# OmniSense Facility Monitoring System (FMS)

OmniSense FMS is an intelligent **Facility Monitoring System (FMS)** that combines wireless sensor networks with the OmniSense Monitoring Service for permanent 7x24 monitoring of environmental parameters such as humidity, temperature and material moisture content that influence the integrity of building systems and critical facilities.

OmniSense FMS Benefits

- Protects your most valuable asset from the most common source of property damage – moisture intrusion.
- Detects moisture intrusion and sounds the alarm before permanent damage occurs.
- The earlier you catch a leak the less it costs to fix - FMS helps minimize finger pointing and litigation.
- Helps protect property owners and insurers from liability for toxic mold related illness.
- Sensors are small, inexpensive and have a 15+ year battery life so they can be easily and permanently mounted almost anywhere in the building envelope with no wiring.
- The gateway is plug-n-play with DSL, cable modem, or dial up modem internet connections.

OmniSense Sensor Network
Technology for Increased Construction Life Span
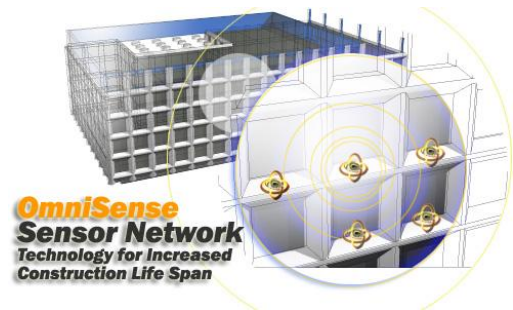
OmniSense FMS Overview

- Miniature Sensors that combine a reprogrammable microprocessor, environmental sensors, wireless modem and a long life lithium battery.
- Sensors are inexpensive enough to deploy in very large numbers, creating a perceptive network of intelligent sensors that collect and send data to a central database.
- Wireless sensor network communicates through an internet connected gateway to the monitoring web site for real time monitoring, data collection, and reporting.
- Web access to current sensor readings as well as all historical sensor data.
- Configure alarm thresholds from the web site and then the monitoring service automatically alerts property owners and facility managers by email, cell phone or pager when threshold limits are exceeded.
- Sensors can be installed in a matter of seconds during new construction or retrofitted to existing structures in a matter of minutes – with no wires!
- Expected sensor battery life is more than 15 years when sensors are set to an hourly reporting interval.
- All sensor data is permanently archived.

OmniSense FMS Typical Applications

- Monitoring of moisture intrusion in commercial and residential structures.
- Monitoring of critical environments such as data centers, clean rooms, laboratories, and food storage and processing facilities.
- Monitoring of un-occupied residences such as vacation homes – OmniSense FMS meets insurance industry requirements for certain types of moisture damage coverage.
- Monitoring of moisture levels during building drying.
- Monitoring of moisture levels during construction.
- Monitoring of moisture levels after water damage repairs.

For more information contact OmniSense Sales
OmniSense LLC ● 2230 Peninsula Road ● Oxnard, CA 93035
Phone (805)-340-9625
www.omnisense.com ● E-mail:info@omnisense.com
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OmniSense FMS *Typical Sensor Locations*

Sensors are small, inexpensive and have a 15+ year battery life so they can be permanently mounted almost anywhere in the building envelope. Typical monitoring locations include:

- Inside the exterior walls at the lower corners of windows and doors.
- Appliances such as water heaters, ice makers, dishwashers, and washing machines.
- In the roof downstream from flashed protrusions.
- Inside the walls close to plumbing fixtures.
- On concrete slabs.
- Inside food storage refrigerators and freezers.
- In data centers and other environments with critical temperature and humidity needs.

OmniSense FMS *for Cost and Liability Control*

Recent advances in micro-electronic design have made it possible for OmniSense to manufacture miniature wireless sensors that can be installed during or after construction to monitor the integrity of a building structure and the systems that control a facility's environment. Why is this development considered revolutionary in the construction and building management industries? Because most problems that eventually require expensive solutions in facilities management are readily detectable *long before they cause acute damage*. Moisture and mold related business liability is skyrocketing while insurers have eliminated water damage coverage from their policies. The OmniSense Facility Monitoring System is a timely and cost effective solution for improving control and visibility of moisture related damage.

How the **OmniSense FMS** *Works*

Sensors periodically measure environmental conditions such as temperature, humidity and wood moisture content and transmits them wirelessly to an internet connected Gateway within a building site. The Gateway relays the data over the internet to the OmniSense Database Server, where the monitoring application performs a variety of data analysis, logging and reporting functions. The frequency of communication between the Sensors, Gateway and central host are unique for each facility and purpose, but in all cases are virtually constant – in intervals ranging from minutes to hours for most applications. System alarm thresholds are configured on the web site and when an alarm event occurs system subscribers and/or their maintenance company can be alerted by email, pager, text message, or phone. A subscriber's sensor data is easily accessible using a powerful web browser interface for real-time diagnostics. All subscriber data is permanently archived. Subscribers can view graphs of a sensor's data from the last hour, day, week, month, 3 months, 6 months, year or all data for that sensor.

Result: reduced liability for moisture and mold related damage and illnesses, fewer costly repairs, fewer business interruptions and extended building lifecycles.