

From data overload to energy insights

Spotfire[®] visual data science solves your exploration and production challenges



Key challenges facing E&P teams

Data complexity

Oil and gas operations produce vast amounts of technical data every day, from seismic surveys and drilling logs to IoT sensor streams and historical production records.

This data is often spread across incompatible systems, stored in different formats, and managed by siloed teams. The result is a fragmented landscape where valuable insights are delayed or missed entirely.



Real-time decision making

Traditional analysis methods are too slow to keep up with fast-paced operations. In high-stakes oil and gas operations, delayed decisions can lead to equipment failure, safety incidents, and lost revenue. With data streaming in constantly, engineers may find themselves making decisions reactively instead of proactively.

On average, companies using real-time data:



Predictive maintenance

Unplanned equipment failures cost oil and gas companies an average of \$149 million annually. (Source: <u>Energies Media</u>³) Predictive maintenance not only reduces risk but can also cut maintenance costs by up to 40%. (Source: <u>Siemens</u>⁴)

Yet many operations still rely on reactive or scheduled maintenance, missing critical warning signs before breakdowns occur. Forecasting issues in advance is essential to avoid unexpected equipment failures and costly downtime.



Big data management

Exploration and production operations produce massive volumes of data—terabytes per day in some cases. But without scalable systems in place, this data overwhelms infrastructure, slows analysis, and leaves critical insights buried in storage. As operations grow more digital, many teams are stuck trying to manage yesterday's data with outdated and inflexible tools.



Rising costs

Drilling a single well can cost millions of dollars, and each placement decision carries high financial risk. As operational expenses continue to climb, companies can't afford missteps. Poor site selection, inefficient designs, or delays in execution can dramatically reduce return on investment and compound project losses.

Average global cost of drilling a single well

Onshore average cost (USD M)







Operational efficiency

Maximizing output while minimizing waste is essential in today's competitive energy landscape. But outdated processes, disconnected systems, and slow data access can drag down performance. When teams can't quickly align insights with action, opportunities are lost and resources are underused.



Safety risks

Operational risks in oil and gas are high, and even minor anomalies can escalate into major incidents. Without early detection and immediate response, companies face more than downtime. They also face serious threats to worker safety and environmental compliance. Real-time awareness is critical to staying ahead of hazards.

How Spotfire solves these challenges



Simplifying complex data

Spotfire brings together data from rigs, pipelines, and historical production into one unified view. Its intuitive drag-and-drop interface lets engineers build powerful data applications without writing code, so data becomes actionable in minutes, not days.



Driving operational efficiency

With real-time dashboards powered by streaming analytics, Spotfire helps teams analyze operations live, identify bottlenecks instantly, and take immediate action to improve performance.



Forecasting with confidence

Spotfire's built-in predictive models help identify patterns and anticipate failures or opportunities. Engineers can run simulations, test drilling strategies, and optimize plans before breaking ground.



Optimizing with Al

The AI-powered Spotfire[®] Recommendations Engine surfaces smart recommendations, whether it's fine-tuning production parameters or reallocating resources. It amplifies expert judgment with data-backed insights.



Built for oil and gas

From reservoir modeling to equipment monitoring, Spotfire offers industry-specific templates, visualizations, and connectors. It's built for the data challenges of oil and gas, not retrofitted like generic BI tools.

- "We prefer Spotfire because it quickly investigates any imaginable large-scale data analysis scenario."
 - Reservoir Engineer, large U.S. E&P company with 200+ engineers using Spotfire

"One of the reasons we rely on Spotfire is because we can plug into every component of data analysis and visualization, providing value to everyone from the boardroom down to the analyst who is doing the work. We can [use Spotfire] to drive down to spark decisions very quickly."

— Jonathan Henderson, Chief Analytics Officer, Enertel

Leading global energy companies trust Spotfire because it delivers for E&P teams. With Spotfire, you can:

- Tailor your view with data applications designed specifically for the oil and gas sector.
- Manage and analyze extensive data sets with ease.
- Enhance exploration decisions with precise predictive insights.
- Boost operational efficiency with cutting-edge AI and GenAI capabilities.

Visual data science empowers E&P teams to explore, discover, align, and act with confidence. Ready to unlock the power of your data?

Discover visual data science built for oil and gas with <u>Spotfire</u>.

Sources:

- $1. \ https://www.gminsights.com/industry-analysis/big-data-in-oil-and-gas-market$
- 2. https://cisr.mit.edu/publication/2024_0801_RealTimeBusiness_WeillvanderBergBirnbaumdePlanta.
- https://energiesmedia.com/ai-in-oil-and-gas-preventing-equipment-failures-before-they-cost-millions/
 https://assets.new.siemens.com/siemens/assets/api/uuid:1b43afb5-2d07-47f7-9eb7-893fe7d0bc59/TCOD-2024_original.pdf
- 5. https://www.eia.gov/dnav/pet/pet_crd_wellcost_s1_a.htm.
- 6. https://cepr.org/voxeu/columns/revisiting-relationship-between-oil-prices-and-costs-upstream-industry
- 7. https://jpt.spe.org/being-the-bigger-oil-company-offers-an-edge-on-well-costs
- 8. https://www.spglobal.com/commodity-insights/en/news-research/latest-news/crude-oil/092723-well-drilling-completion-coststo-rise-in-2024-dallas-fed-survey
- 9. https://www.bain.com/insights/beyond-the-stage-gate-capital-projects-in-the-energy-transition



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