POINTGUARD
Building Confidence.

CASE STUDY
Financial Services HQ

Facility HQ for Financial Services Company
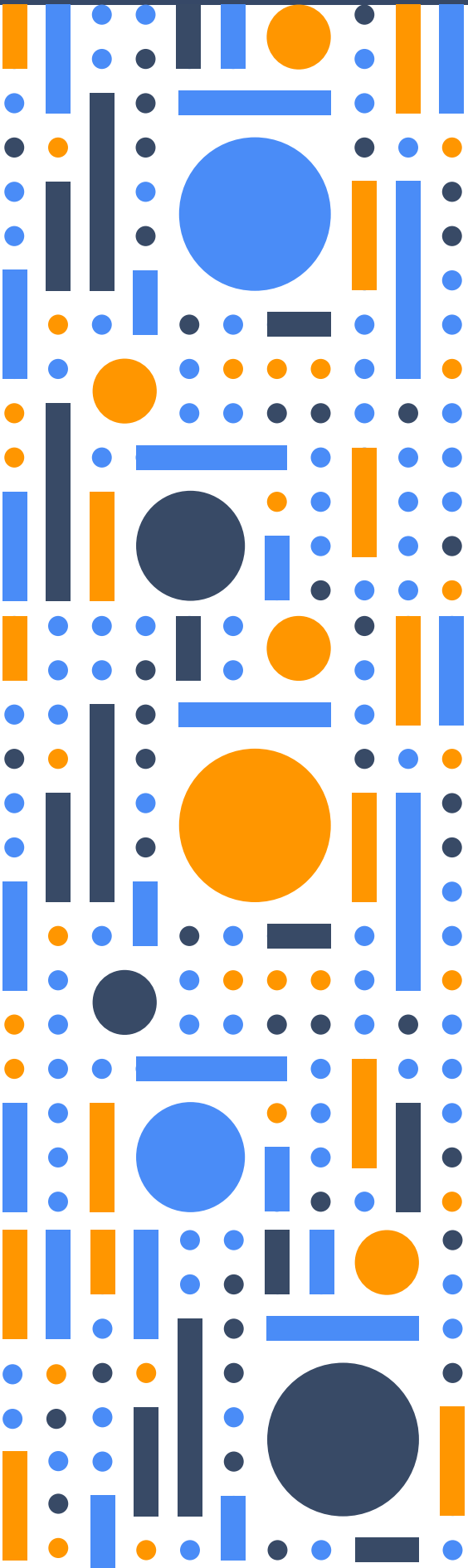
Location South Carolina

Facility Size 104,000 sq. ft.

Constructed 2016

Facility Use Single-Tenant Office Building

Introduction

HVAC Systems Description: Four 65 ton York rooftop units.

Control System: Tridium Niagara AX front-end, BACnet equipment controllers

MBCx Platform: PointGuard/SkySpark (Cloud-Hosted)

Client Story: PointGuard's client initially proudly held an ENERGY STAR score in the 90's*. However, as can happen over the life of any facility, building drift dropped their score into the 80s*.

At the time of the Client's onboarding, we determined all four of their roof top units were running 24/7. Correcting 24/7 and excessive runtime is one of the proven pathways that traditional commissioning uses to address issues of building drift and building performance. With PointGuard's technology enabled building commissioning, we were able to find these initial issues, and continue to monitor for excessive runtime over the life of the building.

Throughout this project, and any client project, the PointGuard Platform uses the proven science of traditional commissioning along with intuitive visualizations and impactful reports to help deliver value. With science backed algorithms, we are able to bring the most critical and profitable issues to the forefront of a facility team's attention so that even as they are stretched thin in other areas, they are able to maintain efficient and high performing buildings.

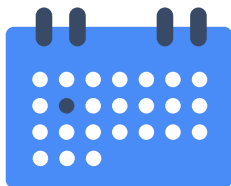*Based on ENERGY STAR calculations prior to the 2018 revamp of the calculation methodology

Program Scope: PointGuard Software Platform with Managed Service and a Performance Guarantee by PointGuard

Program Benefits

1st Year Energy Savings
$31,580 ($0.30/sq.ft., or 12% overall)

Time from Onboarding to Recommissioning
4 months

Simple Payback
Less Than 6 Months

Current PointGuard KPIs

COMFORT SCORE

98%

ASSET HEALTH SCORE

87%

ENERGYSTAR SCORE

89%

Issues Remedied

Excessive Runtime Multiple RTU's found to be running 24/7 despite schedules set to normal office hours. It was determined to be due to network issues within BACnet/MSTP trunks.

Excessive Fan Energy It was discovered that an RTU fan was running 24/7 despite schedules and occupancy mode. The fan's VFD was determined to be in "hand" mode.

Excessive Heating Multiple zones identified with conflicting setpoints causing excessive re-heat (zones fighting each other). The PointGuard Platform has a Simultaneous Heating and Cooling Quick Tool designed for detecting this exact issue.

Critical Control Point Failure A critical control point for an RTU (supply air temperature) went bad, causing the unit to drastically overcool the primary air, causing excessive reheat at the zone level, and unusually cold temperatures in zones without reheat.

Overcooling Multiple zones found with excessive minimum airflow setpoints that were causing overcooling and excessive reheat.
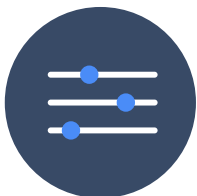
Excessive Off-Hours Reheat Multiple zones found to be ignoring the BAS schedule and maintaining occupied heating setpoints during off-hours.

Comfort Issues Some zones found to be undercooling due to maximum airflow setpoints being too low for the actual load in the zone. A couple zones also found to have damper control and heating issues that were causing discomfort.

Conclusion

In the end, a single fix to stop the equipment running 24/7 meant the client saw an 18% energy savings jump in a single month. Over the course of the following months, which was a heating season when more energy is typically expended in commercial buildings, the client continued to upwardly gain in their ENERGY STAR score, until they were back in the 90s.

In the project's initial phases, the PointGuard platform was also able to detect multiple zones within the buildings with conflicting set points. This often means one area was being simultaneously heated and cooled by conflicting set points at different terminal units. The majority of the building is open-air office space which most often sees this issue. We know from experience that without algorithms that can walk a building 24/7 and examine the data coming off the building controls system, issues like this often go undiagnosed. The benefit of these types of fixes are not only a reduction in energy use and spend, but also an extension in the equipment's useful life (better asset health) and a decrease in occupant complaints (improved comfort).

The PointGuard platforms diagnoses these types of large energy wasting problems and more for facility teams in the first few months of service. However, the true benefit of software comes with better asset health and improved comfort. These are long term issues for facility teams, which PointGuard's KPIs and algorithms are tailored to address.

Learn more about the tools available for facility teams by reaching out to: info@pointguardtech.com.