BREAKING THE APPLICATION BARRIER

WHY DATA IS THE MOST VALUABLE ASSET IN THE OIL AND GAS INDUSTRY
EXECUTIVE SUMMARY

Many oil and gas professionals live in a constant state of uncertainty. They simply don't know if their assets are performing up to potential. All they know is that they run the business on averages, and the averages seem to shake out in their favor.

But this lack of certainty doesn’t have to be your reality. In fact, you have the capacity to proactively gauge the performance of your oil and gas assets—not just every once in a while, but every moment, and on demand.

But you won’t gain that capability just by choosing the right application. It’s time to rid yourself of the notion that a single application can be the answer to all your problems.

For years, oil and gas professionals have been heavily application dependent. They have lacked an integrated view into all data sources across the enterprise. But now, with the advent of new data management technologies, it’s possible to tear down the application barrier and let all team members look directly into the broadest possible array of business-critical information.

In this paper, we take a look at the current limitations of the application-driven environment, and we consider how an integrated data solution can offer deeper insight for sustainable competitive gains.

TURNING UNCERTAINTIES INTO OPPORTUNITIES

Do you know the current performance levels of your oil and gas assets? If you’re like many professionals in the oil and gas industry, your answer is probably no. But perhaps you’re ahead of the curve. Perhaps you can answer yes. But are you able to provide specifics, such as benchmarks and thresholds, to clearly define “good” and “bad”? Again, the answer is likely no—or even worse, “I’m not sure.”

“I’m not sure” represents more than a simple lack of knowledge. It’s a missed opportunity. If you’re missing opportunities, you’re losing revenue. And in this industry, lost revenue doesn’t come back.

Some losses are inevitable, of course. If an oil well isn’t producing, that may be a factor you can do very little to change. We have good reason to call that “the cost of doing business.” Sometimes, however, what we call the cost of doing business is actually the cost of not knowing what the business can do. And these days, you have far more control over how much you know—and when you know it—even if you’ve always been told otherwise.

With the right tools at your disposal, you can know whether your assets are performing to their potential—not just in general but with great specificity, from one moment to the next. When your teams can gain easy access to that data, a virtuous cycle emerges: The more information you know, the more you want to know. Each insight spurs deeper insight; and greater insight is the path to more revenue.

This is an exciting time. Leaders in the industry are just beginning to realize the potential of putting all their data to work. The most successful innovators stand to make significant competitive gains. And with firms around the globe taking their first concrete steps toward building a more data-driven enterprise, you can be certain of one thing: “I’m not sure” is an answer you can no longer afford.

MOVING FROM AN APPLICATION-DRIVEN TO A DATA-DRIVEN ENVIRONMENT

When you live with deficiencies for long enough, they become customary. You accept them with few questions asked. That’s part of the explanation for the revenue gap that many oil and gas professionals accept as the status quo. They’re simply accustomed to overlooking some areas where opportunities for greater revenue seem limited or unclear.

The industry is undergoing a paradigm shift that remains largely unobserved. For years, oil and gas professionals have been heavily application dependent. Applications serve as data interfaces; production engineers only look at data if an application enables them to do it. This application-centric approach prohibits the entire team from having a holistic view of all the available information at one time.

These silos are giving way to a new vision for data management. Users are no longer limited by what any single application can do. It’s now possible to tear down the application barrier and let all team members look directly into the broadest possible array of data.
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Think of it as switching from an application-driven environment to one that is data driven. By using integrated technologies to capture and analyze the right information from anywhere in the enterprise at precisely the right time, oil and gas companies have an unprecedented opportunity to capitalize on the rich storehouses of data they’ve been collecting for decades.

Rather than a separate snapshot of data for each member of the team, everyone gets the big picture. You don’t just look at 65,000 rows in a spreadsheet—you gain access to 65 billion data points. You achieve visibility on a scale that would simply be impossible in a single application. After all, you’ve already paid the money to collect all of this performance data. Why spend millions on a solution that only addresses one issue and keeps huge swaths of information unavailable to your teams?

CUTTING COSTS AND DRIVING REVENUE WITH AN INTEGRATED DATA ENVIRONMENT

With data proliferating on corporate networks at unprecedented rates, oil and gas companies can no longer expect to stay ahead of the curve just by selecting the right standalone application. The only way to ensure that you’re working with complete, accurate data is to deploy a system of tightly aligned technologies that will scale as your company and your data continue to grow.

With a truly integrated data environment, you can free yourself from application limitations and institute processes for maximum efficiency and increased yield. Your teams can monitor production rates, analyze well and reservoir performance in real time, gain early insight into potential issues, and quickly identify root causes—all within a single interface. Together these capabilities enable faster intervention, reduced risk, and far greater efficiency. You become predictive rather than reactive. You can determine, based on a given set of conditions, how an asset should be performing. Then you can find the reasons behind any underperformance or over-performance, and develop processes to reverse the former and duplicate the latter.

If, for instance, a certain piece of equipment from a particular manufacturer is causing you an inordinate amount of nonproductive time, you can identify that issue more quickly—in seconds rather than hours or days. For a well producing thousands of barrels a day, one day out of commission represents a considerable revenue loss that can never be regained. If you multiply those losses over thousands of wells, your need for faster, more accurate insight into moment-by-moment performance becomes a clear imperative (see figure).

A solution that could deliver on these promises would need to include the following components:

- Data warehousing: Integrated and shared data environments manage the business by delivering strategic and operational analytics to your entire organization.
- Data discovery: Discovery analytics rapidly unlocks insights from big data using techniques accessible by anyone on your teams.
- Data staging: Intermediate storage areas enable you to load and refine data in preparation for analytics.

With these components in place, you gain instant insight into the performance of your assets at any given moment. More than that, you begin to see a path toward greater potential, illuminated by a concrete understanding of what you can change to meet a fully articulated set of performance goals.

USING TECHNOLOGY TO BRIDGE THE PERSONNEL GAP

U.S. oil companies forecast an unusually high outflow of 22,000 petrochemical workers by 2015, with many companies replacing two vacated positions with just one new worker.

Until the global energy industry can train enough young workers to fill the ranks of retiring baby boomers, oil and gas companies will need to find innovative ways to get more work done with fewer people. That may require greater reliance on technology solutions—particularly solutions around automation, integration, and consolidation—to fill the personnel gap.
CONCLUSION

For many oil and gas professionals, the status quo seems acceptable. The industry has always run on averages. When the price of a barrel of oil is up, you hire and invest. When the price goes down, you divest. But with that approach, you’re always running behind the curve, even if things always seem to shake out in your favor. By gaining deeper insight into the performance of your assets, you can jump off that cycle.

Teradata applies proven methodologies to help you run on information rather than averages. We can help you transform your data into a strategic asset, providing all the tools necessary to gain revolutionary insight into business performance.

To take the next step toward optimizing your business by activating the data already in your possession, check out the resources for oil and gas professionals available on www.Teradata.com/oilandgas.

By making better use of data already in its possession, one oil and gas company decreased its loss production from 695,000 barrels of oil per month to 243,000.