Conquering the cold: WirelessHART adapters provide easy and cost-effective retrofit

**Customer Profile**
A company specializing in temporary storage of crude oil is located in a region where temperatures frequently fall below -30 degrees Celsius.

**Summary**
- An oil storage company located in an extremely cold region needed improved monitoring of tank levels.
- Rather than build all-new tanks, the customer wanted a retrofit solution to take advantage of existing instrumentation by installing Phoenix Contact WirelessHART adapters on the instruments.
- The adapters proved reliable even in an extreme environment, while also saving installation costs and simplifying maintenance.

**Challenge**
Because of the cold temperatures, company employees rarely want to step outside to monitor tank levels. This results in the possibility of tank overflow and oil theft.

The tank rental company recognized this issue and began to search for a value-added opportunity to set itself above all competitors in the region. With more than 100 rental tanks in the fleet, the investment to build all-new tanks was nearly impossible. The company needed a way to retrofit the existing tanks, so they needed to take advantage of all instrumentation already installed on the tanks.

**Solution**
The first plan to add remote monitoring capabilities involved running cables from the tank to the monitoring station. This required many man-hours for installation every time a tank was moved and proved overly expensive and complicated. So the decision to go wireless was inevitable.
Since every tank already had HART transmitters installed, it was an easy decision to use WirelessHART to retrofit the devices. The company tested Phoenix Contact’s WirelessHART adapters on a small number of tanks. Team leaders quickly recognized the reliability of wireless communications – even in the coldest environments – compared to wired communications. The technicians also found the upgrade was a very easy task.

The testing proved the advantages of WirelessHART, and the company quickly decided to upgrade all tanks in the fleet.

**Results**

With WirelessHART adapters installed on all instruments, constant communication with these devices was possible without the installation of cables. The benefits included:

- Decreased rental tank installation times
- Cost reduction of scrap cable

The customer also discovered an added benefit. The secondary variables from the instruments made it possible to monitor the status of the instruments themselves. This made maintenance scheduling simple to plan.

The major benefit is an anticipated cost reduction of approximately $4,000 of installation costs for each tank every time it is rented. This results in increased company earnings while still having the technology advantage over all other competitors in the region.