Quantum Spatial brings the power of geospatial analytics to the oil and gas industry, with innovative services that benefit upstream, midstream, and downstream businesses. Using a comprehensive array of technologies and expertise, we help oil and gas companies ensure the safe and efficient management of their energy resources and infrastructure.

**Mitigate Risk** – Our geospatial solutions help reduce risk throughout the lifecycle of an energy project, from drilling and pipeline siting to integrity management and regulatory compliance. We provide clients the visibility and insights to mitigate such risks as right-of-way encroachment, environmental disturbances, geologic hazards, and more.

**Modernize Decision Support** - We employ advanced remote sensing technologies coupled with sophisticated processing algorithms. Our analyses are more revealing and precise than visual inspections; our models easier to manipulate and share than handheld video. Our Change Detection solutions are highly automated and deliver significant time and cost savings.

**Maximize Value** – A huge advantage of our services is that a single geospatial dataset supports multiple applications. For example, LiDAR data acquired along a pipeline corridor can be used for operations as varied as vegetation management, landslide detection, HCA identification, and class location analysis. We partner with clients to maximize the delivery of actionable information across the organization.
Oil & Gas

APPLICATIIONS

Exploration
Quantum Spatial is expert at using remote sensing technologies to target the most promising, least impactful drilling locations. Our ability to pinpoint geological features and surface thermal anomalies helps reduce the risk and cost of resource extraction.

Pipeline Siting
We support pipeline siting and pre-construction design with planimetric maps generated from high resolution, high accuracy LiDAR data. Our highly automated process is an economical alternative to labor-intensive ground surveys, whether mapping dense urban areas or rugged, remote terrain.

HCA Identification and Class Location Analysis
We facilitate on-time regulatory reporting with HCA and class location analyses based on LiDAR, digital imagery, and HD videography. To increase the speed and accuracy of analysis, we tag structures with size, use, and parcel data, and then automatically calculate building counts along a sliding mile.

Right-of-Way Encroachment Detection
Our geospatial analytics and visualization tools improve the efficiency and reliability of ROW monitoring. Desk-bound decision makers can even “fly over” pipelines, viewing HD video geo-synced with LiDAR analytics to identify encroachment issues before deploying field crews.

Environmental Monitoring
Our team has extensive environmental mapping experience for applications that include erosion control, vegetation management, wetland delineation, and mitigation and impact studies. We can also monitor for methane leaks and environmental disturbances along pipeline corridors.

Geologic Hazard Analysis
Quantum Spatial is at the forefront of using geospatial analytics to detect geologic hazards, including landslides, faults, and other forms of failed terrain near proposed or existing pipelines. Our LiDAR models reveal subtle surface features that are undetectable via aerial photographs or field observations.