Energy Case Study
ABUNDANT POWER AND GRUBB

Continuous commissioning technology drives tenant satisfaction and savings
Grubb, a real estate operating company, deployed Abundant Power's IBAX data analytics and diagnostics system across three multitenant office buildings to leverage the existing control systems by data mining for comfort, asset health, and energy savings opportunities.

Project Background
- Deployed building performance algorithms against HVAC data to reveal comfort problems, improper equipment operations, and energy waste. This achieved the following:
  - Allowed early detection of cooling and heating failures: data analytics automates heat and flow balance checks across all pieces of equipment, immediately notifying the property manager of any irregularities.
  - Determined that nearly 70 percent of one facility's water-source heat pumps were running excessively despite control systems settings.
  - Reduced heating and cooling waste.
- Unified the building management approach and demonstrated performance to outside investors.

Cost
Across all three of the buildings, average cost savings exceed the monthly subscription fee for the software and services. The typical remedies identified through the program are minor and require little capital investment.

Additional Benefits
Running algorithms against live data streams provides ongoing commissioning in an automated, low-cost fashion. Easily accessible data and pre-built analytic modules also help property managers budget more accurately and with higher confidence.

Challenges
Through technological advancements, facility managers have access to millions of data points. Having the expertise and resources to consistently analyze the data is a challenge, while having access to the data creates opportunities to find savings and maintain high performance.

Results across the Pilot Buildings

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<thead>
<tr>
<th>Average Annual Energy Consumption Reduction</th>
<th>Yearly Cost Savings</th>
<th>Yearly Energy Savings</th>
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<tbody>
<tr>
<td>&gt;15%</td>
<td>$63,864</td>
<td>525,132 kWh</td>
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GOAL
Strengthen the tenant experience and lower costs through improved operational efficiency and lower energy use

APPROACH
Continuous mechanical systems data analytics and diagnostics

PROPERTY TYPE
Office

LOCATION
Charlotte, North Carolina, United States

BUILDING AREA
45,894 m² (494,000 ft²) across three buildings