CASE STUDY

Energy Metering and Analytics

Large Mixed-Use Office Complex

CHALLENGE

Our client's large mixed-use office building complex in Arlington, VA utilizes centralized power and chilled water generation equipment that distributes electricity and chilled water throughout multiple buildings. Their engineering staff was tasked with physically walking around the complex to manually record readings from 50 Electric Meters, 3 Gas Meters, 20 Water Meters, as well as 10 BTU Meters from the Building Automation System (BAS), making it clear that they needed a more effective reporting solution.

The client's goal was to improve staff productivity, meter reading accuracy, visibility, and the level of detail available for real-time energy usage in each building. Additionally, our client wanted to achieve an Energy Star score of 75 for all buildings.

SOLUTION

To meet the challenges described above, Boland engineered and implemented the following solution:

- *Expanded existing BAS to monitor in real-time by installing 68 Electric Meters, 7 Gas Meters, 18 Water Meters, and 14 BTU Meters*
- *Installed BTU and Electrical Submeters to enable true energy usage measurement*
- *Upgraded to Trane Tracer® Ensemble® on the Trane Connect platform*
- *Implemented Trane Energy Performance Energy Dashboard and advanced analytics*
- *Expanded existing Service Agreement to include Boland Applied Building Insights to monitor, analyze, and make recommendations for continuous improvement on a monthly basis*
- *Utilized data collected to develop Energy Conservation Measures (ECM's) aimed at achieving the client's Energy Star certification, as well as prove need to for obsolete sub-meter replacement*

RESULTS

The Trane Energy and Building Automation System solutions, combined with our monthly ABI Service Agreement achieves the following:

- *Provide granular visibility into buildings, enabling the client and their Boland team to identify energy inefficiencies and pinpoint anomalies*
- *Identify ECMs to reduce peak demand by up to 23.5%, consumption by 12,000 kWh and over $100,000 in energy cost optimization strategies within the first three months post-installation*
- *Eliminate manual meter reading, associated labor costs, and inaccuracies*
- *Initiate monthly ECM identification and tracking to improve operation and efficiency*