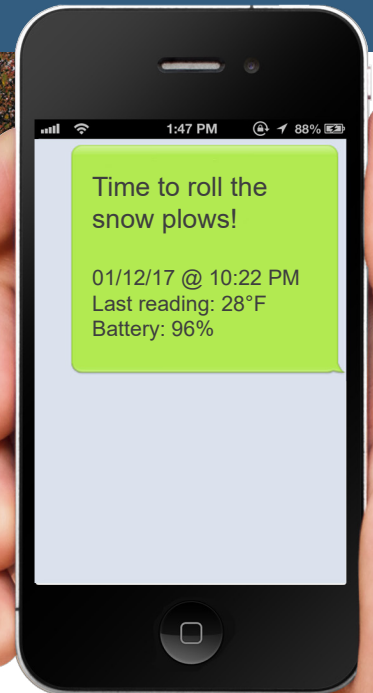




The Leader in Low Cost Monitoring Solutions



Wireless Sensors Use Case: City Snow Removal

The Problem:



Monnit was contacted by the public works manager for a city in the Northeast United States. They came across Monnit's wireless sensor solution while looking for a way to monitor and track temperatures of their asphalt roads in the winter time. Due to the amount of roads that need to be maintained and the limited number of vehicles in their fleet, they were looking for a way to optimize their fleet so they could send snow plows where they were needed, when they were needed.

The Solution:



Monnit industrial wireless temperature sensors with probes were deployed at various locations throughout the city. The sensors were attached to utility and light poles with temperature probes running down the pole and into the asphalt, just below the surface on the sides of the road. The wireless sensors are weatherproof with water tight temperature probes. They are battery powered with a typical battery life of up to 10 years or available with optional solar cells and rechargeable batteries.

The sensor data is sent wirelessly to MonnitLink™ cellular gateways placed central to a group of sensors. The wireless sensors have a standard wireless range of over 1,000 feet (non-line-of-sight), and outdoors (with less obstructions) are able to communicate much farther. Monnit wireless gateways support up to 100 wireless sensors each. The gateways send sensor information to iMonnit™, the online sensor monitoring system where the temperature information is tracked and recorded. When any sensor detects a temperature reading below freezing, an alert is sent to appropriate personnel, letting them know that they need to send out trucks to salt or sand the roads.

Wireless Products Used

Wireless products used:	How they are used:
ALTA Cellular Gateways	To communicate with a group of wireless sensors and relay information to the iMonnit online sensor monitoring system.
ALTA Industrial Wireless Temperature Sensors with Probe	To monitor and track temperatures of their asphalt roads around the city.

The Result (Cost Savings)



Before implementing Monnit wireless sensors, the city would rely on weather forecasts and city officials to determine when and where to send their snow plows. They would often find that they were sending plows where they weren't needed, while they were needed at a different location. The goal for this project was to have a near-real-time understanding of road conditions to optimize the plowing schedule for their fleet and reduce the amount of salt and sand used to treat icy roads.

Since installing the system, the city has been able to track temperature conditions of their roads, and get alerts when certain roads were icing over. This allowed the city to schedule their plows more effectively, resulting in lower operating costs associated with salt and fuel use as well as unneeded driver overtime pay. They have also seen an increase in resident satisfaction as people were seeing less mud and salt on their vehicles.

Using Monnit's comprehensive monitoring solution the city is now able to:

- Reduce the amount of salt and sand used to treat icy roads.
- Reduce fuel costs from running plows when they weren't needed.
- Ensure roads that need snow removal or salting get them only when needed.

"This solution has helped us keep our roads safer and cleaner. We never knew how much we were over-salting our roads until we implemented these sensors. Monnit's products have proven to be both reliable and cost effective! These little things are worth their weight in gold!"

- Steven R., Public Works Manager

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.

For information about our products or to place an order, please contact our sales department at 801.561.5555.

Visit us on the web at www.monnit.com.



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