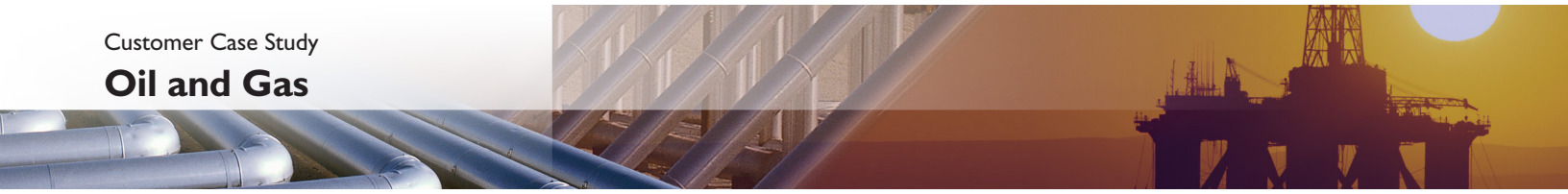
Customer Case Study

Oil and Gas



Simple but reliable:
Wireless platform improves oil field notification system

Summary

- An oil-and-gas system integrator needed to monitor wells over a large geographic area
- The end customer needed a more reliable system notification system to shut down a remote site if a problem occurs
- Phoenix Contact's Radioline was easy to set up, reliable, and flexible
- With the Phoenix Contact solution, even if the customer does not get the notification of the alarm, the system takes care of itself and shuts down production

Customer profile

Croft Automation is an oil and gas industry system integrator with more than 20 years' experience. Since 1988, Croft Automation has specialized in helping field and maintenance personnel solve operation and production issues when upgrading equipment and systems.

Croft Automation provides turn-key solutions for oil and gas producers, gathering systems and pipeline companies, so that it can upgrade and maintain equipment systems quickly, without overextending its existing staff or hiring new employees. This capability allows Croft's customers to quickly and reliably upgrade and maintain their equipment and systems, ultimately minimizing downtime and increasing production revenue.

Challenge: Poor notification of critical data

Croft Automation's customer operates a large oil well production field, stretching out over a 20-mile radius. The customer needed to monitor the tank levels of multiple remote oil production sites to comply with EPA regulations and prevent other potential problems. The project involved monitoring the tank level at the compression sites as well as the central delivery points.

Some of the sites are in "nasty" environments — hot and extremely dusty. Radioline is designed to meet the needs of the industrial world.

If a high level occurred at the central delivery point, the customer needed a way to shut down production automatically. This is critical to avoid spilling and minimize the environmental impact. The customer had an alarm system in place, but it was not reliable. The original notification system was too slow, and sometimes, the notifications did not come through at all.

The customer needed a more reliable notification system, and delayed communications were not acceptable. Due to the large size of the oil field, wireless communication would be more cost-effective than running cabling.

Solution: Easy-to-use radio platform requires no programming

To ensure more reliable notifications, Croft Automation chose Phoenix Contact's Radioline wireless platform. Radioline is a wireless system used to extend the reach of I/O and serial communication up to 250 devices. Radioline is easy to set up using a simple thumbwheel and I/O mapping, rather than complex

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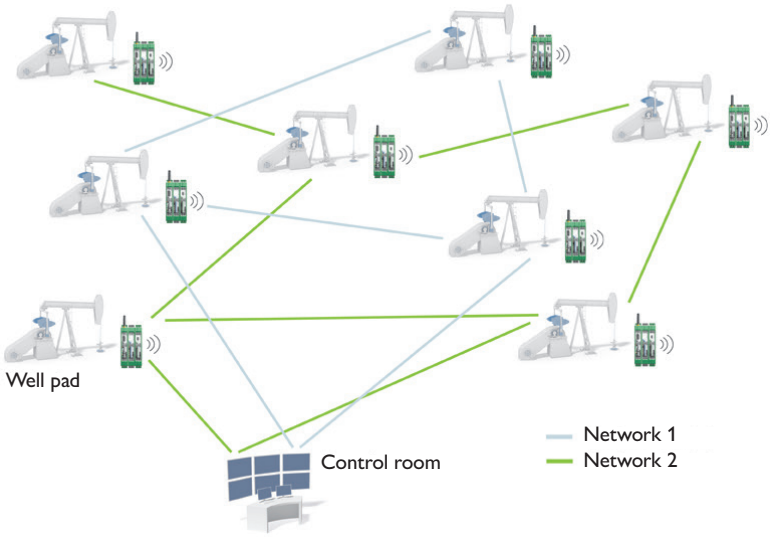

Wireless technology is more cost-effective than trenching in oil fields, which can cover very large geographic areas. The 900 MHz frequency is a good choice in long-range applications up to 20 miles, as well as short-range, non-line-of-sight installations.

programming software. Radioline is also flexible for different types of applications, such as I/O-to-I/O, I/O-to-Modbus, and serial-to-serial monitoring.

Johnny Jones, Manager, Automated Systems at Croft Automation, cited Radioline's ease of setup as one of the key benefits. The platform gave Croft Automation flexibility on the Modbus communications and even more flexibility for wire replacement applications. It was easy to set up one radio as the master, and then communicate to multiple remote sites, while doing control from only a single master. The low power draw was another distinct advantage for the remote sites, so that engineers do not have to replace batteries very often.

"By using Phoenix Contact products in general, we have a cleaner finished product and customers are happier with that product."

— Johnny Jones

Radioline comes in two frequency ranges 2.4 GHz or 900 MHz. The 2.4 GHz is suitable for international use and short-range, clear line-of-sight applications. For this application, however, Croft Automation chose the 900 MHz, which can be used in long-range applications up to 20 miles, as well as short-range, non-line-of-sight installations.

According to Jones, some of the sites could be "nasty" – hot and extremely dusty. Like all Phoenix Contact wireless products, Radioline is designed to meet the needs of the industrial world. Radioline also cost about 60 percent less than a comparable I/O radio on the market.

Results: Automatic shutdown and less maintenance

With the Phoenix Contact solution, even if the customer does not get the notification of the alarm, the system takes care of itself and shuts down production. It then tries to notify the customer again.

To date, Croft Automation has installed the Radioline in 83 locations, including the master and field locations. Jones expects to add another 20 to 30 nodes within the next year. "By using Phoenix Contact products in general, we have a cleaner finished product and customers are happier with that product."

Radioline is a flexible wireless system that works for different types of applications, such as I/O-to-I/O, I/O-to-Modbus, and serial-to-serial monitoring.

The Radioline communication is more of a protection system than a production system, so it has not had a direct impact on production. However, Jones expects that it will reduce maintenance costs, as the customer will reduce the number of maintenance personnel and vehicles they dispatch to check on alarms.

Jones said he's extremely happy with his Phoenix Contact experience. "Lee Riemenschneider, [the local Phoenix Contact Industrial Sales Engineer] takes care of us, and Paul Mercier [Project Sales Engineer] was a tremendous help getting us started with Radioline," he said. He added that his local distributor contact, Jessica Corner of Allied Electronics, has been "tremendously helpful" as well.

He concludes, "I've been really impressed with the personnel. With all the I/O radios that are on the market today, I think Phoenix Contact is on the right path. It's not a perfect radio, but their engineers are willing to listen to ideas on what could make the radio better. It's a really good product, and they are headed down the right path with it."

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