Efficiency Systems Presents a Digital View of Reality with Rugged, Reliable Sensors from Laird Connectivity

Laird™ CONNECTIVITY

The Problem: A World-Class Monitoring System in Search of Equally World-Class Hardware Sensors

Every business, no matter how big or small, invests in their own success. These investments may take the form of equipment, facilities, services, or other valuable assets that are critical to a company's continued operation and growth. Damage to or loss of these assets takes money away from a company's bottom line and risks business failures.

Developing technology provides the ability to electronically monitor these assets any time and from anywhere – an invaluable tool for preventing damage and resulting income loss for today's businesses. As part of this developing technology, the IoT (Internet of Things) brings with it a practical and affordable method to extend consistent worldwide monitoring for businesses to keep employees and facilities safe and secure.

Efficiency Systems, based in Überlingen, Germany, realizes the value of reliable, easy-to-use, and highly customizable monitoring services that keep today's businesses ahead of potential problems with solutions that fit their specific needs. This company believes that 80% of all businesses' digitization and monitoring requirements are similar enough to allow for a base standard that fits all of them. Efficiency Systems' team of trained specialist starts with this standard and can then tailor specialized requirements for individual customers. This unique approach reduces the usual expenses for rolling out a

comprehensive monitoring system and helps companies deploy that system in record time.

The result of this approach is Efficiency Systems' flexible DAPONA monitoring platform. This platform provides customers with countless ways to access an accurate picture of what's happening on the ground, with drag-and-drop tools to build the most useful visualization of their facility's secure data. This powerful interface, accessible from any browser, provides data in real time with logs, notifications, tasks, and alerts as well as analysis and forecasting.
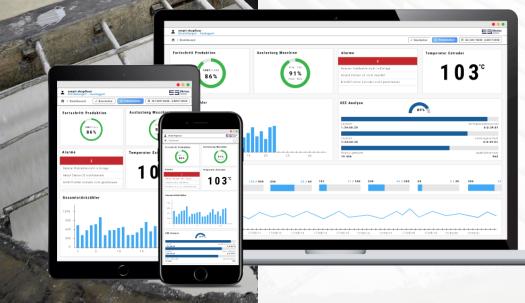
Customers can configure their monitoring based upon their own needs and use cases – and even allow different dashboards for different job functions as needed. Measured data can trigger actions based on fully programmable rules and conditions. In other words, companies can build out automation for the events and conditions that are critical to their equipment safety and produce better business outcomes overall.

The DAPONA dashboard leverages The Things Network (TTN) to log sensor data via a trusted, widely available IoT cloud platform. This made it easy to add sensors and monitoring devices via a familiar, plug-and-play approach. The remaining issue in this solution – the missing piece – was finding a high-quality, reliable sensor that could perform as well as the network it would serve. Efficiency Systems needed a sensor that could be deployed in challenging RF environments and one that offered multiple types and protocols for a wide variety of monitoring use cases. It also needed to be ready out-of-the-box to integrate into TTN and the DAPONA ecosystem. Finally, it must feature a rugged, environmentally protected housing for use in high temperature environments, outdoor installations, and more.

The Solution: The Multi-Functional IP65 RS1xx Sensor

For inclusion in their monitoring solution, Efficiency Systems selected Laird Connectivity's Sentrius™ RS1xx line of LoRaWAN-enabled sensors. For ease of installation, simple integration, and reliability in the field, the RS1xx sensors provide an unmatched simplicity for drop-in measurement of a wide range of field data.

The RS1xx sensor's wireless, battery-operated design made it easy for Efficiency Systems' customers to place and connect it practically anywhere, without the need for complicated wiring, AC power, or any other limiting design constraints. The customer could simply mount the RS1xx sensor on or near the source of measurement and connect. The replaceable AA batteries on the RS1xx last for years on a single charge, which minimizes maintenance for long-term sensor installations. And, the use of LoRaWAN provides long-range communications with massive range (as much as 10 miles in open air or half of that in congested, RF-challenging environments).

Efficiency Systems also found that the RS1xx sensor's IP65 enclosure provided a durable, reliable housing in locations which can prove challenging for electronics. Fully dust-tight and resistant to water-jet intrusion, the RS1xx is ideal for industrial environments and outdoor installations that can prove destructive to competing solutions. An RS1xx mounted on the exterior of a building or on the floor of a congested machine shop provides the same level of confidence as a sensor in a clean indoor environment. To sum it up, the Laird Connectivity RS1xx sensor addressed the vast majority of customer needs.

The Results: Rapid Deployment for Customers Makes the IoT Easy

The RS1xx sensor has enabled Efficiency Systems to rapidly expand their use case portfolio for their Smart Shopfloor solutions. The introduction of this product enables temperature probe sensor, ambient temperature and humidity, and door open/closed data that quickly and easily integrates into Efficiency Systems' DAPONA platform for real-time monitoring.

The DAPONA platform makes it quick and easy to customize dashboards and automated actions around the RS1xx sensor data, bringing sensor connectivity to even more applications and environments. "Our platform reduces fire risk by monitoring temperature 24/7 on potential fire spots, triggering multi-level alarms at the first anomalies long before something breaks down," says Thilo Heffner, Founder and CEO of Efficiency Systems.

RS1xx sensors have enabled a line of smart fire prevention applications which leverage the Smart Shopfloor platform to measure temperature data in equipment that poses a fire risk, such as industrial sawmill equipment. The sensors provide regular temperature updates over a configurable interval that can spot a failure before it happens and interface with alarm systems, sprinkler systems, and more. This is the difference between extinguishing a fire and preventing one in the first place, a valuable service provided at a cost-effective rate to Efficiency Systems' customers.

The sensors allow for unique monitoring opportunities that might otherwise have gone underserved, such as temperature and humidity monitoring for the preservation of a church organ, or environmental monitoring in a beehive. Making sensors easy to install opens up unique applications and brings previously unconnectable things to the IoT.

For more on Efficiency Systems and their Smart Shopfloor platform, visit https://smart-shopfloor.com/.

To learn more about Laird Connectivity's line of RS1xx LoRaWAN-enabled sensors, visit https://www.lairdconnect.com/ rs1xx-sensors.