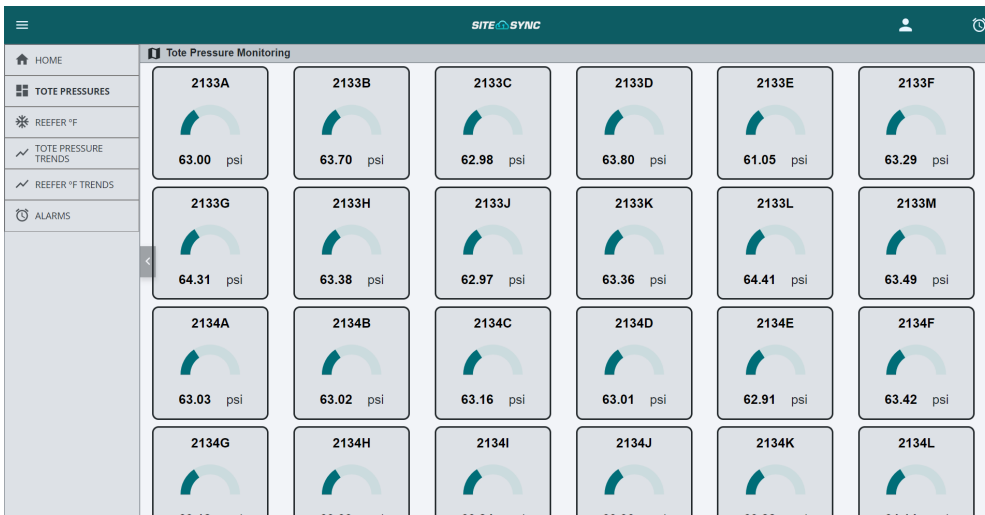


LoRaWAN Wireless Network for Petrochemical Facility



SUMMARY

Petrochemical facility in the Gulf Coast seeks continuous data monitoring with a low cost, low maintenance, wireless system. SiteSync deployed a LoRaWAN network at the facility with over 100 Yokogawa Sushi Pressure Sensors. After deployment of the network, the facility can monitor their pressure levels 24/7, with text and email alerts from SiteSync. Since the success of this project, the customer has added Temperature Sensors and will continue scaling their LoRaWAN wireless network with SiteSync, adding GPS locators and valve-positioning monitoring applications to a system that can scale to a system of 1000+ LoRa sensors.



INTRODUCTION

SiteSync provides packaged scalable wireless solutions with low-cost maintenance plans to industrial enterprise customers throughout the Southeast. Using the industry-leading wireless protocol, LoRaWAN, our solutions can increase visibility and productivity within your facility with minimal downtime and maintenance costs. A customer presented us with an issue of monitoring positive level measurement on their catalyst totes as they move around their facility to ensure no moisture gets in. Monitoring moisture levels is imperative to the end product quality of the plastics produced at this facility. At present, the facility collects data on these pressure levels weekly. We proposed a unique solution using LoraWAN Sushi Sensors from Yokogawa, providing a low-cost solution with long battery life and continuous measurement.



www.sitesync.cloud

SOLUTION

To cover the entire plant, 105 Yokogawa Pressure Sensors were required. The Sushi Sensors were harnessed to a Multitech Conduit 300 Gateway running Ignition Edge. The gateway allowed our team to deploy an entire LoRaWAN network through one device, using the customer's old control room as a home base for the system. Even though the gateway was installed in a concrete, explosion proof control room, the network was able to maintain excellent signal strength to all locations. The data was backhauled to SiteSync so the plant can get SMS or email alerts and also have trend data available 24/7. Once our team installed the system, the pressure sensors will not need new batteries for four years, allowing for minimal interruption to their process.

CONCLUSION

Since its deployment, this system has decreased downtime and improved the quality of the product going out the door at the facility. With an influx of new data, SiteSync's Data Science team has deployed unique cloud applications using the data collected to continually improve their process. This proof of concept project has resulted in the addition of Yokogawa Sushi Temperature Sensors to monitor 18-wheelers being brought on-site, and next, the customer would like to add valve-positioning monitoring and GPS locators to the catalyst totes next. The infrastructure provided by us will now scale to allow over 1000+ sensors to the network.

FEATURED TECHNOLOGY



**Yokogawa Sushi
Pressure Sensor**



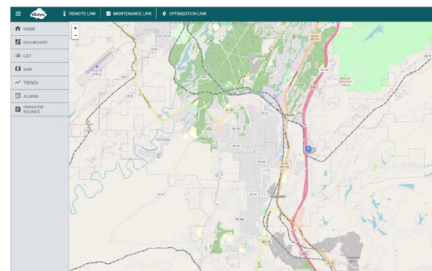
**Yokogawa Sushi
Temperature Sensor**



**Multitech Conduit
300 Gateway**



Ignition Edge



SiteSync Cloud

