HOW SCIENTIFIC AVIATION BUILT A GAS LEAK DETECTION SYSTEM WITH IOT



Executive summary

Scientific Aviation is changing natural gas leak management with the Internet of Things. By harnessing the Particle edge-to-cloud IoT platform, Scientific Aviation has created a realtime leak detection system that monitors critical energy environments to identify methane anomalies 24 hours a day. With this solution, Scientific Aviation is helping natural gas operators identify and combat gas leaks before they become bigger problems, improving operations and ensuring compliance.



"We had everything that we needed with the Particle IoT platform. With the platform, hardware, and cost of connectivity, Particle enabled us to build a global customer base with our internet-connected system."

Stephen Conley President and CEO at Scientific Aviation

The challenge

All natural gas operators are required to identify and fix methane leaks before they become larger problems. However, most methane emission monitoring solutions are either costly or unreliable. Scientific Aviation knew they could build such a solution, but it needed to be cost-efficient and extremely accurate for operators to invest in it.

Particle provides the path to scale

The primary thing that drove Scientific Aviation to Particle was the <u>Particle Boron</u>. They had started building with a Raspberry PI, but they needed something that could better serve their unique power constraints. The Particle Boron worked perfectly because it was a low-power consuming device. The low-power consumption contributed to a smaller solar power infrastructure, which enabled them to meet the price point their customers needed to deploy at scale.



A powerful LTE CAT-M1 development board that can act as a standalone cellular endpoint

The Particle ecosystem

While Scientific Aviation was a big fan of Particle's cost-efficient IoT hardware, they were also huge fans of Particle's IoT infrastructure and tools. The <u>Particle edge-to-cloud</u> <u>platform</u> took care of all the IoT infrastructure for them, allowing them to focus on their product. While the <u>Particle IoT Device Management system</u> enabled Scientific Aviation to monitor and manage their smart gas leak detection system all around the world from a simple and easy to use interface.

Particle's role in the project

Working with the Particle team, Scientific Aviation had access to IoT domain experts in case they ran into any issues. The Particle sales team ensured that they didn't encounter any scaling issues and always had enough connectivity hardware to deploy at scale. All and all, Scientific Aviation had access to top tier IoT customer service with Particle

SCIENTIFIC AVIATION CASE STUDY

The solution – SOOFIE

Within one week of deploying SOOFIE sensors, they detected an anomaly on a nearby pad. The sensors reported the anomaly to the Particle boron, which sent the data to a central dashboard. This dashboard immediately alerted technicians who were able to find the leak sources much more quickly thanks to SOOFIE sensors.



Particle simplifies operations for Scientific Avitation

For Particle and Scientific Aviation, this IoT project has proven immensely successful. The building process was simplified by Particle's handling of the complex IoT infrastructure, which enabled Mycube to focus on providing a great product and service.



Particle has helped many companies like Jacuzzi, Watsco, and Opti to build smart devices that increase visibility and improve compliance. As a trusted partner, Particle can help you manage your smart solutions to significantly improve your service and customer experiences.

Contact Particle

If you are looking to build profitable IoT solutions, consult our team of experts at <u>Particle.io/sales.</u>



Particle Store

Start your IoT journey by checking out our industrial hardware on the **Particle Store**.

