

IMPLEMENTING
MOBILE APPLICATIONS
TO ENHANCE
BUSINESS AND
OPERATIONAL
PROCESSES IN THE OIL
AND GAS INDUSTRY.

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1 INTRODUCTION

As technology continues to advance and mobile devices become smarter, oil and gas companies are leveraging the benefits of an enterprise mobile strategy for growth and profitability. Because remote workers and globally dispersed stakeholders are customary, oil and gas companies are turning to mobile applications to facilitate collaboration and improve efficiencies. Mobility strategies in the oil and gas industry are smoothing the day-to-day operations on-site and in back office systems to formulate immediate, superior business decisions. This eBook will emphasize the payoffs and challenges for managers in the energy industry by adopting mobile solutions and highlight key areas of increased productivity and common mobile obstacles.



2 UNDERSTANDING THE NEED FOR MOBILITY IN THE OIL AND GAS INDUSTRY

In a highly competitive and complex industry, oil and gas companies must ensure efficiency and effectiveness of resources at all times through seamless communication between all employees during all operations. Remote workers on-site need access to full information, in any location, and at any time to be efficient in translating information to back office employees. Any inefficiency in the energy industry can have serious effects on productivity and compromise the health and safety of employees. Mobile applications are used in order to ease administrative efforts in the back office and support greater visibility and operational awareness throughout the business. Potential and current issues are prevented with mobile accessed real-time data, ultimately increasing the company's bottom line.

3 INCREASING PRODUCTIVITY

3.1 Real Time Operability

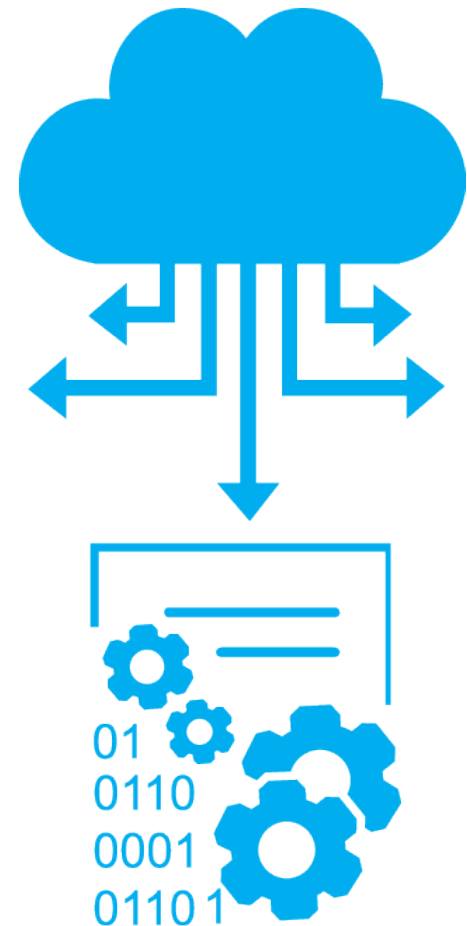
Accessing data in real-time allows transparency in operations, a few examples in the industry include the following: worker location, rig analysis information, resource allocation, and precautionary safety measures.

Managers need to know which employees are actively working on specific job sites. In the energy industry, utilizing resources in the most efficient manner is necessary. Knowing the location of all workers enables managers to accommodate service demands quickly.

The ability for workers to conduct a rig analysis is crucial in confirming safety. The possibility of reservoir gases, crude oil and natural gas deposits while drilling at a rig site could pose serious threats to the on-site workers. Real-time data also provides information about other geological conditions workers need to be aware of.

Sometimes there are unexpected resources that fail while drilling and need to be replaced as soon as possible to avoid delays. Real-time data updates managers when they need to know which machines or tools have failed and be able to reallocate resources appropriately.

The flow of data was exceedingly slow before the integration of mobile applications. On-site well managers and remote office staff were unable to obtain current information regarding any analysis of the rig site. Not only is this extremely dangerous for the well workers but acutely inefficient. Mobile solutions have made real-time data possible, alleviating previous pains which kept oil and gas companies from operating at maximum efficiency.



3.2 Reduce Cycle Time

Companies are doing away with workers taking notes on clipboards with a pencil and paper and replacing the outdated method with easy to use, mobile applications. Workers no longer have to decipher their field notes when manually entering data into spreadsheets. Now, the data they collect on-site is automatically populated into data-driven systems where it can be interpreted by all departments for better business decisions. This drastically increases productivity and improves service and product quality.

3.3 GPS and Geographic Information System Tracking

The concept of GPS and GIS provides efficient field-force workflow. GIS provides field workers with visualization of assets in real-time spanning across multiple areas: enabling accurate field data collection, navigation to job sites, pipeline placement, field asset management, and regulatory compliance. Assets can be managed at their full capacity in the most efficient way.



3.4 Connectivity and Mobile Teams

Mobile applications have transformed the unsystematic process of communicating. Workers can access the same information as their coworkers from across the world, analyzing the same data on different mobile devices. A central data visualization center is no longer necessary for oil and gas companies to make decisions.

With the ability for on-site workers to communicate remotely to off-site engineers improves the most important rule of working in the industry: safety. Workers no longer have to make multiple trips to discuss strategies or make important decisions.

Technology, in fact, is a key driver of innovation across the energy portfolio and ultimately drives affordable energy. Technological advances have expanded our resource base; allowed us to recover more of those resources, efficiently, economically, and safely; enabled us to produce cleaner-burning fuels and manage a much smaller environmental footprint.

John Watson, CEO, Chevron

4 CHALLENGES WITH A MOBILE STRATEGY

4.1 Security

Since the oil and gas industry is highly regulated by the government, hacks are something the IT team should be prepared to manage. The industry has already seen numerous hackers trying to access sensitive information. The chances of unwanted users accessing important and private information increases when employees are operating on mobile devices. Most workers use their own mobile device, which poses as its own security issue. Mobile devices put pressure on the corporate network, leading to network latency and scalability problems.

4.2 BYOD

Bring Your Own Device in the oil and gas industry can be a challenge for enterprises. The concept can dissuade workers to use applications that require high-bandwidth in an attempt to avoid using too much data for their service plan. Another issue with the BYOD strategy is invasion of employee privacy. The IT team must have access to the employee's personal wireless account information to manage applications and take security precautions. Lastly, if an employee misplaces or has their device stolen, sensitive information is compromised and can cause an IT nightmare to get under control.



4.3 IT Support

The IT management team needs to have the proper help desk system in place to easily assist in any and all delays from mobile devices. From handling application upgrades to mitigating hacking risks. All workers and employees need to have access to IT support at any time. Enterprises are taking the time to have IT teams train the less tech-savvy employees with using and maintaining their mobile devices. IT can become overwhelmed and too taxed with the influx of device malfunctions if on-site workers have no knowledge of their devices.

4.4 Budget Constraints

If too many issues arise with remote workers using their own mobile devices at work, it could become expensive for the company to supply corporate owned devices. Most workers are comfortable with their own devices and often are more productive and willing to work longer hours than if required to use a company-owned device. Many enterprises have already incorporated a hybrid BYOD system: employees use their own device but the corporation will provide the service and security, placing liability on the company.

4.5 Remote Locations

Many oil rigs are located in isolated locations with no server support for mobile applications. This is another area required by the IT support team to anticipate and be able to handle in a timely manner.

5 CONCLUSION

Mobility has proven to be a concept worth adapting in the oil and gas industry. As technology improves and devices become sleeker and smarter, it will only become more imperative for enterprises to implement a mobile strategy. Real-time data has been the main push towards staying competitive; given the mass benefits it offers the company in its entirety. While mobility has its challenges, the benefits far outweigh the risks. Enterprises are improving how they mitigate security risks and IT teams are becoming more efficient in how they communicate with non-tech workers to better understand their mobile devices. As time goes on, the challenges enterprises face with mobility will lessen as mobile strategies are seen as a standard and no longer an option.



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Renovatio Cloud Solutions

115 Sandra Muraida Way, Suite #635, Austin, TX 78703

(512) 298-3328