



Product Preview

December 2022



nosyTM

The Inquisitive Building
Efficiency Sensor

Introduction

Rising fuel costs and climate change are driving the need for energy efficiency, and the COVID pandemic revealed the importance of indoor air quality. Improving either one takes actionable data, but good data is hard to find.

It's a simple fact that 9 out of 10 commercial buildings in the USA were built before 2010. That means very few of them have building-wide sensors. They're just too old.

Without sensors gathering data, there is no day-to-day "ground truth" for these buildings. Without a reliable baseline, building operators have to rely on utility bill analysis, comparative studies and guesswork to figure out how to make things better.

Adding sensors to a building is hard. High upfront costs and the disruptive impact on building occupants make retrofits really painful.

Nosy makes retrofitting easy by reducing the total cost of ownership by up to 80%, and making installation fast and tool-free.

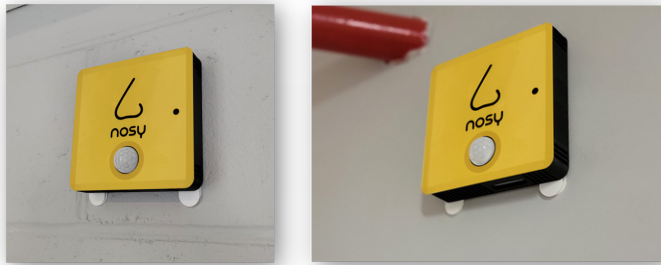


Most commercial buildings look like this

Not like this...



What is Nosy?



**Nosy: The Inquisitive
Building Efficiency Sensor**

Nosy is a multifunction building efficiency sensor. It is self contained, requires little maintenance and can be easily installed by anyone, without tools. Each Nosy sensor reports more than 1700 data points every day, giving you a detailed building-wide ground-truth that is updated every 5 minutes.

With Nosy, you'll be able to quickly identify building trouble spots, and see the impact of any changes you make.

Nosy provides more data, in more detail, more often, and at lower cost than any other sensor platform.

Nosy data makes it easy to reduce energy costs, improve indoor air quality and streamline maintenance and servicing.

Who is Nosy For?

Nosy was created for building operators that manage one or more commercial buildings. It's optimized for older buildings that are 100,000ft² or less. Nosy has very few requirements—it just needs indoor walls. Nosy sensors don't need power outlets, wi-fi networks or any kind of building automation system. Nosy also doesn't need an IT department. Just charge the sensors, stick them to the walls, and switch them on. They will automatically create their own secure network independent of your building's wi-fi.

Data from the sensors is relayed to the Nosy Hub where it is stored and analyzed. The Nosy Hub can be connected to the cloud for further analysis and remote monitoring. You can connect the hub using your building's network or an optional 4G/5G modem. The Nosy Hub can also be connected to an internal server if you prefer to keep your data onsite.

What Does Nosy Do?



Nosy is an all-in-one sensor that gives you the data you need to make good decisions for your **entire** building. Instead of relying on a handful of data points and guesswork, you'll have unified and actionable data for your whole building.

Nosy sensors are installed 15-20 yards apart, depending on the building layout. Every sensor tracks the same five parameters: temperature, relative humidity, indoor air quality, atmospheric pressure, ambient light and simple occupancy (via a motion sensor). Our data platform records and analyzes more than 1700 data points per day for every Nosy sensor in your building.

By comparing data from neighboring sensors over time, Nosy makes it much easier to see what's really going on. Nosy reveals important patterns that will help identify building trouble spots, making it easy to improve energy efficiency and indoor air quality.

Heating and cooling systems often waste energy due to settings based on expected performance rather than actual real world performance. With Nosy data providing insights into your whole building, you'll often find simple fixes that will increase energy efficiency and improve indoor air quality. Nosy data will also help you solve more complex problems by providing actionable diagnostic information that a professional contractor can use to improve your building.

Real World Examples

Nosy revealed consistently high humidity in two corners of a building. The humidity was increasing maintenance costs due to faded and peeling paint and rusting fixtures. Knowing where the humidity was highest revealed the culprit: excessive ivy and plant growth that was encroaching on the building.

Nosy revealed that an AC unit was undersized for the room it was serving. Even though the temperature remained within the target range, humidity data showed that the unit was running continuously and struggled to keep the room cool. Replacing the existing unit with a larger unit not only made the room more comfortable, but it reduced energy costs as the unit ran less often and more efficiently.

Nosy revealed that indoor air quality throughout the ground floor of a building decreased in a weekly cyclical pattern. The culprit was a dumpster in a loading dock. Several companies in the building produced food waste. In the time between weekly collections, the waste would off-gas, heavily impacting the indoor air quality. Indoor Air Quality was significantly improved simply by ensuring that the door between the loading dock and the rest of the building was kept closed.

Nosy revealed that one room out of four connected rooms consistently had very bad indoor air quality at certain times of day. Adding an inexpensive HEPA filter fan with activated carbon immediately improved Indoor air quality to acceptable levels. While headaches had previously been reported, the cause was unknown and there were no noticeable odors. Without Nosy, this problem would have gone undetected and unresolved.

Nosy revealed that a light fixture in a stairwell was failing. Nosy highlighted the issue before it was reported to the offsite building manager by building occupants, enabling a quick response to a potential safety hazard.

Problems Nosy Solves:

#1 Getting Actionable Data

What's really happening in your building?

How can you increase energy efficiency, improve indoor air quality, and streamline operations?

With actionable data!

Without good data, it's impossible to know what's really happening in your building.

With Nosy, you'll have a detailed building-wide ground-truth that is updated every 5 minutes. You'll be able to quickly identify building trouble spots, and see the impact of changes you make over time.

#3 Making Data Affordable

Can you afford to make your building "smart"?

How can you afford the time, disruption and cost of retrofitting your building with sensors?

Nosy makes it easy. Each Nosy sensor is self contained, and has its own rechargeable battery. To install it, just stick it to the wall and switch it on. No mess, no tools, no disruption.

Nosy makes purchasing easy too. Our low cost Platform-as-a-Service gets you hardware, software, support and updates for a low monthly fee per sensor. No out of pocket costs, and only a six month initial contract.

#2 Knowing Where to Start

What's the best change to make today?

Building operators don't have unlimited budgets. Every dollar counts. So does knowing where to start.

Without good data, you're guessing. You also might be missing easy changes that will have a meaningful impact without breaking the bank.

With Nosy deployed building-wide, you'll receive regular reports that highlight potential waste and identify problem areas. And if you decide to make a bigger change, you'll have the data to back up your decision.

Nosy vs. Others

How does Nosy compare to the competition? Existing building sensors can be expensive and aren't designed for building-wide deployment. But that means you're not getting an accurate picture of your whole building. Nosy provides more data, in more detail, more often, at lower cost than any other sensor platform.

Traditional networked sensors also need a mains power supply, so add \$150 or more in cost per sensor for a professional electrician, paint and clean-up. And don't forget about maintenance costs too. Nosy is battery operated and uses Bluetooth Mesh, making installation easy and tool-free with almost no maintenance.

See how Nosy stacks up against other building sensors in the table below.

	Nosy	Others
Ease of installation	Can be done by anyone, no tools required.	May require power, networking, and licensed contractors.
Building-wide monitoring	Always! Nosy is designed for building-wide monitoring so you always know what's going on.	It depends. Most are not designed for building-wide deployment, leaving you in the dark.
Secure Networking	Yes! Nosy uses Bluetooth Mesh, with built-in security and encryption.	It depends. Sensors from several major vendors have had big security flaws.
Total Cost of Ownership	Low! Up to 80% lower than the competition.	High! Often costs thousands of dollars per sensor over the life of the product.

About Xmark Labs

Nosy is a product from Xmark Labs, LLC.

Founded in 2014, Xmark Labs is a product development and consulting company focused on practical tools for Digital Transformation. Xmark has delivered projects for organizations such as 3Flow, AT&T, IEEE, Hilti, National Renewable Energy Laboratory and WakeMed.

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