



## Wireless Sensors Use Case: University Dorms

### The Problem:



Monnit was contacted by a facility manager for a prominent United States University. One of their buildings had an issue with a boiler pump failure that caused heating issues for one of their largest student dormitories. They were searching for a solution that would allow them to track both temperatures of their boiler output and vibration intensity of their pump motors. Their overall goal was to find a solution that would allow them to monitor boiler operation and catch issues early enough to prevent down time and minimize costs of repairs. Monnit provides a comprehensive monitoring solution with advanced alerting features at a fraction of the cost to comparable systems.

### The Solution:



Monnit provides a reliable remote monitoring solution that includes wireless temperature sensors and accelerometers as well as a variety of other useful sensors. The company deployed wireless temperature sensors on the output pipes of their building boilers to monitor temperatures. They also placed temperature sensors and accelerometers on each boiler pump to monitor the operating temperatures and vibration levels. If the bearings are starting to go, the pump will get hot and vibrate more than normal.

The sensor data is sent wirelessly to a MonnitLink™ gateway located in the maintenance office in one of the dormitory boiler rooms. Due to the steel and concrete construction of the buildings, they placed a couple of wireless range extenders in opposite buildings to relay the data from their boiler rooms to the central gateway. The gateway sends the information to iMonnit™, the online sensor monitoring system. The wireless temperature sensors and accelerometers were set to check temperatures every hour. Notifications were setup to alert the property manager if temperatures are out of safe range and if excessive vibration is detected on a pump motor.

## Wireless Sensors Used

Wireless sensor used:	How it was used:
Temperature sensors	To check the temperature output of building boilers, monitor boiler pump motors for excessive heat and monitor temperatures in student living areas and University classrooms.
Accelerometers	To monitor for excessive vibration on boiler pumps.
Water sensors	Detect leaks in building water closets.

## The Result (Cost Savings)



Before implementing Monnit wireless sensors, the University had to replace several malfunctioning boiler pumps and deal with complaints from students and their parents. The initial Monnit remote monitoring solution deployed for this company cost ~\$600.

Since installing the system, the customer caught several instances where boiler's were not functioning optimally allowing the maintenance crew to adjust accordingly. They also caught two more instances of pumps that were near failure and were able to make repairs before failures occurred saving time and money. Their experience with Monnit sensors was very positive, so they decided to expand their wireless monitoring system with additional sensors allowing them to monitor building temperatures and detect plumbing leaks in water closets.

Using Monnit's comprehensive monitoring solution this University is now able to:

- Prevent down time and costly damage due to malfunctioning boilers and related equipment.
- Ensure their students have adequate heating and cooling in their rooms.
- Detect plumbing leaks in building water closets.
- Monitor temperatures in student living areas and University classrooms.

*"We searched for a reliable solution and found it with Monnit. Now we know anytime there is an issue with one of our buildings! We started out using these on our boilers and pumps, but they are so useful and affordable that we've started adding them across our campus for other things we want to track."*

It doesn't matter where in the world you are or what time it might be, deploying a Monnit wireless sensor and monitoring solution connects you from anywhere, 24/7 so you'll know immediately when a problem starts.

