Canvas 2009/Epos 4.0. Simply put, Chief Executive John W. Gibson Jr. told *Natural Gas Week*, the program ties in different data streams to produce an integrated image of a gas or oil field that includes everything from data on new wells, to geological information that can be accessed by multiple researchers.

"This technological solution enables oil and gas companies and oil service companies to advance the search for quality prospects and new plays and their development of existing fields, by providing applications for geophysics, geology, petrophysics, modeling and drilling engineering," Gibson said, adding it will enable geoscientists to transform field data to quality interpretations and subsurface models for exploration, reservoir management, well planning and drilling.

"This type of technology will especially come in handy with shale plays or tight sands where the wells can be planned out well before any drilling actually begins," Gibson said. "This type of technology, though, is just the start."

The technology also provides an economic incentive because it helps reduce the drilling risk, he said. The more accurate the image, Gibson said, and the more data that geoscientists have to work with, means less of a chance a well will be unsuccessful.

The E&P industry's development of the intelligent well and later the automated rig and then the intelligent field are just part of the overall equation, Gibson said. Those systems allowed everyone from the toolpusher and driller up to the board chairman a program that lets them see real-time data from the rigs and fields covering everything from pressure at the drill bit to the flow rate in a pipeline (NGW Feb.25,'08,p7).

"The old days of waiting for a written report that take could days or weeks to make the rounds in a company are over," Gibson said. "Today, that trip through the company had better be very quick."

Gibson said that as the energy industry goes after oil and natural gas reserves in areas like the deepwater Gulf of Mexico or remote land locations, technology such as the Rock & Canvas program will become even more valuable. The better the technology, he said, the better the chances that a company will be able to map out a successful drilling campaign before the first well is spudded.

"We are seeing a tremendous technology shift," said James Lamb, Paradigm vice president, Americas. "I think there is a recognition in the industry that they need the best tools, with the best science, working together."

Increasing operational and technological complexity of the E&P industry demands that technology keep pace, said Duane Dopkin, senior vice president of product management at Paradigm. "The industry is changing and so are the technological boundaries and challenges."

Dopkin said adaptability is one of the key words in the E&P industry now. The industry needs real-time technological support when opening new plays or determining how a formation will react to hydraulic fracturing. The technology must also be scalable.

"From laptop to high-performance computer, the computer must be able to go where the job is," Dopkin said. "It must be able to extend the reach of geoscientists to larger areas, hold more surveys, allow more users to interface with it and each other and it must be able to hold more data."

The Rock & Canvas program helps geoscientists and company policy makers by giving them more information at their disposal in an easy-to-use format, Gibson said.

The program helps analysts develop better models and then helps by validating, calibrating and simulating the data that is flowing into it from outside sources such as survey teams.

Dopkin added that Rock & Canvas is not the end, but just the beginning as more and faster programs are developed that can turn information from a hundred sources into a tight, easy to understand format.

"The journey is not complete," Dopkin said. "We continue to listen and try to stay one step ahead of the trends in the industry."

John A. Sullivan. Houston

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