

# Data Modernization in Oil & Gas USE CASES

Oil and Gas industry is known for its volatility. Driven by market forces and challenged to walk the tightrope between increased demand and rising carbon footprint, the industry is never far from the eye of the storm. The CIOs, thus, have a huge responsibility to steer the ship to clear waters and keep the pace up. Digital transformation in this context has a larger impact. No wonder almost nine out of ten CIOs are betting high on their digital programs in 2021 and beyond, as per Gartner. A few years ago, as recently as 2014, digital transformation did not feature in their agenda. What has brought about this change?

The answer lies in the strength of cloud, analytics and AI in making businesses secure, scalable and cost effective. Right across the value chain, from rigs to last mile delivery, the industry has invested heavily in IoT. The streams of big data are often underutilized for lack of optimized cloud-based solutions to analyze and act on the alerts. Given the unprecedented challenges during the pandemic, when oil traded on negative value, the industry has woken up to the need to accelerate digital transformation and data modernization to fuel productivity, plug cost holes and improve production efficiency.

## Data Modernization in Oil & Gas – The Key Use Cases

According to recent trends, the Digital Transformation market in Oil and Gas is expected to grow at a steady 10% CGAR across 2021-2026. This shows continued reliance on latest technologies to solve traditional issues that the industry has been grappling with. How can technology make a difference? Here are five major use cases to explore:

### Making Production Operation Efficient

Traditionally a cash rich industry, cost was not one of the major concerns in the oilfields. However, the recent turn of events, the pressure on margins and constraints in resource availability has brought the focus squarely on production efficiency. The industry is full of paradoxes. While the exploration and digging are highly mechanized and technologically advanced operations, production operations till recently were highly manual. The age-old pen and paper or excel sheet driven processes in calculating oilfield production and reporting are a drain on productivity and cost. According to McKinsey, the US Shale alone has the potential to bring down production cost by 10\$/ barrel. Operators are now waking up to the need for production efficiency and adopting mobility and cloud-based solutions to streamline operations.



### Preventive Maintenance for Optimal Performance

Rigs, wells, meters, pipelines and all major equipment in the entire energy production and distribution lifecycle must be fail proof. The health of these mission critical assets depends on regular maintenance and the ability to detect anomalies early. The IoT sensors and SCADA alerts need to be acted on swiftly. The challenge is to prioritize and attend to high value assets first. Preventive maintenance can be driven with real-time data analytics and access to information on ground for swift action. According to Gartner CIO Survey 2021 one in two CIOs pledge to invest more in data analytics, cloud, automation and IoT.

### Staying Compliant with Regulations

Regulatory compliance is one of the major challenges for Oil and Gas operators. The field and back office are on their toes to gather and streamline data to meet compliance needs. Hundreds of hours are spent every month in each oilfield causing a drain on efforts and resources. Streamlined data and analytics processes can bring down these efforts and keep the companies on the right side of the law with less effort.



### Data Security

The recent ransomware incident at Colonial Pipeline Company in the US revealed the growing cyber threat to the industry. As the investigation revealed, the cyber prowls stole more than 100 gigabytes of data and starved the supplies with just a compromised password. Such incidents expose the need for higher security in remote working environments. Obviously, the threat cannot be taken lightly. Oil and Gas sector must strengthen its security architecture with foolproof technology and multilayer protection. A stringent security approach is definitely in order.

### Modern Data Infrastructure to Navigate Uncertainties

Oil and Gas industry is known to have seen through many storms and has bounced back numerous times. The worst seems to be behind as the industry is steadying the ship post the jolt of the first wave of pandemic. However, sustained growth is driven by the focus on technology aided resilience. Strong infrastructure, secure architecture and scalable systems will define the strength of the industry's resurgence. As analysts claim, the industry is too big to fail and technology investments are their best bet to stay strong.



## Data Modernization in Action – An Oil & Gas Case Study

Technology driven transformation demands strong partners, well versed with market dynamics, workings of the industry and right tech skills. The combination is often hard to find. However, partners who bring together an ecosystem of enablers with strong capabilities are the backbone of a truly disruptive future.

Acuvate teams worked with one of the major drilling services providers in the O&G industry to **modernize** their data systems.

The three decades old Oracle databases were modernized using **Azure app services** and **PostgreSQL** within record time.

As a result, the client gained **40% reduction in cost**, enhanced efficiency and risk proof systems with high availability and disaster recovery processes.

Acuvate is the trusted partner of some of the most reputed Oil and Gas majors. Our strong focus on shared vision driven by technology expertise and domain knowledge makes us your partner of choice. Talk to us to accelerate your oil field digitalization.