



## Energy Efficiency Improvements

### Flir Systems Project Profile

#### At a Glance:

**Project Type:** Variable Speed Drives  
**Vertical Market:** Industrial/Clean Room  
**Location:** Billerica, Massachusetts  
**Size:** 115,000 square feet  
**Products:** Trend  
**Installation:** 2005

#### Customer Benefits:

- Energy efficiency
- Utility rebates provide quick payback
- Improved air flow and temperature controls
- Decreased noise levels



### Project Overview

Flir Systems is an international leader in thermal imaging technology. Their facility in Billerica, Massachusetts is a 115,000 square foot two story building with several large clean room spaces used for manufacturing. The clean room spaces are served by four roof top units providing HVAC and eleven recirculation air fans providing cleanliness by increasing air flow through HEPA filters located in the ceiling. Operation of the clean room is from 6 AM to 6 PM, Monday through Friday. The roof top units and the recirculation fans operate 24 hours/day, 7 days/week.

### The Solution

FMC Technologies in conjunction with Bluestone Energy Services identified an energy conservation measure that consisted of installing variable frequency drives (VFDs) to control the speed of the recirculation fans by utilizing continuous particle counter control to maintain an atmosphere of 10,000 particles per ft<sup>3</sup>. Subsequent analysis of the operation indicated significant savings based on speed turndown during occupied and unoccupied hours. FMC Technologies provided a turnkey design and installation of modifications to the Novar Advanced Building Control System. The project qualified for \$97,588 in incentives from National Grid.

### The Bottom Line

This project resulted in a demonstrable savings to Flir Systems of over \$80,000 per year. This level of savings and the utility incentive resulted in the project having a return on investment of less than 18 months.

In addition to the significant cost savings and rebates, the project also resulted in a number of other benefits. Air flow and temperatures are more consistent and noise levels have decreased creating a more comfortable and productive working environment for their valued employees.