CTG

CTG Digitally Transforms Fuel Distribution for a Major Oil & Gas Company, Enabling Data-Driven Decisions and Lowering Operational Costs

The Client

The company is a major international oil company that specializes in exploration, production, and oil & gas development. Based in Alaska, they operate various single and joint ownership oil & gas properties on the North Slope, one of the most remote geographic regions in North America. The company operates in a highly complex business environment that is heavily regulated by the state and federal government, with a focus on environmental protections.

The Business Challenge

The company's large fleet of company and contractor-owned vehicles and field equipment require them to collect and process vast amounts of fuel data, consisting of up to 350,000 transactions a year. Previously, its fuel truck operators were responsible for recording equipment numbers and cost codes to allocate costs manually using paper forms and Excel spreadsheets.

Data collection was a time consuming and impractical process for fuel truck operators to perform on top of their primary responsibility driving trucks throughout the cold, remote Arctic region. Additionally, the client lacked the ability to monitor the fueling of its company and contractor owned equipment. Consequently, it was difficult for them to accurately report the quantities of fuel used by various business groups.

The client recognized the shortcomings of its data collection system and wanted to enable greater data-driven decision-making by improving fuel usage tracking for accounting and regulatory purposes. They engaged CTG to design a system that would not only improve the data collection, but also provide trustworthy and actionable data necessary to optimize fuel costs while promoting reliable and safe operations in the field.

The CTG Solution

Leveraging an information management approach to scalable digital transformation—which prescribes a methodical approach across disciplines—and our Data Management and Application Development solutions , CTG delivered the following services to help automate the client's data collection, processing, and cost accounting for fuel distribution:

- Led hardware and software integration proofs of concept and integration testing to help the client select the optimal system and approach. The system includes a fuel meter with electronic asset tags that send radio frequency wireless signals from the fuel truck driver to the truck computer. It also records the data and caps the amount of fuel that can be pumped into equipment to prevent overfills.

- Developed an intranet-accessible, web-based application for processing fuel data collected during fuel truck operator shifts, which eliminates the burden of having to fill out paper-based forms and Excel spreadsheets.

- Created a user-friendly, front-end process that helps operators obtain, verify, and transmit fuel system information into the database and access the current asset list, fuel quantities, and more.

- Developed a fuel management post-processing system that analyzes four separate systems of record for vehicle and equipment usage and cost code assignment to accurately identify the correct cost code for the date and time of fueling.

- Designed workflows, defined job responsibilities, and delivered training for a new Data Analyst role that consolidated multiple part-time positions. The new position works in conjunction with the new systems and data integration.

The Results

CTG delivered services incrementally, over the course of a multi-year engagement, to help the company transform from manual, paper-based fuel data collection to a web-based automated fuel tracking management system that enables data-driven decision-making and improves overall business performance.

The innovative system has led to numerous operational improvements, including:

- **Lower Operational Costs:** Over time, the enhanced fuel management system has allowed the client to further optimize its operations, ultimately supporting the sale of their fuel trucks and their ability to outsource fuel distribution to a specialized service. The client can now record fuel distribution and accurately assign cost codes to generate data for the managed service provider to invoice their clients.

- **Improved Environmental Safety Measures:** The automated fuel tracking management system minimizes overfill risks by capping the amount of fuel that can be pumped into each vehicle or piece of equipment based on their tank size. This feature is critical for an environment where even a gallon on land or any quantity in water is considered a state-reportable spill.

- **Regulatory Compliance:** The automated fuel management system ensures that ultra-low sulfur diesel fuel can only be pumped into equipment for which there is a permit.

- **More Efficient Fuel Operations:** Fuel truck operators no longer have to complete paper-based forms or spreadsheets and now have more time to focus on driving.

- **Greater Accuracy and Accountability:** Fuel issued to every onsite company and non-company vehicle can be tracked down to the tenth of a gallon and temperature can be adjusted for accuracy, which provides more reliable data than the estimates previously recorded by fuel truck operators.

- **Transparent Cost Accounting and Field Operations:** The client can document and trace fuel cost code assignments, gaining visibility into what equipment is being used and by whom. The accuracy of cost accounting has increased between functions and categories such as Drilling and Wells vs. Operations and Capex vs. Opex. It is now easier for the client to target equipment such as heaters, light plants, and generators for fuel efficiency programs.

- **Reduced Administrative Effort:** By consolidating and streamlining the functions of multiple part-time data entry positions into the Data Analyst role, the client's focus has shifted work from data entry and manipulation to data quality and reporting.

CTG continues to work with the company to optimize the system as part of its continuous improvement process.

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