Company Profile
A large property management company that owned an office building complex wanted to implement a project using wireless sensing solutions to lower costs associated with managing and maintaining heating and cooling for their properties.

Challenges
The company recently had an issue with one of their buildings where an air conditioning unit had failed during one of the hottest weeks of the summer. The HVAC failure resulted in major costs for repair and complaints from tenants located in the office building.

Their facilities maintenance manager identified Monnit’s system as an ideal solution for monitoring their buildings for preventive maintenance, allowing them to fix issues before they occur.

Solution
For their initial project, the company deployed wireless duct temperature sensors throughout a building to monitor output temperatures. They also placed temperature sensors and accelerometers on air circulation fans to detect motor temperatures and vibration levels (if a fan is starting to fail, the motor will get hot and vibrate more than normal).

The sensor data is sent wirelessly to a MonnitLink™ gateway in the maintenance office (located in one of their central buildings). Due to the steel and concrete construction of the buildings, they placed a couple of wireless range extenders to relay data from the building to the central gateway. The gateway sends the information to the iMonnit™ online sensor monitoring system. The temperature sensors and accelerometers were set to take readings every hour and notifications were setup to alert the staff if readings signify any potential issues, allowing them to respond immediately.

Benefits
Before implementing Monnit’s solution, the company had to deal with complaints from tenants and repair the air conditioning unit on one building and service the AC units for their remaining buildings. The initial remote monitoring solution deployed cost approximately $1,200 giving them a central gateway, two range extenders and sixteen wireless sensors to place throughout one of their buildings.

Since installation, the sensors detected the overheating of two circulation fan motors due to worn bearings. This was causing issues for cold air to be distributed efficiently. Detecting these issues before failure allowed the maintenance staff to repair the equipment quickly, avoiding replacement costs and extensive downtime. When the weather turned colder they expanded the system across their remaining buildings and included sensors to monitor boiler output temperatures, pump motors and water detection sensors. After several months of using the system, they have been able to optimize the way they cool and heat their buildings, reducing energy costs.

Using Monnit’s comprehensive monitoring solution this customer is now able to:

- Prevent down-time and costly damage due to malfunctioning air handlers, fans, boilers and other HVAC equipment.
- Ensure their tenants have adequate heating and cooling.
- Optimize heating and cooling energy costs.
- Detect plumbing and water heater leaks.

“Exactly what we needed and they didn’t break the bank!”
- Facilities Administrator