

Wireless Tank Level Monitoring Solution

Oil • Gas • Chemical

CASE STUDY



THE NEED

A California-based energy company with a century-long history of producing oil and gas wanted to update its previous process of monitoring tank levels. Thousands of 25-gallon tanks were manually checked on a fixed schedule using a dipstick. This process was time-consuming, inefficient and costly; therefore, an alternative solution was sought to automate this process.

THE SOLUTION

The company's San Joaquin Valley Business Unit (SJVBU) deployed LoRaWAN® Smart Lids, Tank Level Monitoring Devices designed by RIOT Edge Solutions to automate remote tank level readings and transmit data through a private and secure LoRaWAN® network to a chemical fulfillment platform. Hazardous rated LoRaWAN® ultrasonic tank lids are deployed on top of chemical tanks at the wellhead to measure chemical levels. The MultiTech LENS® application provides centralized management for LoRaWAN® end devices, as well as configuration and control of MultiTech gateways. The smart lids are powered by a 10-year battery life and can transmit data over a Long Range Wide Area Network (LoRaWAN) and over 10 miles in ideal conditions. Network security is of paramount importance, LoRaWAN enabled them to deploy their own network – without relying on a third-party network operator.



The initial deployment of 3,000 Smart Lids and 30 MultiTech LoRaWAN® gateways paid for itself within the first year.



In the end, the economics were a no brainer, so we just did it. LoRaWAN® is an order of magnitude less costly than traditional radios and wireless."

Digital Surface Advisor, Chevron

*2023 ENTELEC Expo Technical Theater, Scaling up LoRaWAN for Oil & Gas Digitalization



RIOT Edge Solutions (RIOT) is an Industrial IoT company that provides oil and gas companies with real-time visibility of their assets located in remote and harsh environment using industrial sensors with built-in wireless connectivity. Customers trust RIOT to drive business outcomes across remote sites: helping them minimize downtime, reduce worker and environmental safety risks, optimize production, and improve the overall efficiency of their operations.



SMARTER EDGE DEVICE

No wires, ready out-of-the-box, no calibration necessary, automatic temperature compensation, and tank profiling.

QUICK INSTALL

Installs in minutes, screws into standard tank 1" NTP fitting (others available)

LONG BATTERY LIFE

Replaceable battery last 3+/5+ years, up to 30,000 LoRa messages

DATA WHERE YOU NEED IT

Integrate the data with your preferred tools and workflows using our API.

ALL-IN-ONE

Embedded LoRa or BLE can be wirelessly paired with satellite or cellular communications device, providing local or global coverage.

RUGGED

HAZMAT, UL913, C1D1, Intrinsic Safe. Proven for use in extreme environments of Alberta, Canada to Bakersfield, California.

THE RESULTS

- Significantly reduced costs by monitoring thousands of tanks remotely, benefiting from safer, more reliable and just in time chemical fulfillment.
- LoRaWAN® meets Oil & Gas producer's high security standards.
- Reduction in frozen lines – real-time reporting of each well for proactive field repairs.
- Tighter controls on chemical management accountability of deliveries.
- Improved well production and ESG score.