Case History

Forum Digital's AMPIX™ Condition Monitoring System Reduces Customer Non-Productive Time (NPT) 20-30% Annually

The Challenge

A customer drilling in the Permian Basin struggled with unexpected downtime due to equipment failures, losing on average $250,000 per rig annually due to NPT. The NPT was primarily due to component failures within three major rig systems: Top Drive, Draw Works and Mud Pumps.

Having the ability to monitor temperatures, vibrations, pressures, etc. could provide a view into the equipment health, allowing the customer to identify and resolve issues prior to downtime occurring.

The Solution

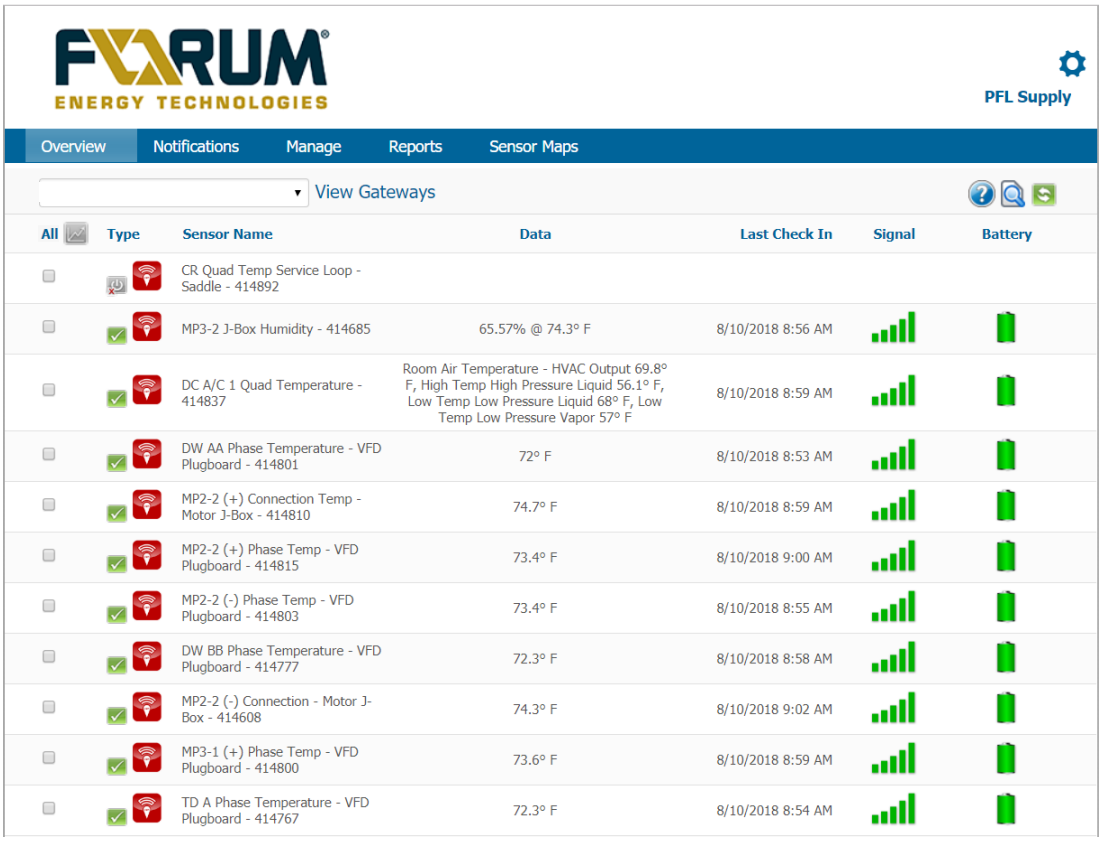
Working with the customer, the Forum Digital team analyzed the downtime numbers from the rig fleet and determined the strategic areas sensors should be placed to provide immediate impact in reducing NPT. The team also performed detailed rig surveys with the customer to develop a plan for installing Forum's AMPIX™ Condition Monitoring platform.

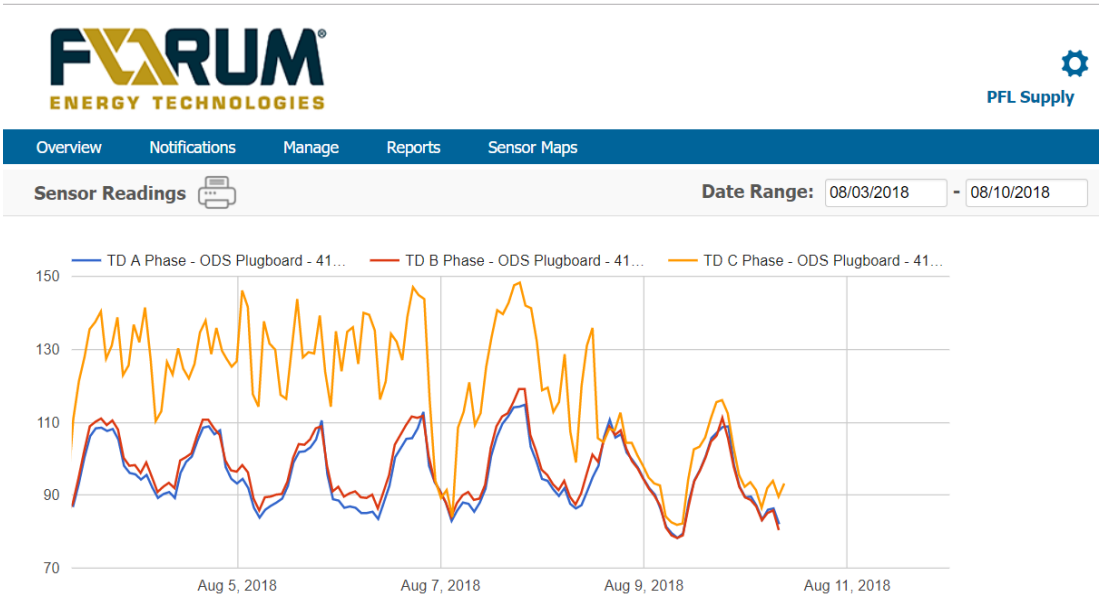
A week post-installation Forum's Remote Monitoring & Diagnostics Center (RMDC) received a notification from a customer's rig that one phase of the Top Drive service loop was reading a significantly higher temperature than the other two phases. Upon calling the rig and performing an inspection, we determined that the cable was crimped improperly causing an increased resistance and subsequent extreme temperatures in the cable. The customer subsequently crimped the cable correctly, which corrected the resistance issue and reduced temperatures back to normal levels.

If left unattended, the cable could have potentially failed causing the Top Drive traction motor to burn up. At a minimum, this would have cost the customer $25,000-$50,000, and perhaps up to $100,000 in parts and labor. The downtime caused by this potential failure could have been from 8 up to 48 hours, potentially costing an additional $15,000-$50,000 in NPT. In addition, the system was not operating efficiently which causes more power draw. This could have caused other issues within the power distribution system.

The Benefit

The introduction of Forum's AMPIX™ Condition Monitoring platform can reduce NPT up to 50%, saving customers millions of dollars across their fleets annually from costly repairs and unplanned downtime.





The AMPIX™ Condition Monitoring System can accommodate up to 250 sensors using one Network Gateway.