How cloud accelerates business value in the energy industry

With cloud proving a vital component for staying resilient and prepared for the future, this report explains why now is the time to embark on a cloud-native strategy

Inside:

> Why enterprise content in the cloud matters for the future of energy
> How cloud-at-scale can enable Intelligent Operations and an agile workforce
> What content solutions are required to prove effective for the energy industry

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Introduction

The global energy industry faces huge challenges in our changing world. These asset-intensive industries have been hugely impacted by a range of external and internal factors – the Covid-19 pandemic, oil price fluctuations, recent technological advancements, remote working and political uncertainty – all of which have forced organizations to leave their comfort zones and jump into the cloud.

Ultimately, asset-intensive enterprises are no longer positioned to thrive with a "business-as-usual" mindset. Cloud computing may not be a new technology, but as it becomes mainstream, the energy industry must take a leap of faith into it, if it is to unravel streams of siloed information. Hidden within this content is the information companies require to make vital decisions on cost, opportunity and risk.

In this *Oil & Gas IQ* ebook, produced in collaboration with OpenText™, we reveal why energy companies have been adopting aggressive cloud- and data-ownership strategies, as they turn away from their reliance on internal IT ecosystems and toward cloud providers offering best-in-class services. These services are provided in a myriad of areas including cyber security, physical security, redundancy, backups and recovery, telecommunications support, identity management and performance analysis, offering their value through hyperscaling and content solutions.

With cloud as the backbone of the energy data highway, enterprises have a golden opportunity to leverage the pace of technology to tap bottom-line benefits and shareholder value through digital transformation enabled by cloud infrastructure.

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Figure 1

How important is content to your operational performance today?

51% Business-critical

45% Important, but not critical

44% Non-essential
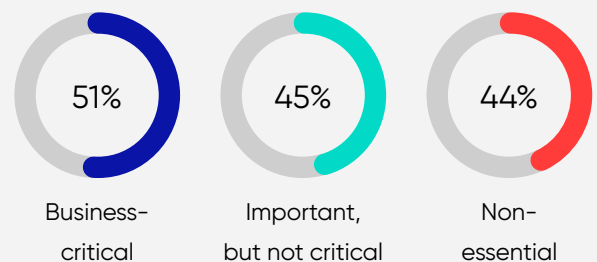
SOURCE: Intelligent Operations in Oil and Gas Survey 2020, Oil & Gas IQ

"Informed and connected workers get information to the right people at the right time, enabling companies to make safe and effective decisions."

Martin Richards
Senior director and energy industry strategist at OpenText

The content challenge

To understand the scale of the content challenge facing enterprises in the energy space, *Oil & Gas IQ* ran a survey asking industry insiders where their organizations store content. Our Intelligent Operations in Oil and Gas survey revealed that 51 per cent rely on an organization-wide enterprise content management (ECM) system which, historically, has been the go-to solution for document storage, management, organization and distribution.

The issues here, however, lay in multiple storage locations that create confusion and lost content, missing revisions and poor documentation control.

Martin Richards, senior director and energy industry strategist at OpenText, observes: "Many operating companies are hampered by internal silos and a lack of managed integration between applications and databases across functional groups. Informed and connected workers get information to the right people at the right time, however, which enables companies to make safe and effective decisions."
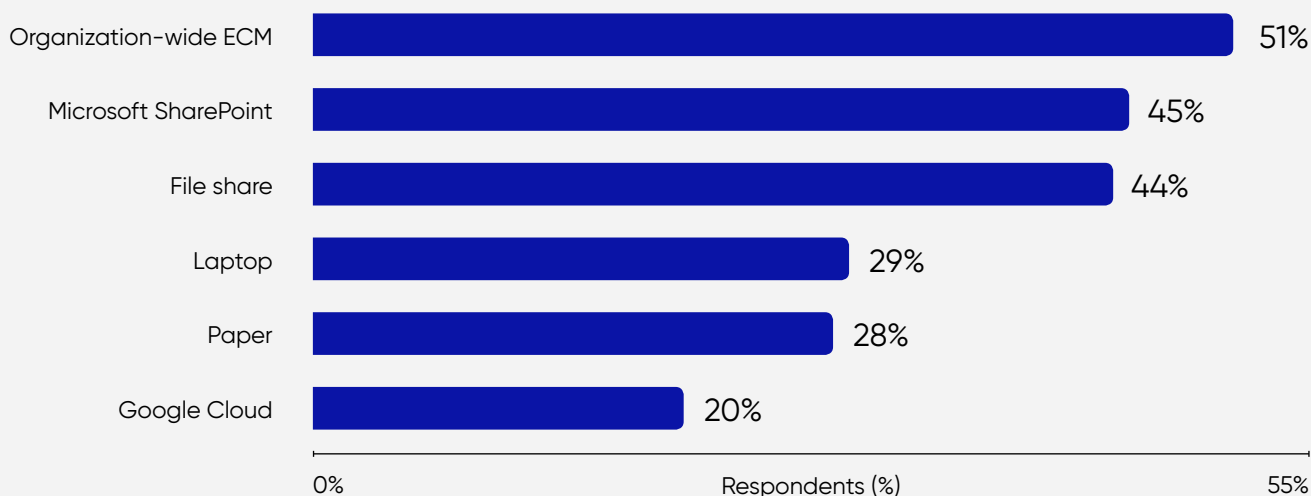
With just 20 per cent of survey respondents stating that their organizations store critical operational content on Google Cloud, eight per cent lower than paper, the oil and gas industry really has a long way to go to truly adopt cloud solutions. Wisely, 45 per cent of respondents stated that they store content on Microsoft SharePoint, but still, in this multiple-choice question, the majority of respondents said their content sits with internal platforms.

As major companies push cloud agendas, OpenText's Richards says: "Cloud computing in

Where does your organization currently store its critical operational content?

Respondents could select multiple answers

Category	Percentage
Organization-wide ECM	51%
Microsoft SharePoint	45%
File share	44%
Laptop	29%
Paper	28%
Google Cloud	20%

0%   Respondents (%)   55%

SOURCE: Intelligent Operations in Oil and Gas Survey 2020, *Oil & Gas IQ*

energy has been available for many years and those that hesitated to move are already behind."

"Cloud platforms for a wide range of solutions across the energy sector have become mainstream," he adds. "While many data-driven solutions that incorporate advanced technologies such as data science, machine learning and AI hold promise, there remains a critical element of available and accurate content such as drawings and operating procedures that form the backbone of an operating company."

In a recent presentation, IDC found that the Covid-19 pandemic had exposed significant vulnerabilities in business operations and supply chains, with three-quarters of US companies reporting supply chain disruption during the Covid-19 crisis. As only 35 per cent of businesses had completed their digital transformation prior to the pandemic, many organizations quickly realized they had much catching up to do on their digital transformation journeys.

Most businesses engage expert partners to help create a business case and blueprint for successful digital transformation projects that emphasize optimized end-to-end business processes and workflows, improved visibility into operations and customer behavior, and complete alignment with the business strategy. These outcomes are essential to building a resilient and adaptable future enterprise.

Among the known benefits of cloud are improved IT security and business agility, as well as its ability to drive innovation and reduce the total size of IT budgets. By utilizing the cloud, companies' IT departments can best serve changing business requirements through reduced costs and improved application service levels.

The reality is that most legacy applications cannot be changed quickly or inexpensively, resulting in solution providers adjusting their focus to deliver new options for their customers. As new vendors enter the market providing cloud versions of critical business systems, market and business pressures are creating both an opportunity and a dilemma: the opportunity to deliver considerable value to the business comes with the dilemma of choosing where to deploy the cloud.

Cloud in a dynamic ecosystem

Over the last five years, the energy market has experienced significant change through technology and business process redesign. As an industry, however, technological change – especially within oil and gas – has been slow.

This trend is being driven by innovation from a wide range of providers in the provision of hardware, software and advisory services. The sense of business ownership for content (structured and unstructured), including its governance and availability across an operating enterprise, is foundational to a knowledge-based, learning organization and a prerequisite for Intelligent Operations.

"Cloud computing in energy has been available for many years and those that hesitated to move are already behind."

Martin Richards
Senior director and energy industry strategist at OpenText

Owner-operators of asset-intensive industries across the energy ecosystem are facing calls to finally act and reimagine their business models to scale via cloud. By opening up operational improvements across a range of areas including operations, maintenance, engineering, reliability, HSE and supply chain, cloud helps businesses manage valuable content to drive safe, reliable and compliant operations.

Hyperscaling via content solutions

The energy industry has been notoriously slow to adopt cloud solutions due to a mixture of factors, ranging from fears about security and control, to its perceived importance below financial concerns. Encouraged by the Covid-19 pandemic, however, many firms working in the energy space have realized that they now have to act and embrace cloud solutions if they are to keep up with the competition and scale at pace.

Among the comments made in the Intelligent Operations in Oil and Gas Survey 2020, conducted by *Oil & Gas IQ* in late-2020, one respondent said that the pandemic had led their organization to "have no choice other than to intensively use mobile network in most aspects of its jobs", while another said they had to "focus on more robust and real-time video and sensor monitoring via SCADA systems". Both respondents now rely heavily on access to the cloud in order for them and their colleagues to perform their duties.

As many individuals working in the sector already have access to cloud on their phone, it is surprising that their companies have not been providing the same access to their employees for many years. Without access to the cloud, it becomes difficult for firms to find the space and opportunity to embrace Intelligent Operations. Also, a one-size-fits-all approach becomes all the more possible via the cloud, making the release of content shared across an enterprise easier in contrast to the difficulties faced when doing so across disconnected systems.

Integrated cloud solution for energy suppliers

Information management (IM) solutions enable businesses to grow faster, lower operational costs and reduce information governance and security risks through improved business insights and process speed.

Embracing the cloud provides a digital foundation for all employees to have secure access to essential business information and processes, collaborate effectively with dispersed stakeholders and synthesize data into timely insights.

Solutions such as Content Cloud for Energy from OpenText™ combine content capture, storage, organization and archiving, making content available to all stakeholders across various departments, internally and externally. An IM system in the cloud can store petabytes of content from asset intensive operations making it easy to harvest embedded data elements to support digitally focused operation. Cloud-enabled content can be opened up to a global ecosystem of partners who can work together to deliver value applications across the energy value chain by enabling Intelligent Operations that transform the way people work.

What the ecosystem entails

Whether private, hybrid or public, cloud computing has many guises, with all offering owner-operators safe and reliable infrastructure-as-a-service options. In a world where Amazon, Google and Microsoft seemingly rule the roost, the ecosystem actually offers expansive and tailored solutions to the energy industry, including Enterprise Resource Planning (ERP) and Enterprise Asset Management (EAM) from providers such as SAP and OpenText. Adopting a cloud-based strategy helps to decrease cost and complexity, and enhances capabilities such as AI, ML and DS.

Many of the barriers that held oil and gas companies back from adopting cloud computing are falling. Oil and gas companies traditionally

viewed their data as proprietary and competitive, leading to a tendency to keep that data in a company-owned data centers. Open data or curated data companies, however, demonstrate faster growth than those who hold their data proprietary. Also, enormous data volumes in oil and gas can be stored and computed via the cloud, meaning fewer potential asset management and maintenance issues.

Changing applications and hyperscale operations

Intelligent Operations is playing a vital role in providing integrated and intelligent solutions to operational environments across the global energy sector as it shifts to mobile and remote working.

Cloud-based IM systems are driving to fill white space and bring the much-promised value of data science, machine learning and AI to the fore. Digital strategies that embed enterprise content management are forming the backbone of operations, enabling engineers to perform critical tasks in asset-intensive operating environments as their businesses scale.

In our Intelligent Operations in Oil and Gas Survey 2020, *Oil & Gas IQ* found organizations that provide their operational staff with mobile access to critical operating data were more forward-looking in their content strategies, incorporating data elements that support the creation of a digital thread across robust work processes. With a sturdy digital thread in place, organizations can begin to think big, as they automate at scale and gain a competitive advantage over their rivals.

Figure 3

Which of the following business processes has your organization automated?

Respondents could select multiple answers

Process	%
Logistics and supply chain	46%
Training and development	44%
Asset performance management	44%
Engineering content change management	38%
Inspections	32%
PSM (process safety management)	32%
CAPA (corrective and preventative action)	25%
FMEA (failure mode and effects analysis)	21%
PSSR (pre-startup safety review)	13%
Other	11%

Respondents (%) — 0% to 50%

SOURCE: Intelligent Operations in Oil and Gas Survey 2020, *Oil & Gas IQ*

In conclusion

As attitudes in the energy industry continue to change toward the value of their stored data and understanding of opportunities available by diving into the cloud, those that fail to adopt a cloud-first strategy will likely be the companies that fall behind.

An inability to scale operations will be intrinsically linked to a failure to adopt the cloud as the place to store, compute and access the huge swaths of data generated by companies working at the forefront of energy.

As stated in *Oil & Gas IQ*'s *The State of Intelligent Operations in Oil and Gas* report,

OpenText's Richards notes: "If an organization doesn't have a solid foundation in place for digital insights, then the harsh reality is that it doesn't matter what you digitize."

Cloud infrastructure can act as the backbone of the energy data highway by providing enterprises with the opportunity to keep pace with technology and by adding value through digital transformation.

Finding the perfect cloud partner may be the next step, but it is part of a journey that that can only be embarked upon if an organization has the ambition and foresight to take the leap of faith into the cloud.

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Manage digital transformation in the energy industry with Asset Information Management for Energy

Securely manage content to improve efficiency across your organization. Content Cloud for Energy from OpenText delivers visibility, insight and control over engineering projects and operational content to reduce risk and cost. Managing engineering and operational content in the cloud improves ROI while creating a foundation for digital transformation in the energy industry.

OpenText partnerships

OpenText is committed to delivering our information management applications with OpenText Cloud Managed Services, the energy industry's choice of cloud platform

OpenText™ on Amazon Web Services (AWS) delivers OpenText applications as managed services on Amazon's secure, scalable public cloud.

OpenText™ on Google Cloud offers applications for the Energy industry as managed services on Google's enterprise-class cloud platform.

OpenText™ on Microsoft Azure combines the application expertise of OpenText with the scalability, security and global reach of Microsoft's cloud services.

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