

# Build a More Efficient Energy Supply Chain With Data + AI

Data drives innovation, and leading oil and gas companies are harnessing the power of analytics to future-proof operations and accelerate outcomes. With data at the core of their strategy, companies can make smarter decisions at every stage of the supply chain.



## The high cost of operations requires a smarter approach



**\$1.1K PER MINUTE**

Estimated cost to operate a land-based oil rig

**\$1M PER DAY**

Estimated cost to operate an offshore oil rig

## Leading oil and gas companies drive innovation with Databricks



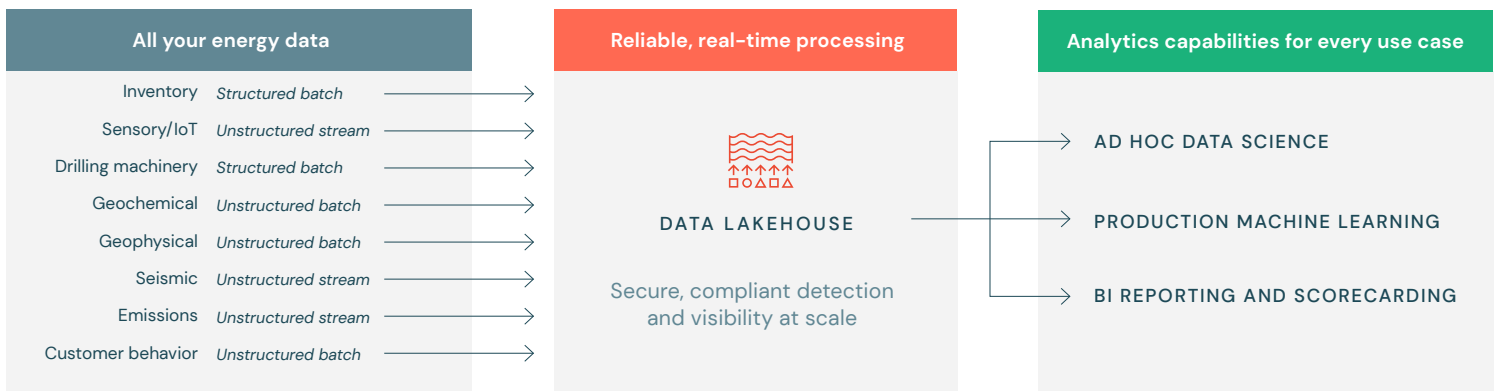
Increasing loyalty across 1.5M customers by delivering personalized offers and rewards via Shell's Go+ loyalty program



Identifying new pockets of oil and gas more efficiently and safely for the communities they serve

## Deliver better outcomes with the Databricks Lakehouse Platform

Databricks provides a Lakehouse Platform that helps energy companies democratize data for downstream analytics and AI — streamlining operations and accelerating transformative and sustainable innovation.



DATA CHALLENGE	THE DATABRICKS LAKEHOUSE FOR ENERGY
<b>Data Ingest:</b> Processing batch and streaming data can be slow and error prone, impacting downstream analytics	Connect traditional data with alternative data insights
<b>Data Lake Management:</b> Data silos can limit the ability to gain a complete view of the user	Easily handle large volumes of data from multiple sources (sensor data, geospatial, customer, inventory, etc.) built on a strong privacy foundation
<b>Data Query:</b> Fragmented, siloed and inconsistent data sources for BI and data science	Ability to rapidly and inexpensively experiment, manage and push out at scale from a single platform

Databricks  
oil and gas customers



HALLIBURTON



## Data + AI use cases in oil and gas

### UPSTREAM USE CASES

Improve oil exploration, production and labor efficiencies while reducing operational risk

#### Oil Exploration

Utilize data analytics to identify oil reserves and drilling targets

#### Drilling Optimization

Improve the rate of penetration to drill faster and more effectively

#### Production Optimization

Streamline oil extraction methods to maximize field asset values

#### Predictive Maintenance

Avoid production failures and downtime by predicting equipment maintenance needs

#### Location Development and Project Execution

Optimize land-based rig locations to improve site development, rig operations, resource management and labor costs

#### Environmental, Social and Governance

Integrate ESG objectives into field operations to build models for continuously tracking and reducing carbon emissions

### MIDSTREAM USE CASES

Ensure secure and efficient oil processing and transportation

#### Supply Chain Optimization

Manage inventory levels more efficiently to reduce overall costs and accelerate delivery

#### Demand Forecasting

Predict future oil production needs to optimize delivery resource planning

#### Risk Mitigation

Prevent security and fraud losses through proactive risk management

### DOWNSTREAM USE CASES

Optimize fuel price, the customer experience and nonfuel upsell opportunities

#### Oil Price Optimization

Determine optimal fuel prices based on seasonal, environmental and event-based trends (e.g., sporting events, holidays, weather, etc.)

#### Location Optimization

Identify ideal retail sites based on regional demographics to yield more revenue

#### Energy Trading

Develop data-driven trading strategies that increase top-line growth and optimize pump price

#### Product Personalization

Increase customer lifetime value with personalized recommendations of nonfuel products (e.g., coffee, candy, soda, etc.)

# The Databricks Impact

Databricks helps companies automate infrastructure management, increase ETL performance at scale, and accelerate machine learning and analytics initiatives.

**12x faster**  
ETL pipelines

**Impact:**  
Faster time-to-market for new analytics insights and models

**+25%**  
Gain in productivity

**Impact:**  
More productive data scientists result in more AI innovation

**+47%**  
Overall cost savings

**Impact:**  
Lower infrastructure costs boost operational margins

Learn more about  
our oil and gas solutions



[DBRICKS.CO/OIL-AND-GAS](https://databricks.co/oil-and-gas)