NEW NORMAL, NEW CHALLENGES

The energy industry has been adjusting to a new normal, with low but relatively stable oil prices — and a pressing need to boost efficiency wherever and whenever possible. In this environment, oil, gas and utility companies increasingly recognize the value of putting technology at the core of their strategies to reduce costs, boost efficiency and capitalize on opportunity.

Thanks to a plethora of advanced technologies encompassing the IIoT, cloud, enterprise mobility solutions, the smart grid, predictive analytics and more, companies can equip themselves better than ever before to connect with the data, devices and platforms required to drive improved performance. That being said, ensuring you have the right infrastructure, IT tools and all-important cybersecurity defenses in place to get you where you want to go can prove a daunting task.

In this issue of Energy Tech Report, you’ll find practical insights and effective strategies from seasoned IT leaders and industry experts. Take a timely look at the latest trends making a major impact on the energy marketplace, delve into the potential and pitfalls of integrating technology in the wake of a merger or acquisition, and see why cloud adoption is soaring sky-high.

The most effective IT solutions align with your organization’s business objectives. The CDW Energy team brings you the expertise and experience you need to successfully weather today’s chaotic energy climate and make smart technology decisions that support your ability not only to survive, but to thrive.

Adam J. Weiss
Area Sales Director

ONLINE RESOURCES

INFOGRAPHIC
“How Prepared Are You to Defend Against a Cyberattack?”
See if your cyberdefenses are up to the challenge.
CDW.com/energy

WEBSITE
About CDW Energy
Learn more about how CDW Energy can address your IT needs.
CDW.com/energy

LINKEDIN
CDW Energy
Follow us to keep up with the latest tech trends.
CDW.com/energy-linkedin
NEW PERSPECTIVES

Innovative technologies take center stage in today’s radically altered landscape.

POWEROUL INSIGHTS

Harnessing the Power of Mergers and Acquisitions
Energy companies looking to shore up their competitive position through M&A need to meld clear strategic direction with rigorous planning and execution.

INFORMATION

Low Oil Prices Drive Need for High Efficiency
See why digital technologies are taking center stage in the pursuit of higher efficiency as oil and gas companies seek to thrive, not merely survive.

PARTNER CORNER

Transforming Challenge into Opportunity through Technology
Cisco’s Doug Bellin discusses the factors driving dramatic changes for oil, gas and utility companies in today’s marketplace, and strategies for leveraging technology to build success.

PARTNER CORNER

The New Normal Demands New Efficiency
EMC’s Larry Kaufman shares insights on how the cloud, Big Data and predictive analytics can help energy companies work smarter and boost performance.
Rising energy demands, fluctuating oil prices, renewable integration, aging infrastructure and changing regulatory requirements are all challenges facing the energy industry today. While multiple approaches exist for addressing these realities, one constant remains — technology will be at the heart of the majority of solutions. Whether it’s sensors and cameras monitoring utility and O&G assets, drones that perform high-risk inspection operations or machine learning tools that identify energy efficiency opportunities, technology innovation is critical for the future of the industry.

Smart grids and digital oilfields do not come without risk. The technologies proliferating in the energy industry are also endangering it — opening up critical systems to cyberthreats. Shoring up utility and O&G infrastructures will become ever more urgent in the coming years and technology will again be a central player. These seven trends examine the different and growing roles of technology as the energy sector confronts an evolving landscape.
1. Keep Smart Grids Safe from Hackers

The Industrial Internet of Things (IIoT) aims to improve power delivery by using predictive analytics to ensure greater grid resiliency. However, the IIoT also introduces new security vulnerabilities as the devices and machines connected to the cloud provide digital doors to control systems. The increased risk was clearly evidenced by the 2015 BlackEnergy malware cyberattack that took down a Ukrainian power grid. While compliance with reliability standards provides some protection, utilities need to take a more active approach to thwarting cyberattacks. Multiple layers of defense need to include proven security strategies that look at risk assessment, asset monitoring, data encryption and employee training.

America’s power grid suffers a cyber or physical attack once every four days.1

2. Leveraging IoT for Asset Management

Asset management continues to be a challenge as utility companies balance an aging infrastructure with new smart grid technology. Increasingly, IoT–enabled devices are helping assess the health of multiple types of equipment, ranging from traditional substations and switches to newer assets like smart meters and solar arrays. Sensors, cameras and other embedded technologies can feed valuable performance data in real time, allowing utilities to conduct preventive maintenance before a problem occurs. As utilities look to be more predictive and less reactive about their networks, the market for asset management and condition monitoring devices and solutions is expected to grow. Navigant Research predicts global revenue will rise from $2.6 billion in 2016 to $6.5 billion in 2025.3

A global survey of more than 200 executives found 58% of respondents either have or are planning a strategy to leverage the IoT for asset management. 55% reported the importance of asset management has increased over the past 12 months.2

**Benefits from Improved Asset Management**

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability improvements</td>
<td>80%</td>
</tr>
<tr>
<td>O&amp;M cost reductions</td>
<td>65%</td>
</tr>
<tr>
<td>Operating flexibility</td>
<td>18%</td>
</tr>
<tr>
<td>Capital cost reductions</td>
<td>15%</td>
</tr>
</tbody>
</table>

Growth in IIoT applications for utilities and energy will increase from 485 million devices in 2013 to more than 1.5 billion devices by 2020.5

---

Sources:
3. Machine Learning Improves Customer Engagement

To be truly data-driven, utilities need to make use of advanced analytics capabilities made possible with machine learning. Identifying patterns found in immense amounts of collected utility data is especially effective for improving customer engagement through personalization. Machine learning can help utilities tailor programs to different customer types based on specific energy usage. It can examine energy efficiencies and make specific recommendations that reflect a homeowner’s specific habits and actions. Machine learning can tie weather patterns together with customer behavior so predictions can be made about future usage. And it can monitor call center conversations to make future interactions between customers and sales associates more effective. In a competitive marketplace, machine learning can go a long way toward helping utilities better understand their customers so they provide a superior experience.

Global investment in drones and robotics technologies for T&D systems is expected to total nearly $16.2 billion from 2015 to 2024, according to a recent report from Navigant Research.⁶

4. Drones Set to Take Off

Utility workers face dangerous conditions every day, including high voltage, excessive heights and extreme weather. Commercial drones, or Small Unmanned Aircraft Systems (sUAS), can mitigate safety issues by performing high-risk operations such as inspecting power lines and surveying storm damage. But strict regulations have hampered widespread adoption. To help ease some of these obstacles, the Federal Aviation Administration (FAA) released its “Final Rule,” which eliminates the time-consuming case-by-case review process and drops the requirement that operators have an FAA pilot’s license. These incremental steps will allow utilities to more efficiently incorporate sUAS, providing a safer work environment while increasing grid reliability and reducing costs.

5. Get SCADA Smart

In the connected digital oilfield, data streaming from industrial SCADA controls can be processed in real time for a clear view across the value chain. These insights add value by boosting productivity and informing faster decision-making. Without the right cyber safeguards in place, hackers with malicious intent can potentially access connected SCADA systems to gain control of equipment or even halt operations. Due to inherent weaknesses in legacy equipment and a rising number of network access points, control system cyberthreats are on the rise. According to Tripwire, 82% of O&G operations reported an increase in successful cyberattacks over the past 12 months.⁸ O&G and other data-centric industrial enterprises need to act now to protect vulnerable SCADA systems from growing cyberattack threats.

Utilities clearly crave a true partnership with customers. Nearly two-thirds of respondents indicated their utility seeks direct ownership of the customer relationship.⁷
According to a recent Control Engineering survey of O&G operators, 60% reported a malicious cyber incident in their control system networks and/or control system cyber assets within the past 24 months.³

By 2020, the top 50% of O&G firms will double down on oilfield operation automation to double productivity, and an estimated 90% of O&G firms will have a standard set of cybersecurity applications in operation.¹⁰

6. Don’t Click Now — Insider Cyberthreats

Smart grids, digital oilfields, advanced sensors, cloud platforms, mobile devices and other cutting-edge technologies are creating value — and opening doors to cyber threats. Proactive cybersecurity measures are essential in a converged energy infrastructure. As data sharing and analytics proliferate, energy sectors must combat not only advanced persistent threats from outside actors, but potential breaches by employees and contractors. Innocent mistakes by insiders pose the greatest risk. An estimated 95% of cybersecurity incidents involve human error, according to the 2014 Cyber Security Intelligence Index.¹¹ Cybercriminals can gain network access using malware delivered to a trusted employee via spear-phishing emails. Access may require only the click of a malicious link or attachment. As cybercriminals grow bolder and attacks more frequent, energy firms need to implement multilayer IT security in conjunction with effective protocols and training to prevent human nature from becoming human error.

The O&G infrastructure security market is expected to increase to $31 billion by 2021.¹²

More than 90% of O&G companies will have a standard set of cybersecurity applications in operation within the next 16 months.¹³

7. Low for Longer Oil

Despite impressive supply-side gains, global oil prices have fallen significantly. Operators need smarter ways to exploit technology to minimize cost and optimize production. Traditional cost-cutting measures are a temporary fix — a short-term solution for the long-term challenge of oil price volatility. Arbitrary or reactionary cost cutting may leave inadequate resources to compete and grow as oil prices recover. Forward thinkers are using the downswing to reassess strategic direction and identify targeted IT approaches to help navigate the new terrain. They need better operating models and strategies to enhance the maintenance and efficiency of capital equipment and processes. According to DNV GL, compared to conventional rigs, technology driven by sensors and algorithms could reduce drilling time by 30% and costs by 50%.¹⁴ Demand for digital oilfield applications has grown, with emphasis on linking multiple platforms operated remotely. In a volatile oil price market, O&G leaders can gain value and a competitive advantage by channeling new opportunities.

Striking Oil

Five years ago, it could take up to nine months to produce oil from a well. Today, operators can see results in 30 days or less.¹⁵

The majority of O&G companies will continue to invest in digital technologies over the next 5 years.¹⁶

Sources:

² bv.com, Black & Veatch “2016 Strategic Directions: Smart City/Smart Utility Report,” 2016
⁵ idc.com, “Worldwide Oil and Gas IT Strategies,” 2016
⁶ securityintelligence.com, IBM “2014 Cyber Security Intelligence Index,” 2014
⁸ idc.com, “Cost Reduction, Efficiency, Security, Modernization, and 3rd Platform Are Top-of-Mind IT Initiatives for Oil and Gas CIOs,” 2016
HARNESSING THE POWER OF MERGERS AND ACQUISITIONS

Historically speaking, merger and acquisition activity in the energy sector has risen when oil prices have declined — and the current “lower-for-longer” environment is no exception. Consolidation is moving ahead at a record-setting pace, triggered by a number of factors including high debt levels, low interest rates, financial stress, narrowing bid–ask spreads, private equity stockpiles, the need to rebuild legacy infrastructure and a strategic focus on diversification and growth.

Oil, gas and utility companies seeking to strengthen their competitive position through M&A may find it easier said than done, however. Research from McKinsey & Company has found that creating value from M&A deals in oil price down cycles and periods of flat, low prices can be especially challenging. The most successful routes typically focus on reducing cost and increasing efficiency through post-merger integration and synergies.

Clear strategic direction combined with rigorous planning and execution is essential to value creation. Business transformation through M&A requires melding complementary capabilities, people and culture, along with consolidating operational infrastructure, organizational structure and procurement processes.

Technology integration also plays a pivotal role in optimizing efficiencies, especially as companies face increasing pressure to go beyond traditional cost–reducing measures such as layoffs and CapEx cuts.

BOOST EFFICIENCY THROUGH AUTOMATION AND AGILITY

Digital technologies have been increasingly driving efficiencies in resource exploration, recovery and production, as well as asset management and compliance. On average, oil companies can save between $500,000 and $1 million per day by minimizing high-impact, non-productive time wasted due to technical or physical extraction difficulties.1 And companies can increase productivity as much as 30 percent by leveraging Big Data and predictive analytics along with more flexible production techniques.2

So it’s no surprise that booming M&A activity raises expectations for achieving synergies through improved enterprise technology. However, integrating disparate SCADA systems and technology platforms is no simple task when companies merge or acquire multiple firms, each with its own legacy systems. Minimizing costs and maximizing efficiency depend on the ability of the IT team to quickly and effectively centralize and standardize control platforms, communications and connectivity.

BIGGER MAY BE BETTER FOR UTILITIES

Like their oil and gas counterparts, many utilities see M&A as a promising way to adapt to evolving market conditions. Scale often matters to companies looking to move beyond the status quo, especially when it comes to leveraging data and technology.

Sources:
1 datanami.com, “How Big and Fast Data Can Transform the Oil and Gas Industry,” April 2016
2 analytics-magazine.org, “Forum: Data deluge problem for the oil and gas industry,” March/April 2016
Here are three key reasons why:

**Rising customer expectations.** Customers are getting savvier about energy cost and consumption. Increasingly, they’re demanding user-friendly online interfaces, near real-time usage data and the ability to integrate energy-saving strategies ranging from smart thermostats to solar panels.

**Cybersecurity.** Larger utilities have more resources to protect their systems — and customer data — from cyberattack, more important than ever as cyberthreats targeted at critical infrastructure continue to grow in frequency and sophistication.

**Smart grid expansion.** From smart meters to mobile devices to predictive analytics, utilities see the IoT and smart grid as linchpins in their efforts to improve efficiency, reliability, responsiveness, performance and cost-effectiveness.

**IT INTEGRATION KEY TO DELivering DIVIDENDS**

Due to the highly secretive nature of most M&A negotiations, IT professionals often have relatively limited time to prepare for technology integration once the deal is closed — despite the fact that it’s one of the largest cost factors in overall M&A return.

To support their companies’ M&A objectives most effectively, CIOs and IT teams should:

- **Get involved in the M&A process as early as possible.** IT leaders serve as valuable strategic partners in both pre-merger assessment and post-merger integration. For example, they can help the transition team take advantage of the right data and tools to evaluate and accurately calculate potential synergies and costs.

- **Align IT to business needs.** It’s important to assess how potential synergies — or lack of them — affect infrastructure, control systems, and processes and applications. The many challenges include database consolidation, data integrity, system mapping and integration, asset reallocation, networks, interoperability and cybersecurity.

- **Create a flexible, adaptable, unified IT environment.** The sooner disparate systems can be integrated and data successfully migrated, the faster the combined organization can capitalize on enterprise synergies from exploration to asset management to supply chain, and the more effectively key performance indicators can be tracked.

**ON THE UP AND UP**

**Q1 2016 mergers and acquisitions in power and utilities:**

- **22 transactions**; most active quarter in recent history

- **17 transactions** labeled strategic by PwC

- **$41.4B in value**, up from $6.8B in Q1 2015

- **$1.9B average deal size**, up 96% over last year’s final quarter

- **7 megadeals** greater than $1B
Even though oil prices have inched back up from their record lows, there are no indications they will climb substantially higher in the near future. Now that the discussion has shifted from when oil prices will rise to how best to survive — let alone thrive — in the new normal, oil and gas companies face increased pressure to improve operational efficiencies.

80% of O&G firms plan to invest the same or more in digital technologies over the next 3–5 years, despite the low oil price environment.

Sources:
1 automationworld.com, “How to Cope With Low Oil Prices,” June 2016
2 bp.com, Technology Outlook, 2015
5 innovoil.co.uk, “Energy industries face up to cyber security risk,” May 2016
6 investor.cisco.com, “Adoption of Internet of Everything by Oil and Gas Industry Could Fuel GDP Increase of Up to 0.8 Percent, or $816 Billion, Over 10 Years,” April 2015
7 oilandgasmobility.com, “Mobility and IoT: Challenges and Opportunities in the Oil Depression,” 2016
DIGITAL TECHNOLOGIES IMPROVE EFFICIENCY

The key reason oil and gas companies are investing in digital technologies is to improve operational efficiency. The average big oil company could realize $1 billion in cost savings or production increases by deploying technologies that exist today.

The top three areas where O&G firms believe digital technologies can help improve upstream business efficiencies are:

- Faster and more informed decisions
- More efficient workforces
- Better leveraging of scarce resources and talent

MAKE THE MOST OF THE IIoT AND DATA ANALYTICS

If the oil and gas industry could analyze and understand all data currently being produced, operational efficiency could be boosted by as much as 20%.

Over the next 3–5 years, oil and gas spending on Big Data is expected to increase from the current 56% to 61%, and on IIoT/automation from 53% to 65%.

For a $50 billion O&G firm, increased IIoT adoption can generate a $538 million annual profit increase and an 11% bottom-line improvement. 72% of these benefits are from cost reduction; 28% from increased revenues.

To find out more about how your organization can put digital technologies to work maximizing operational efficiencies, visit CDW.com/energy.

MOBILITY ADDS VALUE MOVING FORWARD

Nearly 90% of upstream oil and gas executives say mobile technologies will improve business efficiencies.

79% of oil and gas leaders say the oil price downturn presents an opportunity for technology to streamline processes for cost savings, but only 26% say mobility will receive the right amount of attention and investment to make a difference in 2016.

73% of oil and gas companies have a mobility framework that encompasses operational asset management, the health and safety environment, and real-time applications.
Doug Bellin, Senior Manager of Industrials for Cisco, discusses the challenges energy companies face in today’s rapidly evolving marketplace — and shares strategies for leveraging technology to build success.

What challenges are driving oil and gas companies to transform their business models?

**A:** The volatile pricing is obviously a big challenge. It’s hard to set your business plan when two or three years ago, oil was more than $130 a barrel, then it dropped to $30 a barrel and now it’s back around $50. It’s very difficult to see where it’s going to be in the next few years, but most people expect it to stay in the $50–$70 range. Capital expenditures are still happening in this environment, but companies are more careful about how they allocate their dollars.

In what ways do these challenges also create opportunities?

**A:** Let’s take a look at the fracking marketplace. There’s been a bit of pullback after the market plunged, but there are companies starting to build technology as part of their consolidation because they need to drive increases in their efficiency.

For example, in the past, there was normally one operations station wellhead with a 1:1 or 1:2 ratio because it was simple and easy to manage. However, after the pricing crashed, it was more likely that one monitoring station was working on as many as eight wellheads at once.

Archaic as it sounds, as recently as five or 10 years ago the way companies figured out if a storage location was full was to have a person drive around in a car or truck to remote locations and manually check the gauges. By putting technology in place, including pervasive wireless across those locations as well as backhaul technology, they can now see in real time what is happening and be able to react to it, making them much more cost-effective.
What challenges and opportunities does smart grid technology introduce for utilities?

A: There’s substantial change in that market, as well. When we started looking at the smart grid seven or eight years ago, not everybody understood the full value it was going to bring into play for energy creators, energy distributors and consumers. A great deal of fear, uncertainty and doubt existed on the consumer side. However, I think a lot of that has gone away now and people are seeing that it’s a value-add, enabling utilities to react to spikes in market demand without having rolling blackouts or other issues.

Again, much of the value relates to visibility. There’s visibility for consumers about how much energy they’re creating from solar or wind panels as well as what they’ve consumed. Think about this summer, when most of the U.S. experienced above-average temperatures. Even though more power was used, we didn’t hear about issues like we have in the past. That’s largely because utilities are using their infrastructure to give them visibility and automated control to smooth out the demand curve.

What other factors are driving greater adoption of technology by utilities?

A: Aging infrastructure, for one. Parts of the U.S. utility infrastructure were built as long as 100 years ago, and it really hasn’t changed that much. To support the visibility and smart devices required to adjust the demand curves, utilities need to retrofit or refurbish some of that infrastructure with newer technology. If you’re looking at an 80-year-old substation, the challenge is how to integrate an Internet-enabled device to enable the necessary data capture.

Pent-up consumer demand has also been a driver. Utilities couldn’t react to increasing demand because they lacked the required visibility. At the same time, technology has also become much more mature to support the use cases that have been identified and implemented.

What strategies should utilities implement to make the most of their smart grid data?

A: First, there’s data aggregation. Just deploying a smart meter doesn’t help – you have to get the data off that smart meter back to something that allows you to understand what’s happening. So you need wired or wireless integration to move the data into an area that will allow quick analysis so you can react quickly through number crunching, including the predictive curve analysis that gives you demand response capability.

This typically includes multiple layers of compute from edge to cloud. The reason for this is that it’s really an end-to-end infrastructure of devices through multiple layers of management in the networking components back to the data center. Then, of course, you need a collaboration suite so when emergencies do occur, you can roll out a truck and efficiently manage troubleshooting.

What are the biggest challenges you see facing energy companies in the future?

A: I think the challenge in the utility space has been to understand the possibility of technology to enable a smart grid, and understanding where you start. Multiple pieces have to come together to create value. For oil and gas companies, it’s a little bit of “How do we start?” but a lot of it is limited capital. They have to figure out the right spot for IT investment in order to get the capability they need to move forward.

The other key factor across both markets is security. The joke going around is that 50% of the companies have been hacked and the other 50% just don’t know yet that they’ve been hacked. But seriously, it can take six to 12 months to actually find out that someone with unauthorized access is on your network. It’s critical to consistently update systems and put technology in place to understand if they’ve been penetrated.

Last but not least, consumers aren’t going to use less power, but we’re seeing more micro-generation capabilities that create new challenges. How do you push excess energy to the grid and maybe get a rebate easily? Or what if you have a storage wall storing battery power, so you can plug your car in when you come home without going to the grid?

At the same time, we need to have data available so that if consumers create excess power, they can sell it to their neighbors or utility company. I think that the renewables space is going to be incredibly powerful in the next three to five years as costs come down and availability expands.

“The other key factor across both markets is security. The joke going around is that 50% of the companies have been hacked and the other 50% just don’t know yet that they’ve been hacked.”
Although the price of oil has climbed from its record lows of $30, no one expects to see it top $100 a barrel again anytime soon. With most experts predicting prices likely to hover in the $40–$50 range through 2017, oil and gas companies have started dramatically changing the way they do business.

“The price of oil has always had ups and downs, but it’s generally been pretty high, and companies just didn’t want to put the time or effort into efficiency,” says Larry Kaufman, director for EMC’s Global Energy program. “As the price comes down and production comes from more complex reservoirs and more complex environments such as shale, you have to take a much more efficient approach and do a better job of planning to positively impact your delivery.”

The need for vastly higher efficiency is driving upstream companies to explore how technology can help decrease drilling and completion risks, optimize production, and improve work and data flows. “Realigning their business means they need better ways — first, to manage and store their data, and second, to fully utilize their data all the way down to predictive analytics to help improve drilling and production operations,” Kaufman says.

As director for EMC’s Global Energy program, Larry Kaufman is responsible for the development of EMC’s overall energy industry strategy, solutions development and marketing programs. He previously served as chief technology officer for EMC’s Global Oil and Gas program, developing and delivering complex, integrated solutions based on EMC and partner technologies that solve challenging business problems and workflows.

A different IT investment strategy

“They’re looking at much more than just putting in disks and networking solutions. They want to better leverage new technology, especially around data capture and data analytics, to improve their business processes on the technical side,” he explains. “Five years ago, oil companies wouldn’t have looked at any of these solutions — they would have just kept drilling, producing and making cash flow.”

Kaufman notes that with oil and gas companies forced to lay off hundreds of thousands of workers, future success will depend heavily on improved processes and technology even when oil prices rise again. In addition, the need to update legacy technology is driving more — and different — IT investments.

“From the time prices began to drop at the end of 2014, they’ve been sweating their assets, trying not to spend money on any kind of infrastructure,” he says. “Now that it’s getting to the 18- to 24-month mark, they’re going to be forced to spend some money to refresh infrastructure, but they’re not going to buy and build the way they did in the past. They’re going to look for efficiencies.”
Sunny outlook for cloud investment

Cloud technologies will play a key role in boosting efficiency in this new normal. Kaufman has seen soaring interest in public and private clouds from oil companies that as recently as two years ago refused to put any data outside their firewalls.

“Everyone is looking for that ideal mix of what should be in Amazon and Azure, what should be in an off-premises private cloud, what should be in an on-premises private cloud and how you tie all those together,” he says.

The good news is that the technology has caught up to the oil and gas technical workload demands. “EMC and others have really interesting hybrid cloud solutions where you can choose different clouds and have your workloads move back and forth between public and private clouds,” Kaufman says. “It’s a matter of what application you want where, depending on the required SLAs.”

For example, he points out that if companies are drilling a well offshore, they can’t afford to have their infrastructure down or lose any data, which some perceive can happen with a public cloud. On the other hand, a public cloud works fine if they’re just testing an application. “I think most of the spending in the coming year is going to be in cloud technologies and with service providers that can deliver more than just an Amazon or Azure-type service,” he says.

The cloud also helps energy companies tackle the ever-present cybersecurity challenges, especially as they increasingly acknowledge that IT is not their core competency. “In many cases, an IT service provider or public cloud can provide better security than an operating company can,” Kaufman says. “And, of course, security is a top priority.”

Better data, higher efficiency

EMC has leveraged Big Data and predictive analytics to improve performance by enabling oil companies to better manage and rotate drilling equipment. EMC also has helped customers save substantial amounts of money by predicting equipment failures earlier than usual, as well as supporting production optimization.

“If you’re drilling an unconventional field in west Texas, is there a better way to predict how to drill that well? Produce and operate that well? It’s about getting them out of what happened yesterday to what’s going to happen down the road and helping them better manage their business,” he says. “In one case, for example, we showed a customer that if they invested an extra $20 million in their fracking, they could get five or six times that amount out very quickly.”

Getting smarter about the smart grid

Like oil and gas companies, utilities seek to capitalize on Big Data to increase efficiency and improve bottom-line performance. Smart grids generate plenty of data for companies that can afford to deploy them, but Kaufman says many struggle to make the most of the information.

“If you only use the smart grid to avoid reading meters or to do basic troubleshooting on your network, you’re probably not getting the most value out of it,” he says. “But if you can collect that data and combine it with weather and other public data, you can better service your customers through improved planning. A brownout or blackout is bad, but so is over-building.”

In addition to supporting grid balance and helping to optimize grid architecture, Big Data can be used to identify costly energy leakage as a result of theft. “We were able to save one customer close to $80 million in the first year by helping them better manage their grid. We’re looking at helping utilities solve big business problems with smarter use of their data. It’s much more than just business intelligence – it’s energy mass balancing, predictive analytics, asset management and troubleshooting,” Kaufman says.

He admits “Big Data” is an overused term. “But it really is impacting energy and many other industries,” he adds. “You can show a huge value in a short amount of time if you apply it to the right business use cases and integrate it into your current core workflows. It’s a new and necessary way of looking at how to build efficiency and business value.”

The case for efficiency, by the numbers:

1. It’s estimated that 250,000 oil workers worldwide have lost their jobs (approximately half of them in the U.S.).

2. Of oil rigs have been decommissioned.

To learn more about how we can help you achieve your IT objectives, contact your CDW Energy account manager at 877.645.0685.

CDW.com/energy
@CDWCorp
CDW.com/energy-linkedin