CASE STUDY
345 PARK AVENUE, NEW YORK CITY

NANTUM

35,204,000
ANNUAL KwH CONSUMPTION

$6,459,785
COST

3,421,910
ANNUAL KwH SAVINGS

$627,906
SAVINGS

10%
ANNUAL REDUCTION

NANTUM SYSTEM

Prescriptive Data, a New York City based technology company, is focused on creating more energy efficient, smarter commercial and residential buildings via our software NANTUM. It is a cloud based, secure building operating system that works in conjunction with an existing Building Management System (BMS) to optimize energy consumption and save money while increasing tenant comfort. A state-of-the-art cloud based architecture is used to minimize the base building onboarding and hardware costs. NANTUM integrates a limitless number of sensors including electric, water, steam, and natural gas meters, and environmental data including space temperature and occupancy. The NANTUM cockpit aggregates the data and provides a single modern and intuitive way to display any aspect of a building. The latest technologies in predictive machine learning provide intuitive insight, identify inefficiencies, and recommend adjustments in commercial or residential buildings of any size.

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NANTUM SERVICES

Prescriptive Data provided a uniform, Internet accessible cockpit for the previously disparate systems (including space temperature, occupancy, steam, electric, water system, and CO_2 readings). NANTUM provided benchmarks that displayed the building's ideal operating conditions and were provided for water, electricity, and steam. In addition, NANTUM provided an individual prediction point that, based on a variety of factors, suggests an ideal time for buildings to start heating or cooling operations.

NANTUM integrated with the BMS to automate sequences based on various exterior and interior conditions for this building. This process, along with the predicted start up time was part of an initiative to reduce the total operating cost of a building while maintaining and lease required comfort for tenants.

BENEFITS AND COSTS

In addition to the dashboard for better building insight, NANTUM has the capability to automatically interact with a BMS to initiate resource saving tactics such as an automated lunch ramp down, ramp up, and end of day ramp down.

While NANTUM has a fixed rate cost, there are also building requirements in order to receive the full effect of our system. For example, VFDs (Variable Frequency Drives) are required for a ramp sequence. An automation sequence must be designed, programmed and tested within the BMS for Nantum to signal the ramp down and ramp up.

REALIZED ENERGY SAVINGS

SEASONAL KwH SAVINGS	STARTUP	MID-DAY	END OF DAY	TOTAL KwH
345 Park Avenue - Summer	579,360	273,169	138,720	1,378,658
345 Park Avenue - Winter	732,672	435,978	194,400	2,043,252

TOTAL ANNUAL KwH SAVINGS **3,421,910**

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345 PARK AVENUE MONDAY - FRIDAY
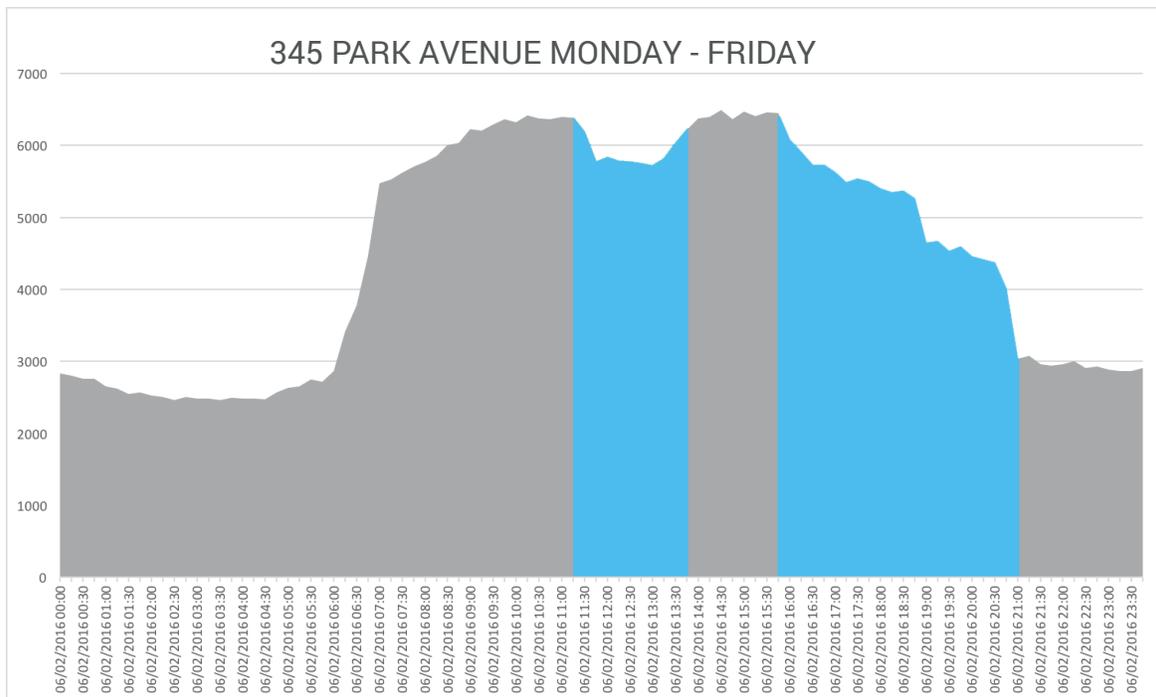
NANTUM identifies and automatically reduces energy during lunch and towards the end of the day.

Figure 1 - The area of savings is highlighted in BLUE, where Nantum identified and acted upon the opportunity to shed electric consumption, creating a 10% of daily energy reduction. Utility shed was based on occupancy load shift and thermal inertia.

EQUIPMENT SPECIFICATIONS

NANTUM only requires a small gateway appliance. The gateway is responsible for sending building data to our cloud infrastructure where we process the content and publish through our web application. It is used to acquire any and all appropriate data from any number of protocols including BACnet.

INSTALLATION LEAD TIME

This project's installation was started mid-January was finished in March. If building preconditions are met, the Prescriptive Data team is significantly able to reduce the base installation time to approximately one month.

CUSTOMER CONTACT

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