Connecting the world with telemetry

David Schaer

Computers Unlimited President

Telemetry is a hot topic these days and a reflection of the booming IOT (Internet of Things) world taking place across all industries. As device manufacturing costs continue to decline, and data communication methods become more reliable and ubiquitous, telemetry devices are finding their way onto an increasing variety of assets from high pressure cylinders, manifolds, bulk tanks, to tube trailers and more. Supplied by a talented number of leading telemetry providers such as Anova, Wise Telemetry, Cyl-Tec, Ratermann Manufacturing, and others these intelligent devices measure and monitor the pressure inside containers using a pressure transducer and a communication device that periodically transmits data readings to centralized cloud repositories using a variety of communication methods. These data streams can then be utilized by software providers to help distributors make smarter service and logistical decisions.

Use data to reduce operating costs

Data generated by telemetry devices is just as valuable as the contents inside the container. To unlock its value, software systems and leading data analytic tools can play an important role by helping distributors integrate vast streams of telemetry data into their business systems for analysis and processing in a manner that can help streamline and optimize delivery operations and forecast usage rate variability with greater accuracy. As a simple example, using a telemetry device to remotely monitor and log container content levels takes the guess work out of forecasting when it will reach a reordering point. When the reorder point is reached,

a resupply order can be created and scheduled for delivery without any customer intervention or manual data entry. Telemetry devices can also be used to proactively monitor container maintenance to mitigate the economic cost of unplanned downtime or send out alerts when disruptions in flow happen. These are just a few examples how telemetry data can be utilized to proactively service the customer and drive down operating costs.

> "The entire process is done without any customer intervention or manual data entry"

Connecting the dots

Software systems must have the ability to think holistically about integrating telemetry devices and data streams. This starts with building platforms that can manage tank assets and attributes, understand the unique requirements of each gas type monitored, and integrate the variety of technologies and data streams used by telemetry device providers. The ability to archive data steams also becomes an important factor to consider for those interested in generating advanced business simulation models to discover usage patterns invisible to traditional methods of analysis. Software should work with both old school and new school methods of tank management and forecasting methods, from tank usage based upon delivery frequency, daily usage rates derived by deliveries, will-calls, to advanced forecasting methods that

incorporate real-time telemetry feeds.

Integrate with standards

As the number of telemetry devices and product offerings increase, the need for software systems and telemetry providers to seamlessly communicate with one another becomes a critical factor behind an efficient industrial gas supply chain. Individual systems have their own inherent value that can be maximized when they collectively work together as one unified solution. The best way to achieve system synergies is with the adoption of agreed upon standard programming interfaces (APIs) for all parties to follow and integrate into their platforms. By communicating with standard interface protocols, distributors can have the confidence that the data generated by each device will make its way into their software system seamlessly, regardless of the number of telemetry vendors being used.

It's a data driven world

The staggering amount of data generated by the rapid growth of IOT connected devices has given birth to a whole new IT category called the "Data Scientist" whose role is to develop and deploy advanced forecasting and analytical models using a variety of ML (Machine Learning) tools and related technologies. Simple formulas predicting tank level usage rates will be supplemented with highly advanced analytical models and technologies that give new meaning to the word "predictive analytics". This is the natural evolution of computing systems and it all starts with measuring and monitoring the data generated by the exciting world of telemetry. gw

---

ABOUT THE AUTHOR

David Schaer is the President of Computers Unlimited, developers of TIMS Software, an integrated ERP software and mobile app solution for gas & welding supply distributors.