



NVIDIA GPU_s FOR ACCELERATED ANALYTICS INDUSTRY SPOTLIGHT: OIL AND GAS

Oil and gas companies are in the data business and need to derive insights from the massive amounts of sensor, geolocation, weather, drilling, and seismic data at a lower cost. Traditional interpretation methods are increasingly challenged by that volume of data, shortage of data science skills, and slow compute, which can no longer keep up with the demand. Over the years, many companies have become constrained by the computational and memory bandwidth required, and the amount of power and cooling that's needed to run their technical operations in centralized data centers.

Advantages of GPU-Accelerated Solutions

The speed and accuracy of seismic interpretation are critical in the exploration workflow. Multi-GPU and multi-node GPU technology boosts throughput for visualization and heavy computation.

The high compute power, massively paralleled processors and high-speed memory of GPUs allow oil and gas companies to visualize and analyze petabytes of well location data in milliseconds and implement advanced algorithms to locate faults in underground structures.

The result is dramatically reduced model processing cycle times and sharper images of region-of-interest datasets. This can lead to more effective lease bidding, higher service revenues and, ultimately, greater chances of striking oil at a lower production cost per barrel.

Industry Challenges

Low oil prices are forcing oil and gas companies to look for savings in every aspect of their business. Scale-out traditional approaches to analytics problem no longer meet the needs.

Poor Data Quality - Struggle to leverage and integrate disparate, siloed, and dirty data for meaningful insights.

Slow Compute Power - Struggle to analyze massive amounts of data for valuable insights fast and at a low cost.

Oil and Gas Industry Accelerated Analytics Use Cases

<p>Drill Control</p> <p>Real-time control of the drilling process to optimize the speed and safety of drilling. Early results show 50% savings in drilling costs by adding drilling controls.</p>	<p>Geology To Reservoir Value</p> <p>Leverage predictive model to predict the behavior of the fluids from the core sample to extrapolate the fluid flow properties over a field, and then value the huge volumes within the reservoirs underneath.</p>	<p>Underground Structures</p> <p>Leverage advanced algorithms to locate faults in underground structures for sizing the field accurately and quickly.</p>
<p>Predict Bid Price</p> <p>Leverage machine learning algorithms and visual analysis tools to accurately estimate land prices and win lease bids at a lower cost.</p>	<p>Predictive Maintenance</p> <p>Leverage real-time analytics and alerts to predict when submersible pumps might fail, or well loss of circulation in drilling due to pressure depletion.</p>	<p>Visualize Well Location</p> <p>Visualize real-time data to identify regions of high productivity to determine well locations for more profitable drilling.</p>

Get started with NVIDIA

NVIDIA ISV Analytics Partners' solutions—running on NVIDIA® Tesla®-based systems, NVIDIA DGX™ Systems and on GPU-accelerated cloud platform—allow customers to leverage the massive computational power to derive insights from vast volumes of complex and streaming data in milliseconds. These solutions enable oil and gas companies to lower costs and deliver hydrocarbons to market profitably.

<p>TESLA SERVERS IN EVERY SHAPE AND SIZE</p> 	<p>DGX SYSTEMS AI TOOLS FOR INSTANT PRODUCTIVITY</p> 	<p>CLOUD EVERYWHERE</p> 
		

Find Out More

NVIDIA Accelerated Analytics—Helping customers effectively analyze, visualize, and unleash the power of AI to transform their digital business into an AI enterprise.

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