

CHEVRON ACHIEVES EFFICIENCIES AND COST- SAVINGS WITH LoRaWAN® IN OIL & GAS

- 18,000 wells and devices in the field to operate and maintain, with many data points were still manually collected
- Recently added 'smart lids,' like what you might find at Disney World or in smart cities to monitor trash
- Smart lids take level readings and transmit data over a long-range wide area network (LoRaWAN) using nodes with 10-year batteries that can transmit over 10 miles in ideal conditions, which is more cost-effective than cellular alone.
- Now investigating use of LoRaWAN to monitor temperature, pressure, vibration and soil samples



Long-range levels

Figure 1: Pump jacks at Chevron's San Joaquin Valley business unit in California's Central Valley use radios to transmit data from automated testing of groups of wells and managed steam flooding needed by heavy-oil applications, but they're supported by 25-gallon chemical tanks with smart lids that are transitioning to less costly LoRaWAN and LTE cellular to report levels and other data. Source: Chevron

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"In the end, the economics of these wireless, low-power, WAN opportunities were a no-brainer, so we just did it. We achieved a significant return on investment (ROI) and reduced drive time, while optimizing the supply chain and using easily deployable technology. In general, LoRaWAN is an order of magnitude less costly than traditional radios and wireless, so we're looking at other use cases for it, such as routine operating duties." —Jonathan Polly, solutions operations architect at Chevron