



Edge-Enabled processing for **Real-Time Asset Monitoring**

Przemek Tomczak,
Senior VP IoT & Utilities, KX

“The flexibility and open nature of the KX Streaming Analytics Platform will enable new processes and data-intensive analytics to be added as required both in the field and centrally.”

Organization: **International
Oil and Gas company**
Geography: **Global**
Industry: **Energy**
Employees: **+40,000**

This top oilfield services company is one of the world’s largest providers of products and services in the energy industry. They service major national and independent oil and natural gas companies. Working across 70+ countries to streamline operations with 40k+ employees globally, they demand an extremely high and consistent standard of excellence. That means having seamless operational intelligence and real-time monitoring across all the company’s oil wells. Due to the nature of the business, challenges encountered include poor connectivity at remote oil wells.

KX enables them to provide operational intelligence and real-time monitoring for their remote oil wells in areas of poor connectivity. Communication systems within the truck fleet have KX embedded within them, enabling pre-processing of data at the edge, running models for predictive maintenance and allowing the company to monitor the health of each of the client’s 150 oil wells.

Sites are monitored by vehicles that can replicate up or back to a main data center via an LTE link.



INTERNATIONAL OIL AND GAS COMPANY

CHALLENGES

This top oilfield services company was challenged with having to provide operational intelligence and real-time monitoring for their remote oil wells in areas of poor connectivity. It was looking for visibility into telemetry data that can show the overall oil well health such as yield and oil quality. In addition, because of its global scale, they needed the data to be centralized to optimize the logistics of the entire fleet and reduce overall operational costs. Some of the unique requirements for data processing fall into two categories: control and execution data and oil well performance data

WHY KX

KX was selected for its ability to capture big data levels and analytic capability at the edge, where traditionally compute resources are limited. The client realized immediate improvements to its operations and added fault detection capabilities and predictive maintenance models at the edge on site. A key factor was KX's ability to process its data across two categories of control and execution data and oil well performance data. Components of the solution include:

- Capturing incoming data feeds from the treatment and observation wells,
- User interfaces for control and telemetry display,
- Integrating with python models used to create derived datasets
- Uplink to the region office.
- Connecting over RabbitMQ
- Remote online reconfiguration of software and parameters



The initial rollout on over a hundred vehicles is being scaled six-fold across the fleet.

THE BENEFITS



Improved monitoring and maintenance of remote assets



Reduced development costs by reusing existing Python libraries



Harnessing the power of Edge devices to pre-process data