

# Energy Sub-metering and HVAC Monitoring for Schools

## Overview

Creating and maintaining a comfortable, efficient learning environment is a top priority for any school. For students with special needs, there are additional considerations – so working in a highly functional building needs to be a given.

A facility manager at a special-needs elementary school in California turned to Altair to address the challenge of getting the school's heating and cooling systems to work at peak efficiency. They deployed the cost-effective Altair SmartEdge™ IoT platform to optimize the building's energy use and allow remote diagnosis and control of its HVAC systems.

## Lack of Data Was a Challenge

Without real-time data analysis, it had been difficult to optimize building HVAC performance. The school's facility manager had no insight into off-hours energy consumption, which was a likely culprit in higher-than-average energy bills.

## Modernizing with IoT Technology

As part of the school's SmartEdge installation, low-cost IoT sub-meters were installed on key HVAC equipment to monitor real-time performance. Thanks to this technology upgrade, the facilities manager was able to determine that not only one, but two heat pumps were running during off hours and on days when no one was working.

Armed with energy monitoring data, the school was able to adjust its equipment and stop wasting energy and budget dollars heating an unoccupied space.

In addition to the sub-meters, three smart thermostats were installed. The new thermostats gave the school's staff additional control over the building's HVAC systems and allowed the facilities manager to establish regular energy usage schedules by programming heating and cooling set points

## Focusing on What Matters Most

Now with its new IoT system in place, the school uses pre-set thermostat schedules to regulate the classroom environment and data analysis to make smart decisions.

Off-hours energy consumption is down, and the building's HVAC equipment is operating more efficiently than ever. Most importantly, students are in a comfortable environment and staff members are free to concentrate on their primary mission – education.

