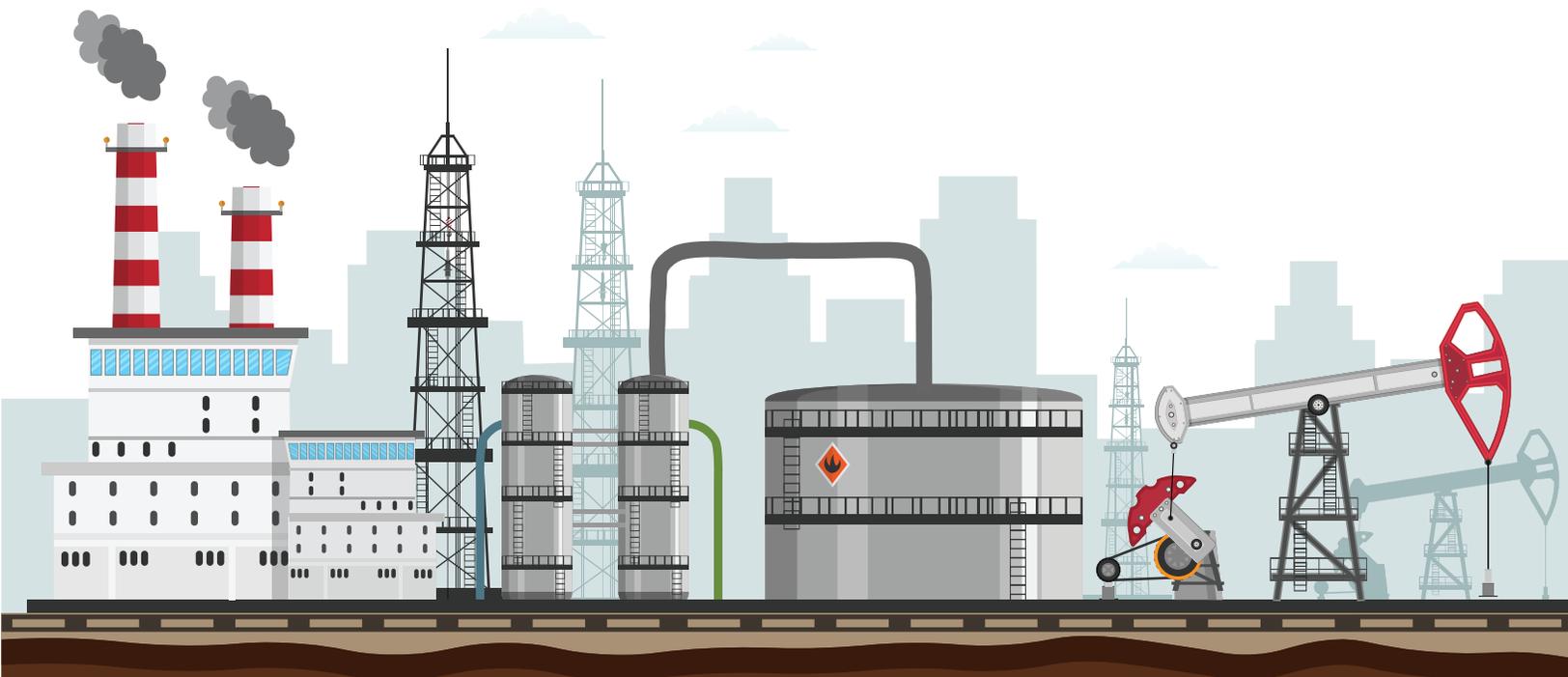


**M-Files<sup>®</sup>**

Intelligent Information Management  
**Creates New Opportunities  
for Oil and Gas Companies**



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The oil and gas industry has experienced tremendous disruption over the past five years as economic and geopolitical changes have led to a reshuffling in energy supply and demand. Although businesses within the industry have become adept at keeping up to date with the latest drilling and extraction technologies, it's also well known that the sector lags behind other industries in adopting new information technology solutions. Research from multiple analyst groups and consulting firms suggests three key drivers for this disconnect:

### 1. Back Office IT Takes a Back Seat:



Since the shale revolution began in 2006, the oil and gas industry readily recognized that new and innovative hardware technology was needed immediately to drill and complete horizontal wells in order to develop new resource plays. Power top drives, high pressure mud pumps, “walking” rigs, new completion technologies and other improvements in oilfield equipment were rapidly developed and deployed into service. The task of adapting to these new technologies while simultaneously trying to discontinue old-school methods used to record readings and manage computations in the field was too much to take on at once. At the same time, back office IT was often deemed less of a priority, especially as the industry experienced dramatic change.

### 2. Too Much Change for an Aging Workforce:



Added to the industry's list of challenges is the fact that the average age of petroleum engineers is over 43, and a large contingent of the population is close to retirement age, according to Reuters. In fact, as reported in Forbes, this phenomenon, which is known in the industry as the Great Crew Change, will have a real impact on the industry within the next three to five years, as 50% of the industry's current employee base retires. Many of these workers either use legacy document management systems or network file folders as their preferred approach for managing information for years, or are reluctant to replace something that's not perceived as being broken.

### 3. Security Fears on the Rise:



Cybersecurity threats have become increasingly prevalent and malicious in recent years at a pace of \$1 billion a year and growing in terms of the impact on businesses, according to the FBI. With the energy sector playing a critical role in every industry, it's not surprising that it's become a high-profile target for cyberterrorists. As a result, enterprise systems that add an extra layer of security are now increasingly in demand.

While it may have been acceptable to put off investments in next generation enterprise solutions in the past, the economic landscape (e.g. unsteady oil prices, increases in mergers and acquisitions) and mounting regulatory compliance pressures are moving the IT innovation and adoption needle from “desired” to “urgent or required” status.

The fact is, oil and gas companies develop competitive differentiation through information-driven insights and thus, information tools need to be best of breed and updated as core technologies change. And contrary to what some may think, implementing solutions such as intelligent information management technology has a short learning curve and a rapid return on investment. Plus, it has the potential to make companies less prone to security vulnerabilities and regulation violations.

In fact, implementing next-generation intelligent information management solutions enables oil and gas companies to vastly improve the management of structured data and unstructured content and eliminate information silos that have plagued the industry for years. Most importantly, these platforms allow employees to find the content and data that they need in order to make better decisions -- faster. Additionally, this technology is the best way the industry can capture the knowledge of its older workers who soon will be exiting the workforce, leaving an experience and knowledge gap in their wake.

In this paper, we'll explore several information management challenges affecting the oil and gas industry and lay out resources and strategies that savvy companies are using to overcome these challenges and create new growth opportunities.

### Paperless Quality Management Eases Certification, Compliance Requirements



The U.S. Energy Information Agency (EIA) measures drilling productivity using “new-well production per rig” for both oil and natural gas wells. The EIA reported that new-well oil production per rig for the U.S. in December 2016 was 946 barrels of oil per day, which was 43% higher than the same month in 2015, and 774% higher than January 2007. Since 2014, however, oil prices have declined, creating stronger incentives for companies to try new methods and ideas for reducing risk, improving efficiency and maximizing productivity as ways to improve profitability and returns.

IGas Energy, a leading UK-based exploration and production company that’s been developing and producing onshore oil and gas from over 100 sites for the past three decades, is a good case in point to illustrate how forward-thinking companies are responding to the challenges.

IGas initially implemented an intelligent information management system developed by M-Files to help maintain ISO 9001 certification along with other health and safety compliance requirements. But the company soon found that the solution could also be configured and leveraged as a core system of record for its information management and quality management needs. IGas integrated M-Files with its geographic information system (GIS)-based mapping application used for well management, creating a “visual portal” through which all of the company’s information from each oil and gas producing facility is easily and quickly accessible.

Now, information related to production, land and operations can be efficiently accessed and searched using a GIS interface that displays information associated with wells on a visual map. The solution provides traceability and versioning of all documents and related information, ensuring users are always accessing the most up-to-date file.

Since replacing paper records with online forms, it has become quicker and easier for engineers and other field workers to complete documentation for non-conformance events in real time. And with the ability to connect those forms to people and related workflows, IGas can now monitor incidents and corrective actions and make more data-driven decisions to better optimize production and quality processes.

### Automating Workflows Yields Multiple Productivity Gains



Traditional oil field operations practices can often be highly inefficient, resulting in unnecessary delays, overtime costs and premium payments to vendors. Additionally, oil and gas operations are often fragmented. It’s not uncommon for isolated teams to be focused only on operations for a specific business asset. In a study conducted by Bain & Company, it was demonstrated just how costly such fragmented business practices can be. Using data points from an unnamed energy company whose unconventional drilling site sat idle for nearly two-thirds of the development time, the study showed millions of dollars in productivity losses were incurred.

Many energy companies today understand these pain points all too well. For example, prior to deploying an intelligent information management solution, a major energy provider in Australia found that its legacy processes were starting to adversely affect its business operations. With a new pipeline project secured, the company faced difficulties in:

- Planning and tracking the project
- Moving to data-based decision making, instead of relying on guesswork
- Using a variety of Excel-based spreadsheet systems that were inefficient to manage
- Meeting project deadlines

After implementing M-Files' intelligent information management solution, the company's management team streamlined their purchase order processing by monitoring each step. The organization also is now able to create, review and approve purchase orders much faster. Additionally, the use of templates stored in the system eliminates unnecessary recreation of documents, and it integrates seamlessly into the firm's accounting system, allowing completed purchase orders to be converted into PDFs and uploaded directly into the accounting system once approved.

Thanks to email notifications triggered by M-Files sent on or prior to specific dates, critical and key deadlines are being met, too. For example, a lapsed insurance contract could impact the company by leaving it open to noncompliance and related exposure. Notifications sent to the relevant team members significantly reduces this risk. Another bonus is that staff can easily collaborate on contracts and other business documents. Strict version control within the intelligent information management system ensures that only the correct and most up-to-date document is accessed and referenced, allowing the company to audit-proof its business while gaining full visibility into all of its important business processes.

### Intelligent Information Management Optimizes Availability and Traceability



Mergers and acquisitions (M&As) represent another prevalent oil and gas industry trend that is exacerbating the sector's information management challenges. In 2016, which was an especially turbulent year following oil prices hitting a 13-year low of \$26 per barrel, the industry witnessed significant mega deals and sectoral swings, including seven M&A deals worth more than \$10 billion, which was an industry record, according to Deloitte.

The challenges faced by international integrated oil and gas company OMV reflect what's becoming increasingly common among multinational corporations: through acquisitions and organic growth, the company found itself with multiple, legacy enterprise content management (ECM) systems distributed across multiple geographies. Furthermore, it had little ability to gain a holistic view of critical content across the enterprise.

A lack of consistent governance created unacceptable risk for non-compliance incidents, as the company dealt with complex regulatory requirements in multiple nations. Without a comprehensive overview of company information and processes, the company experienced productivity and efficiency losses.

The choice OMV faced is common: revamp and expand an aging monolithic system — a top-down task that could take months of planning and years to complete — or go with a newer, more flexible system that could be quickly implemented and trialed and then expanded across the enterprise, leveraging early success to rapidly grow adoption and acceptance.

Traditional ECM systems replicate the file folder hierarchy for organizing and managing information, which forces users to figure out which folder a document resides in. In addition, the IT department typically must be involved in order to configure the ECM solution in order to meet the needs of its users, which places greater demands on the already over-burdened IT staff. Furthermore, old-school ECM systems are complex and force users to change the way they work, and as a result, they suffer from low user adoption rates.

However, the future of ECM — intelligent information management — incorporates agile content management frameworks that allow management, governance, traceability and rules to be laid transparently across existing data silos while providing process tools that engage users and invite them to adapt and improve their own workflows.

The key to success for any modern enterprise systems is a low barrier to usability — it must be readily adoptable by users, easily understood, quick to implement and simple to adapt to specific user needs. It must also offer strong integration capabilities and seamless search across content repositories both inside and outside the system, all while allowing users to quickly and easily create workflows compatible with the tools they use every day. The maturing of third-party platform technologies and the widespread adoption of robust APIs have enabled this new level of flexibility and integration, allowing new content management platforms to outperform their predecessors.

The case for rationalizing older content systems and developing a forward-looking integration strategy is clear for today's multinational enterprise. At OMV, through use of the M-Files intelligent information management solution, the company achieved its goals of meeting demanding documentation requirements and satisfying multiple, complex regulatory regimes with a modern, flexible and highly-adaptable approach.

The project was driven primarily by the legal and compliance requirements of the many regulatory regimes the company deals with across its multinational marketplace and the need to ensure 100% availability and traceability of all documentation. But the company had other goals as well, including:

- The solution must easily connect to OMV's master Oracle database as well as numerous industry-specific data sources for automated population of metadata.
- The solution should harmonize categorization, indexing and metadata across geographies to ensure consistent results no matter how a user searched for content.
- The solution should cover the complete lifecycle of every document — from origination to completion, archiving or abandonment.
- The solution should create a "single view of the truth" while minimizing the impact and risk of data migration.
- The solution should be extensible across and easily accessible by OMV's supply chain, including documents and processes involving contractors and external suppliers.

After selecting an intelligent information management solution, the company invested heavily in training 300 users across its two locations. Two things happened with this approach. First, system adoption in the pilots was rapid and universal. Resistance to change was minimal because the platform had a familiar and intuitive interface and the comments coming back from users were highly complementary. Three hundred users for the major use cases were now knowledgeable advocates for the system, an advantage that could be leveraged in offices across the company. Also, the core infrastructure was rapidly and thoroughly vetted by users in the field, reducing the risk that major conflicts or problems would be discovered in later rollouts.

The integration tasks in both projects proved to be quite manageable. The company was able to link the system to its master Oracle database, SAP, internal identity management systems and multiple industry-specific data stores, all without the need to hire a systems integrator.

OMV reported that use of the system has not only improved processes but actually changed the nature of work for some of its most critical document governance roles. For example, prior to the intelligent information management solution rollout, document governance was handled by document controllers. In each country, OMV had two people whose job was to ensure that each document was properly numbered, stored in the proper place and met the minimum requirements for its regulatory function. It was an important administrative role but did little to improve the content, function or value of the documents.

Today, that role has been transformed. Document controllers are now focused on service delivery and document quality, ensuring that each document meets not only regulatory objectives but also the needs of the company. This is particularly valuable when it comes to the myriad contracts and performance documents created in the development of capital projects.

### Why Now's A Good Time to Make a Digital Transformation



Industry research firm Gartner notes that despite previous slow adoption of ECM and other information management solutions, the convergence of three trends is rapidly changing priorities among a number of oil and gas industry leaders:

1. Digital technologies have matured; they are now able to gather data on all aspects of operations in real time, making it economically attractive to creatively design new and more efficient ways of working.
2. There is the pressing need to rapidly improve productivity, reduce cost and enhance decision making in order to survive in a more volatile and financially challenging hydrocarbon market space.
3. There is top-down pressure from board of director (BOD) members who are bringing in experiences from other industries and challenging oil and gas CEOs to deliver the same sort of impact.
4. There is the increased recognition that data for decision making rests not only in the corporate scientific databases but also in the resulting documents which contain analytical analysis. It is vital that these documents be approached using technology that ensures the correct analysis is being referenced in the decision-making process.

Today's oil and gas industry is based on the ability to find, develop and sell hydrocarbon-based products at global scale. Digital innovation uses technology to extend this model by improving the capabilities that enable it (such as better methods for developing hydrocarbon assets). By contrast, digital transformation involves using technology to create a different model for competition, such as developing and selling digital assets (e.g., algorithms) or creating a digital industry platform (e.g., enabling Industry 4.0 in oil and gas).

Oil and gas companies that are still using legacy ECM and document management systems should make it a top priority to determine whether their company is ready to embrace the opportunities of a digital transformation.

To put the digital transformation trend in perspective, [Gartner](#) offers the following prediction:

By 2020, your company will either lead a digital business industry vision you have created or be part of one created by someone else — if you are still in business.

## About **M-Files**<sup>®</sup>

M-Files provides a next generation intelligent information management platform that improves business performance by helping people find and use information more effectively. Unlike traditional enterprise content management (ECM) systems or content services platforms, M-Files unifies systems, data and content across the organization without disturbing existing systems and processes or requiring data migration. M-Files breaks down silos by delivering an in-context experience for accessing and leveraging information that resides in any system and repository, including network folders, SharePoint, file sharing services, ECM systems, CRM, ERP and other business systems and repositories. Thousands of organizations in over 100 countries use M-Files for managing their business information and processes, including SAS, Elekta and NBC Universal. For more information visit [www.m-files.com](http://www.m-files.com).

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