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Encycle Awarded Patent for Fault Detection and Diagnosis Method, Advancing HVAC Energy Efficiency and Resiliency

This patent underscores the company's commitment to driving innovation in the industry and delivering value to its customers with unprecedented reliability and accuracy.

SAN MARCOS, Calif., December 17, 2024 - [Encycle Technologies, Inc.](https://www.encycle.com), a company that deploys autonomous intelligence and analytics to improve commercial HVAC management, is proud to announce the award of a groundbreaking patent for its advanced methodologies of detecting and diagnosing HVAC fault conditions. This innovative approach, addresses a persistent challenge for building owners and facility managers, aims to revolutionize the way HVAC systems are monitored and maintained, which significantly improves energy efficiency, operational performance, occupant comfort, and building health.

HVAC systems are responsible for approximately 40% of total building energy consumption and about 15% of global energy use. Despite their critical role, these systems often operate inefficiently due to undetected faults, leading to increased energy costs, disruptive equipment failures, reduced comfort levels, and decreased system efficiency, all of which drive negative impacts to sustainability goals. Traditional fault detection relies almost entirely on reactive diagnostics driven by hot calls and an expensive call center, which often lacks any ability to refer back to optimal performance data over time.

Encycle's patented [Swarm IQ™](#) solution utilizes key metrics and established benchmarks of current and historical energy consumption patterns for the identification of inefficiencies and malfunctions in HVAC equipment with unprecedented reliability. Swarm IQ's newly awarded patent reinforces Encycle's ability to provide cutting edge, advanced analytics and actionable fault detection data, that benefits businesses looking to improve upon relying on call centers and antiquated diagnostic procedures to address hot calls.

Encycle's technology integrates seamlessly into existing frameworks, offering a more cost-effective and efficient solution for small to medium-sized businesses and adding a layer of intelligence for enterprises with more sophisticated equipment such as building automation systems. The correlation of energy consumption data metrics against historical performance of similarly situated units allows for automated fault detection, facilitating proactive maintenance strategies to prevent energy waste and enabling swift intervention, reducing downtime caused by system malfunctions.

"This patent proves our commitment to providing cutting-edge solutions that not only enhance the efficiency of HVAC systems but also contributes to energy conservation efforts and improves maintenance workflows for our customers," said Ana-Paula Issa, CEO of Encycle. Issa added, "Our advanced fault detection system empowers

building operators to achieve significant energy savings and enhance building performance while mitigating operational costs and increasing system reliability. Our ability to identify the hot call, before the hot call comes in, is unmatched. This patent simply solidifies our position within the market!”

For more information about Encycle or its patented HVAC optimization solutions, please visit [encycle.com](https://www.encycle.com) or call 1-855-875-4031.

About Encycle:

Deploying autonomous intelligence and analytics, Encycle improves commercial HVAC management, energy efficiency and building comfort to reduce operating costs and carbon footprint. As the only utility-endorsed HVAC optimization software, our patented machine learning solutions seamlessly integrate into maintenance workflows. Encycle enables multi-site commercial and industrial companies to maximize efficiency and reach sustainability goals by improving energy use and budgetary spend decisions. For more information about Encycle, visit www.encycle.com or follow the company on [LinkedIn](https://www.linkedin.com/company/encycle).

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