Honeywell Forge Energy Optimization is a cloud-based solution that connects to a building’s existing systems - without the need for capital investment - and optimizes energy consumption to drive up to 30% savings. This closed-loop solution operates without the need for customer intervention by regularly analyzing real-time conditions data – weather and occupancy - with predictive, machine learning models that compute and adjust set points automatically over a facility’s entire HVAC distribution system.

The solution performs these calculations and adjustments in continuous, 15-minute intervals to ensure peak efficiency around the clock, and customers are able to monitor energy consumption, energy savings and zone comfort levels for any duration of time.

HVAC Systems are the biggest consumer of energy in commercial facilities, and most rely on conservative, inefficient control strategies. Why?

Manual or scheduled set-point adjustment strategies simply can’t account for the complexity of a building’s dynamic occupancy and weather conditions - while maintaining comfort levels.

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Features and Benefits

- **System Agnostic**: Works with the BMS system you already have using the open integration power of Niagara.
- **Autonomous Control**: No need for customer intervention or expertise through our closed-loop, continuously monitored solution.
- **Real-time Intelligence**: Advanced machine learning calculates occupancy and weather data to optimize set-points every 15-minutes.
- **Smart Visualization**: Solution identifies pre-existing faults and delivers real-time energy, savings and comfort metrics.
- **Domain Expertise**: A solution built on over one-hundred years of experience in building technologies.
- **Safe & Secure**: Built-in safety features ensure your HVAC system is always controlled – even during unexpected disturbances.

*Based on findings from several Honeywell pilots of Energy Optimization at various customer sites over a 6 month timeline. Honeywell customers experienced energy savings between 6% and 39%. Typical customers achieved 23% savings, after 3 months of deploying Energy Optimization at a properly equipped building. Results may vary. Past performance is not indicative of future results and Honeywell does not guarantee energy savings.
ENERGY OPTIMIZATION TECHNICAL SPECIFICATIONS

SYSTEM AGNOSTIC

Energy Optimization uses Forge Connect which supports:
- BMS systems and devices that support the following protocols:
  - BACNet
  - Fox (Niagara/Jace)
- Extensible to other protocols in future.
- Generally one gateway is sufficient per Site or BMS system.

Optimizes the following asset types:
- Air Handling Units (AHU)
- Chilled Water Systems (CHWS)
- Boilers
- Chillers
- Fans
- Pumps

Metering:
- Metering is required at the HVAC level.
- Metering at the plant/asset level is preferable and can improve the savings outcomes.

SAFE & SECURED

- Secure, redundant, Honeywell Cloud.
- Remotely managed and updated.
- 24x7 monitored and supported.
- Built-in safety:
  - Watchdog
  - Hard limits
  - Emergency Brake
  - Connectivity Check
  - Human Override

SMART VISUALIZATION

Savings evaluation determined by periodically running original strategy to compare results.

AUTONOMOUS CONTROL

- Up to 96 precision HVAC adjustments performed for each control point every 24 hours.
- Comfort levels monitored 24x7 across all zones as subject to Honeywell’s published service levels.
- Comfort constraints revoked automatically with adjustable set point steps.

REAL-TIME INTELLIGENCE

- Asset, weather, tariff and occupancy data analyzed every 15-minutes.
- Machine learning algorithms continuously improve efficiencies.

DOMAIN EXPERTISE

Your Customer Success Manager (CSM) will aid, orchestrate and oversee deployment, adoption and usage to:
- Perform business setup, configuration & results reporting.
- Perform customer training.
- Provide support to generate insights and drive value.

“Honeywell has long recognized that buildings are not static, but living and ever-changing, and their energy needs fluctuate based on seasons, weather, occupancy and usage. With Energy Optimization we have demonstrated that we can use the latest self-learning algorithms to continuously and accurately fine-tune energy expenditures with real-time computations that account for the many factors that impact comfort levels throughout a large building.”

David Trice
Vice President and GM of Connected Buildings

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