SIEMENS
Ingenuity for life

Increasing Data Center Performance through Optimization

CHALLENGES

A financial services firm had an inefficient data center that was challenged with:

- A lack of adequate sensing technology which required over-cooling of the data halls (white space)
- High energy costs
- Inadequate visibility into infrastructure and cooling operations
- Under-used free cooling
- Inefficient operations in their oversized data center

1+1 = 3

CHILLER PLANT OPTIMIZATION
+ WHITE SPACE COOLING OPTIMIZATION
= DATA CENTER THERMAL OPTIMIZATION

ROI

CHILLER PLANT SAVINGS

Immediate **37%** Reduction in Annual Energy Usage

$200,000 Utility Rebate (Approx)

$206,169 in Annual Savings ($0.13/kWh)

2.7 Year Payback

WHITE SPACE COOLING OPTIMIZATION SAVINGS

72 CRAH Units
241.7 kW before
69.1 kW after

Utility Rebate **$150,000**

$241,817 Annual Savings

71% kWh Savings

<2 year payback

from **37%** to **42%**

Amount of additional energy savings that was realized at the chiller plant following white space cooling optimization and due to reduced chiller plant pumping.

THE RESULTS

20-30% run time versus 100%

Cutting the run time of CRAH units by more than half helped extend useful asset life in the data center and reduce wear and tear on the CRAH units

Greater operational reliability

Both central plants now ran as needed, independent of one another, instead of running 24/7 simultaneously.

Additional free cooling

Thermal optimization allowed for chilled water temperatures to run warmer and free cooling to run longer.

Greater cost savings and efficiency

Data center thermal optimization allowed for more insight and data to run the plants more efficiently, resulting in improved efficiency, uptime, and thermal stability

Learn more ›