oxit

DeNova Detect® by New Cosmos USA **CASE STUDY**

Pioneering Smart Home Safety

Customer Challenge

New Cosmos aimed to address the limitations of traditional natural gas alarms, which rely on wired power sources and require constant proximity to electrical outlets. These alarms also typically detect gas leaks only when concentrations reach a 25% LEL threshold, leaving minimal time for safe evacuation. This created barriers for homeowners in larger spaces and rural areas where connectivity and wiring flexibility are limited.

Existing solutions lacked scalability, often failing to provide reliable connectivity in low-coverage regions. As gas detection standards evolved, New Cosmos needed a system offering earlier detection, improved installation flexibility, and more robust alert options to meet rising demands for smart, connected home safety solutions.

Solution Overview

Oxit partnered with New Cosmos to develop the DeNova Detect alarm using its OxTech Multi-Connectivity Module. This solution enabled seamless integration with Amazon Sidewalk and LoRaWAN, delivering long-range connectivity, early gas detection at 10% LEL, and a 7-year battery life for flexible, wireless installation.

The Result

The collaboration between Oxit and New Cosmos led to the development of DeNova Detect, the first battery-powered natural gas alarm compatible with Amazon Sidewalk. The device detects gas leaks faster than traditional alarms—up to 11 minutes sooner—giving users critical extra time for safe evacuation. Additionally, the alarm's ability to connect through LoRaWAN ensures reliability in both urban and rural environments, extending safety coverage.

Beyond enhanced detection, the device's multi-channel alert system—sending notifications via text, app, call, voice, horn, and light—improves emergency response times. Its 7-year battery life eliminates the need for frequent maintenance. Covering over 90% of the U.S. population through Amazon Sidewalk, this innovation redefined home safety and reduced long-term costs by eliminating the need for complex wiring installations.

Innovative Solutions Delivered by Oxit

OxTech Multi-Connectivity	Enabled seamless integration with Amazon Sidewalk and LoRaWAN, ensuring reliable long-range, low-power connectivity.
Extended Battery Life	Developed firmware that optimized power efficiency, allowing the device to run for 7 years without replacements.
Multi-Channel Alerts	Created a system for real-time alerts via text, app, voice, horn, light, and email, enhancing emergency response.
Enhanced Data Security	Integrated multi-layer encryption to protect user data and ensure secure communication across connected devices.

About New Cosmos

New Cosmos, a global leader in natural gas detection technology, has sold over 70 million alarms worldwide across 60 years of innovation. Their mission is to enhance safety through cutting-edge gas detection systems that protect homes and businesses with reliable, life-saving technology.

For more information, please visit www.denovadetect.com

About Oxit

Oxit Engineering Services empowers businesses to turn innovative ideas into reality through lasting partnerships built on trust and collaboration. With deep expertise in IoT technologies, our team delivers tailored solutions that drive accelerated time-to-market, optimize development costs, and provide a competitive edge.

This case study highlights Oxit's unwavering commitment to delivering impactful, high-quality solutions while fostering collaboration and ensuring our clients' long-term success.

Want to know more?
Visit us at www.oxit.com

Why Oxit?

Hardware Development

Oxit's engineering team specializes in designing IoT hardware that combines reliability, scalability, and performance. With expertise in RF systems, low-power design, and long-range technologies like LoRa, we deliver solutions that meet today's challenges and anticipate tomorrow's needs.

Software Development

Oxit bridges today's proven technologies with emerging trends, offering expertise in Wi-Fi, Cellular, Bluetooth, Zigbee, LoRa, and edge machine learning. Our approach ensures scalable, innovative solutions that keep our clients ahead in an ever-evolving market.

IoT Experience

With over a decade of IoT development experience, Oxit provides clients with secure, cost-effective, and adaptable architectures. We minimize risks, avoid costly mistakes, and empower our partners to scale confidently.

Comprehensive Ecosystem Understanding

Our knowledge of competitors, suppliers, and research partnerships enables us to streamline processes, avoid delays, and ensure efficient collaboration across all stages of development.

Defined Roles & Responsibilities

Oxit works closely with partners to balance priorities and clearly outline responsibilities. This structured approach creates alignment and maximizes the partnership's success.

Collaborative Interdependence

We prioritize mutual trust, recognizing that successful outcomes depend on seamless collaboration. By fostering interdependence, we ensure that every contribution aligns with the shared vision.

Matrixed Relationship Management

Our team engages at multiple levels, offering diverse perspectives and services to address every need. This dynamic approach ensures clear communication and smooth execution across all initiatives.

Open and Transparent Communication

We maintain consistent communication to align immediate goals with long-term objectives. This clarity ensures trust and keeps all stakeholders informed at every stage.

Self-Awareness

Oxit recognizes its strengths and adapts to overcome challenges, ensuring we remain a dependable and forward-thinking partner in delivering transformative solutions.