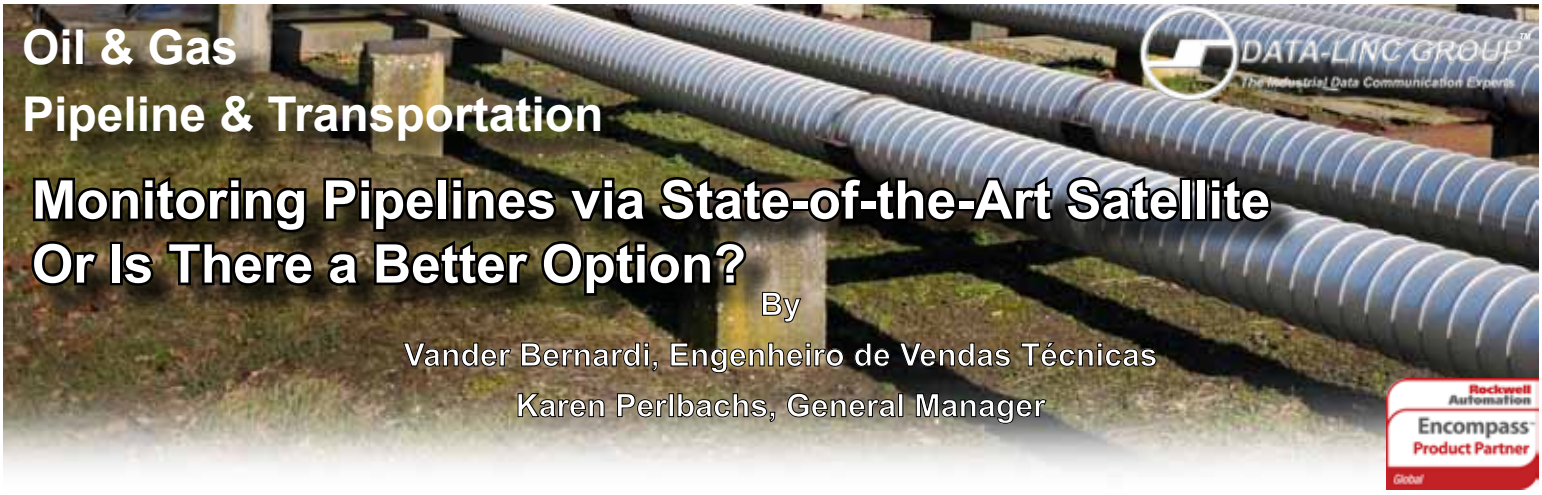

Oil & Gas
Pipeline & Transportation

Monitoring Pipelines via State-of-the-Art Satellite Or Is There a Better Option?

By
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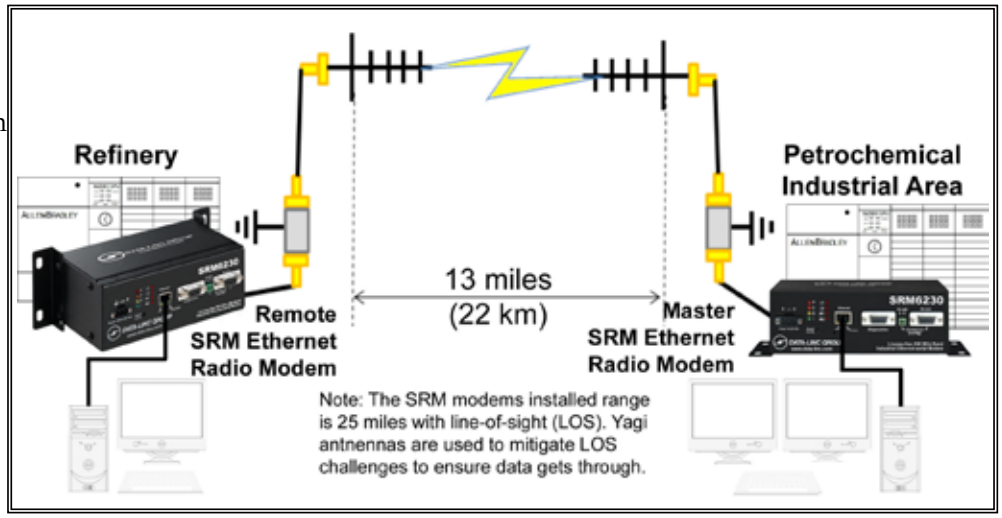
Over five decades ago, large oil and gas company in Brazil inaugurated TEDUT (ocean terminal for oil tankers) building a 4 km (2.5 miles) ocean pipeline to support offloading oil from transportation ships and then to a second pipeline connecting two cities in the state of Rio Grande Sul.

Since that time the company has consistently upgraded and revamped their systems to keep their operations, safe, environmentally friendly and efficient. Recently they needed to upgrade communication network serving the refinery and the petrochemical industrial area. The challenge was to establish reliable communication between the two areas 13 miles (22 km) apart in order to monitor and control flow along the pipeline.



One appealing option considered was state-of-the-art satellite communication. Research, however, revealed that not only were monthly charges expensive, but signal strength could vary, and depending upon the satellite's orbit and location, unacceptable latency in 2-way data transfer could cause a varying degree of latency in communication (estimated at 0.25s in one direction, 0.5s for a round trip) that could be unacceptable for critical SCADA operations. A third major factor to consider was repairs. If the satellite network had any problem, or went down, there was no way the company could impact the speed at which repairs might be completed.

For these reasons they turned to wireless Ethernet communication. Data-Linc's robust reliable data communication products and outstanding service and support had come to their attention from some of their other plants. Data-Linc's modems have earned it a reputation for "best in class" and they offered a broad range of options. For the data transfer demands, the SRM Ethernet modems were selected. They could offer long-range (up to 25 miles with line of sight and omni antennas) and reliability ensured by employing robust frequency hopping spread spectrum technology (FHSS) in the 900 MHz license-free band.

Because one of the requirements be that the method of wireless communication not interfere with other communication in the area, SRM modems are addressable so easily complied. The modems could be field-configured using a call-book system to provide ultra secure data transfer, as well as to avoid any interference with other RF equipment in the area. Desired or required features satisfied by the SRM modems: Economical: no recurring monthly satellite or licensing fees— one-time modem purchase price and use of the 900 MHz license-free band; Ultra-reliable— data transfer reliability without undo latency of response using wireless Ethernet, and robust FHSS technology along with confidence in Data-Linc product quality and reputation for years of use without need for repair; "RF neighborhood" friendly— addressable using call-book communication. Mission accomplished.