



TRM Sensors and Sensorcomm Team Up for Corrosive Tank Monitoring.

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An oil business client recently contacted Sensorcomm with a challenging leak detection problem. The customer was under regulatory pressure to monitor double wall tanks used to store Ferric Chloride and Acetic Acid necessary for their waste water treatment facilities at multiple locations in West Virginia. The customer wanted a simple sensor system that would detect either of these chemicals should they leak into the containment space between the inner and outer tank wall. Although the chemicals are normally confined within the tank and pipe system, the fumes are extremely corrosive and even attack stainless steel. They needed a system that would reliably detect a real leak but not be too sensitive to fumes or trace amounts of liquid and the sensor components needed to survive in the corrosive atmosphere. Space between the tank walls was tight; the budget for components and installation cost was limited and the proposed solution had to be reliable, simple and easy to test and maintain.

Sensorcomm took on the mechanical aspects of the design and developed a simple but effective way to access the containment space near the bottom of the outer tank wall. They choose a TraceTek Flasher to monitor the probe taking advantage of its existing hazardous area safety approvals, long track record in the oil industry and battery power that eliminated the need for power and instrumentation wiring.

TRM Sensors took on the challenge of designing a sensor suitable for the target fluids, the space restrictions and the corrosive gases likely to be present. After researching the compatibility of many materials the final design employed Grade 2 Titanium electrodes, epoxy encapsulates and PVC structural components.

The project was a great example of the flexibility that small, lean organizations can offer large industrial clients. Building on years of experience in the tank business, Sensorcomm was able to modify standard solutions just enough to meet the specific mechanical challenges. TRM Sensors building on years of sensor and materials knowledge was able to craft a new sensor, using new materials but based on principles and designs used in many earlier projects.

Business case? Who needs one? If the development and qualification cycle is fast and the final solution uses readily available materials (albeit in new combinations and configurations) then there is little need to agonize for months over detailed specifications and requirements. Fast development cycles can be simple: Come up with the concept, build the prototype, test it and improve as necessary. Repeat. We think it's better to try six versions in six weeks than to spend six months planning and thinking about the perfect solution.