

Multi-Facility Retro-Commissioning (RCx) in Complex Healthcare Campuses



Agenda

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So What?

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Background

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Prioritizing RCx Across a Portfolio

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Results: Measurement and Verification (M&V)



 ENFRA

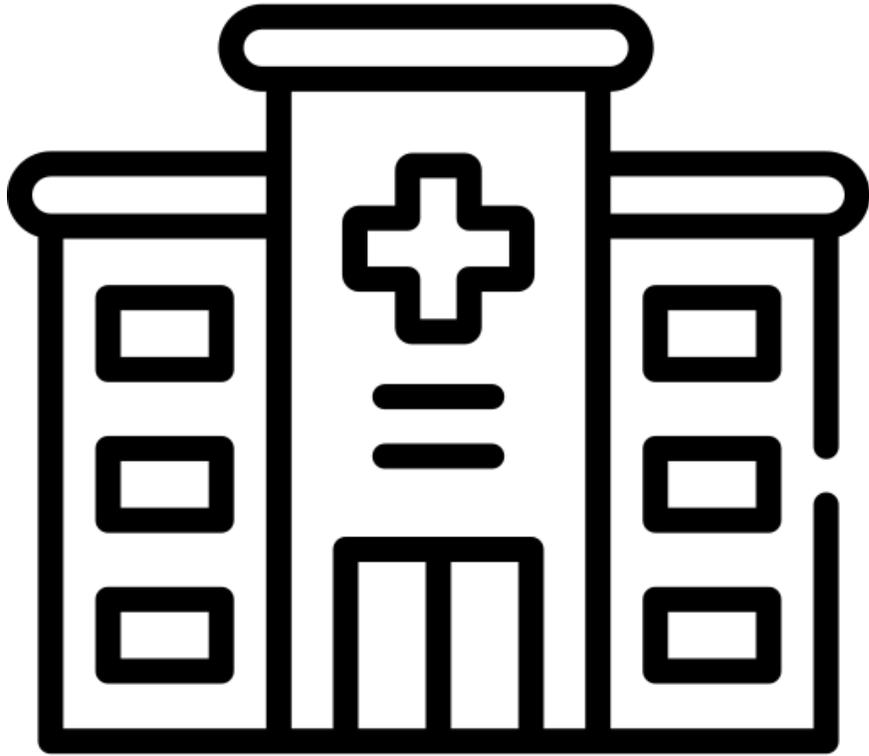
So What?



Profit

Patient
Experience

Risk



265K sqft



\$1M



\$50,000



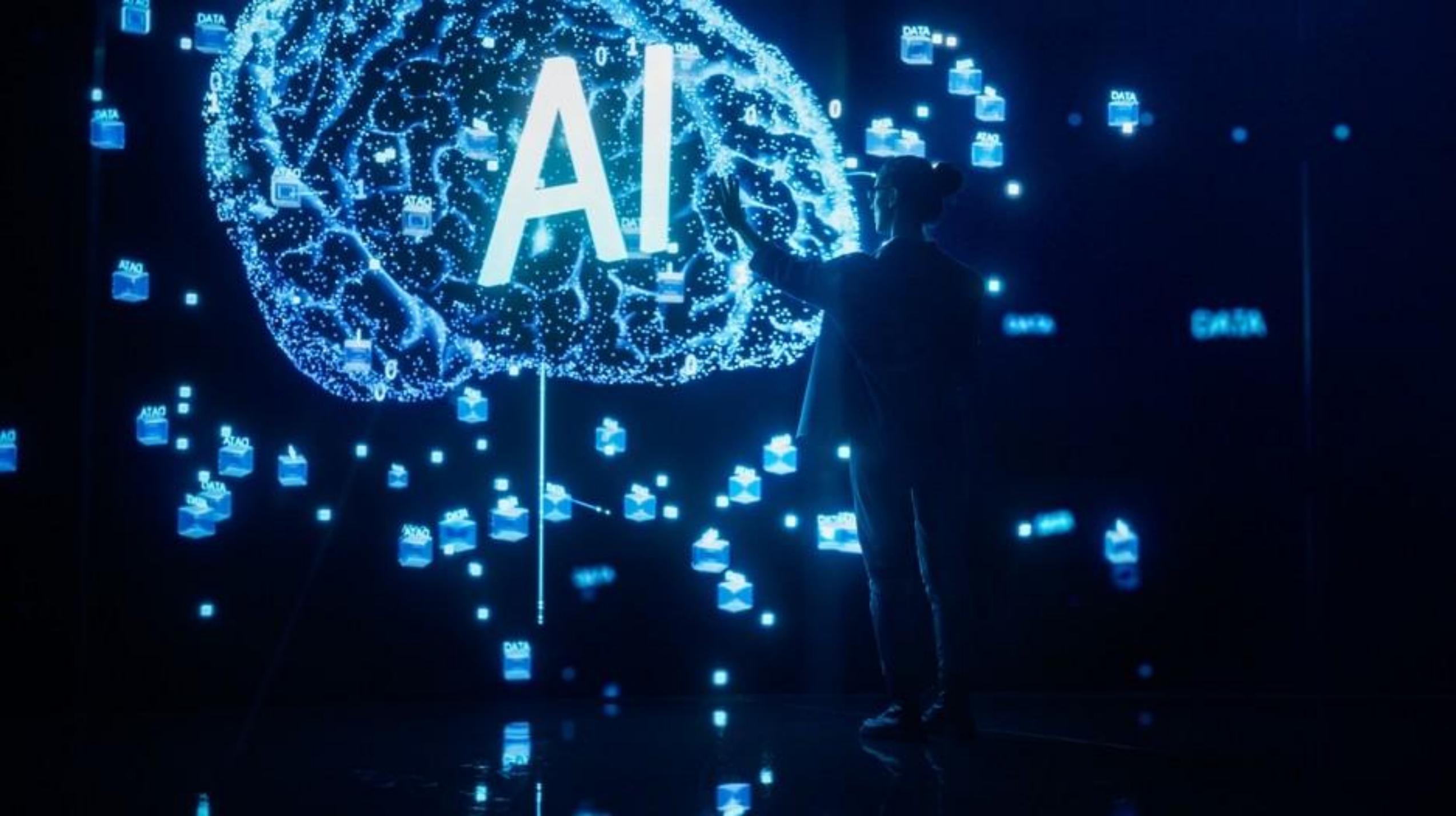




 ENFRA

Background



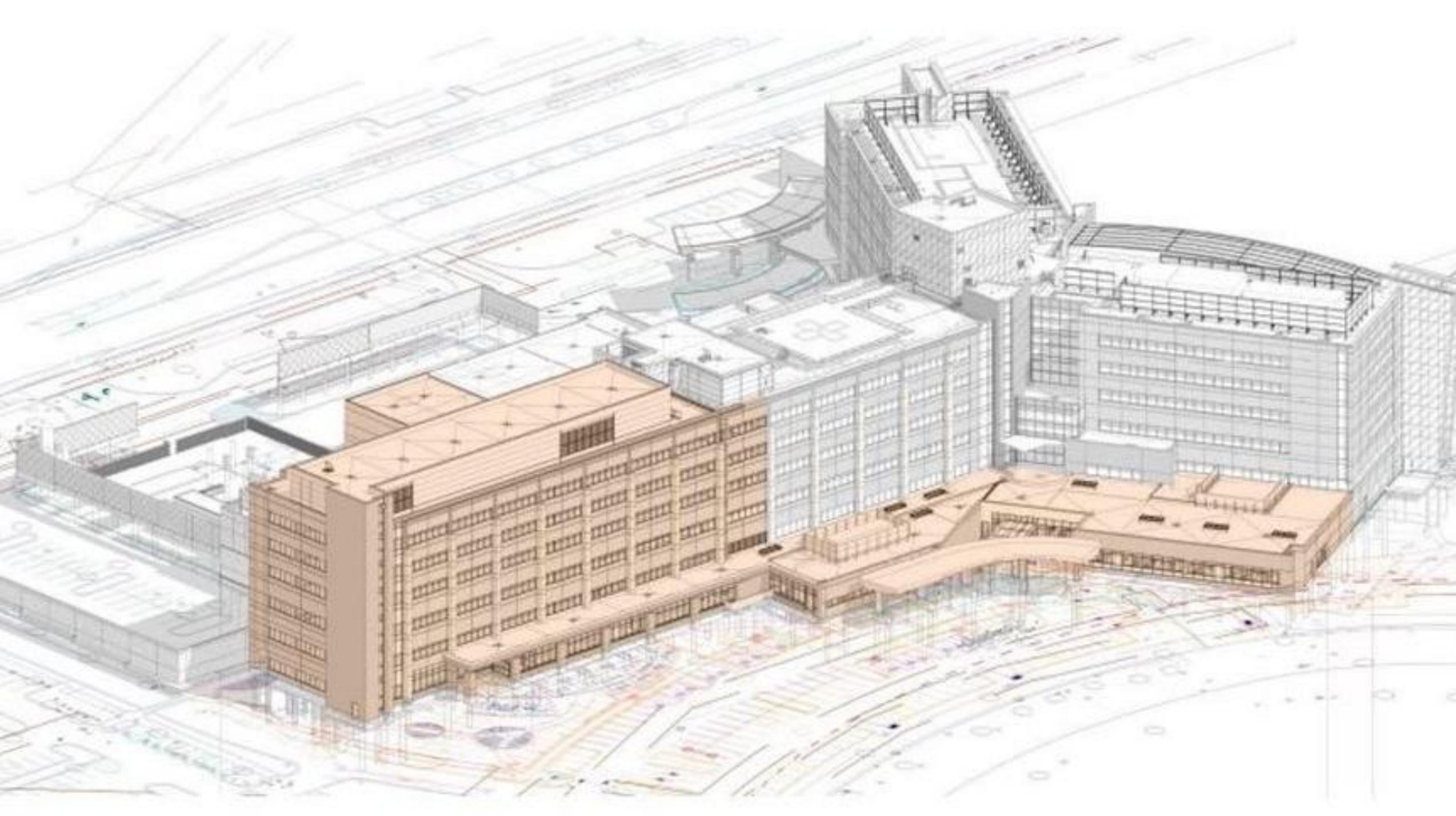


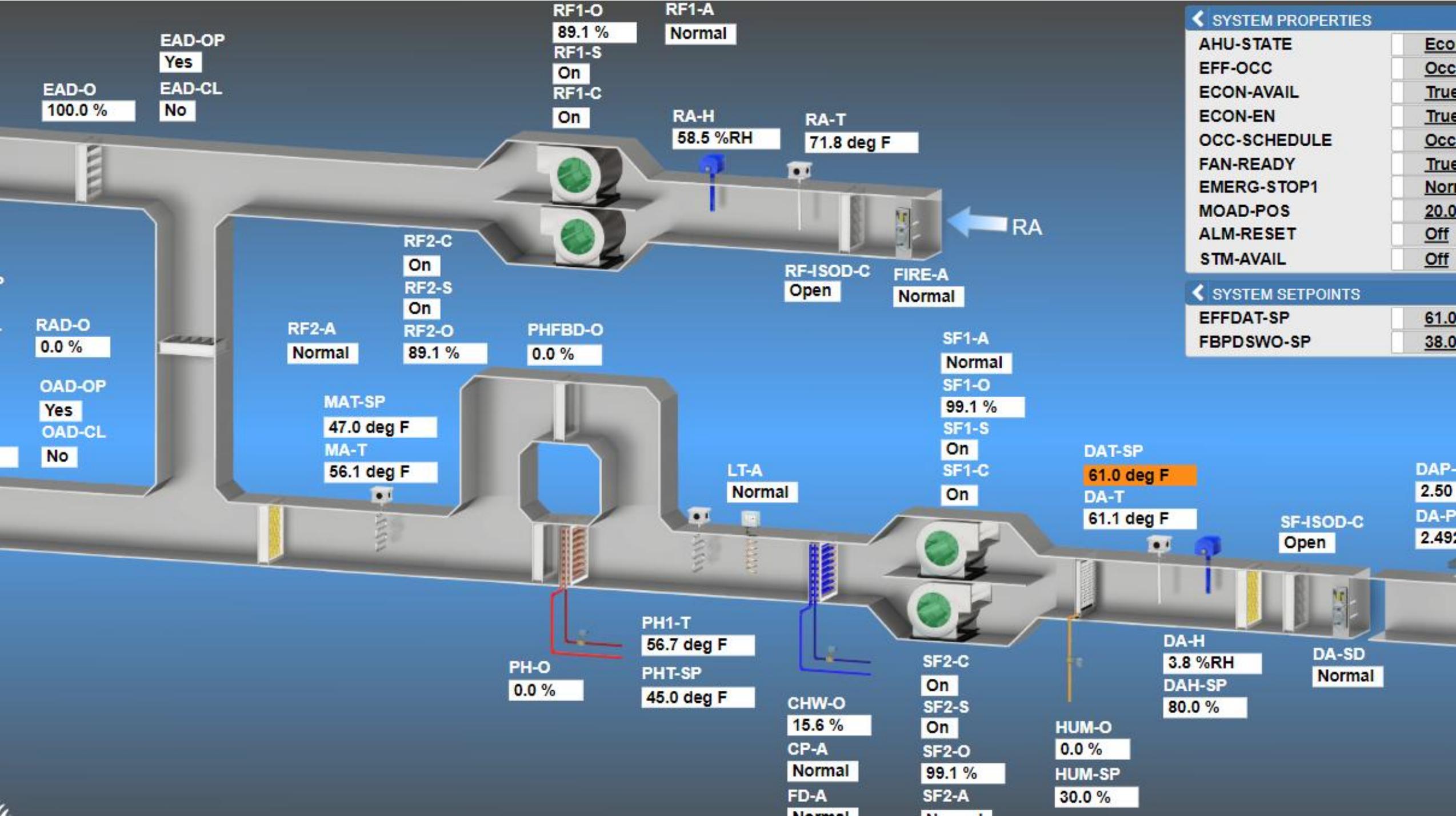




Building Behavior







EAD-OP
Yes
EAD-CL
No
EAD-O
100.0 %

RF1-O
89.1 %
RF1-A
Normal
RF1-S
On
RF1-C
On

RA-H
58.5 %RH
RA-T
71.8 deg F

SYSTEM PROPERTIES

AHU-STATE	Eco
EFF-OCC	Occ
ECON-AVAIL	True
ECON-EN	True
OCC-SCHEDULE	Occ
FAN-READY	True
EMERG-STOP1	Norm
MOAD-POS	20.0
ALM-RESET	Off
STM-AVAIL	Off

RF2-C
On
RF2-S
On
RF2-O
89.1 %
RF2-A
Normal

RF-ISOD-C
Open
FIRE-A
Normal

RAD-O
0.0 %
OAD-OP
Yes
OAD-CL
No

PHFBD-O
0.0 %

SF1-A
Normal
SF1-O
99.1 %
SF1-S
On
SF1-C
On

SYSTEM SETPOINTS

EFFDAT-SP	61.0
FBPDSWO-SP	38.0

MAT-SP
47.0 deg F
MA-T
56.1 deg F

LT-A
Normal

DAT-SP
61.0 deg F
DA-T
61.1 deg F

SF-ISOD-C
Open

DAP-
2.50
DA-P
2.49

PH1-T
56.7 deg F
PHT-SP
45.0 deg F
PH-O
0.0 %

CHW-O
15.6 %
CP-A
Normal
FD-A
Normal

SF2-C
On
SF2-S
On
SF2-O
99.1 %
SF2-A
Normal

HUM-O
0.0 %
HUM-SP
30.0 %

DA-H
3.8 %RH
DAH-SP
80.0 %

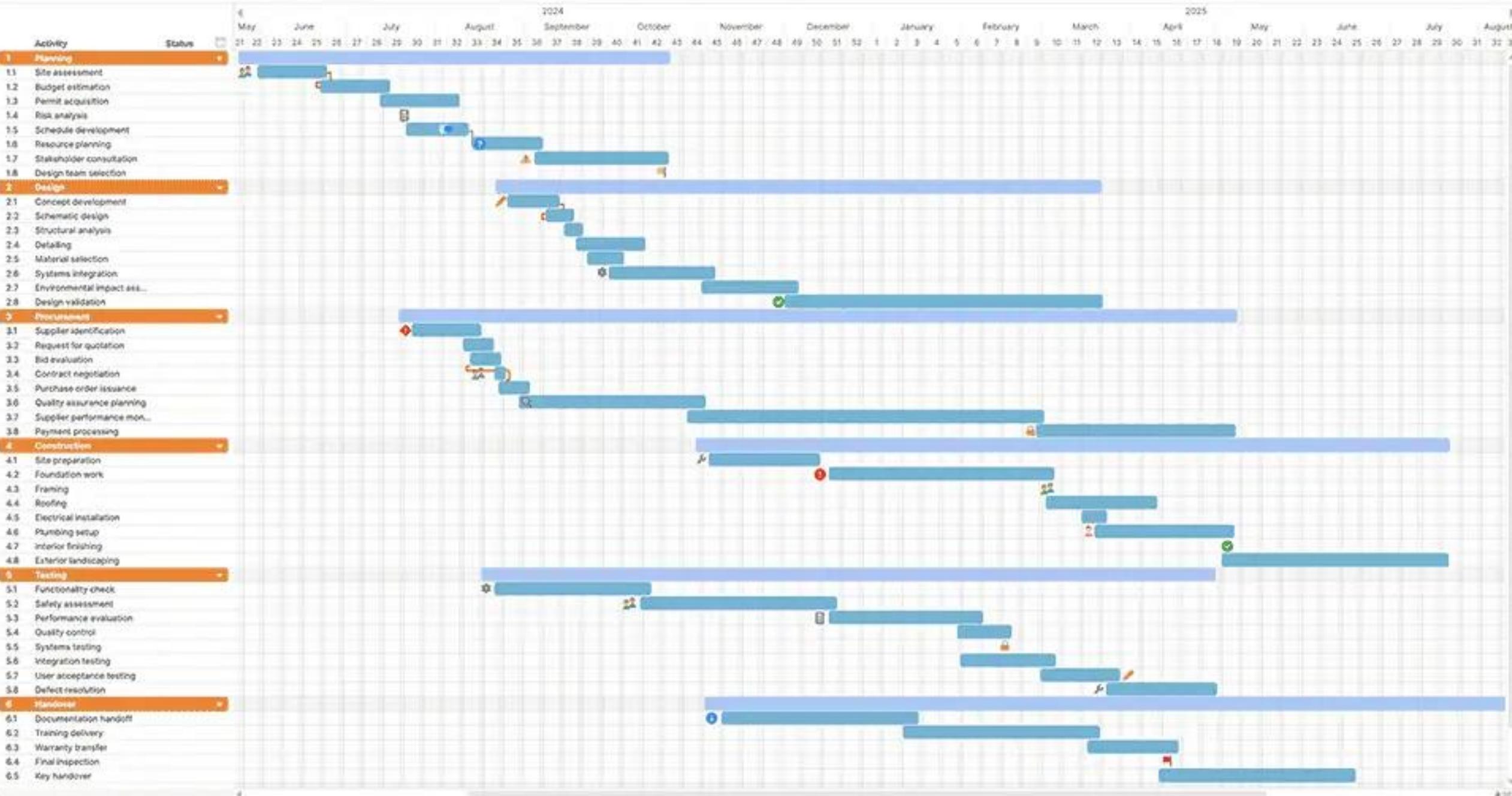
DA-SD
Normal





Prioritizing RCx Across a Portfolio















A hand in a dark suit jacket points towards the center of the image. The word "RISK" is written in large, bold, white capital letters with a bright blue glow, set within a dark grey hexagonal frame. Surrounding this central frame are several other hexagonal frames, each containing a white icon: a magnifying glass over a bar chart, a thumbs-up with stars, a target with an arrow, a document with a checkmark and magnifying glass, a circular arrow with gears, a graph with an upward arrow and 'X' markers, and a target with an arrow. The background is dark and shows a blurred person in a light-colored shirt and tie.

RISK



High Impact Measures







Wilson Controls
AIRWIS
VALVE ACTUATOR
130 STROKE
870 11 PSI SPRING RANGE

RY11206

A thermal image of a building facade. The image shows a dark, textured surface, likely a window or a wall, with a grid of horizontal lines. Two temperature markers are visible: a blue circle on the left and a white crosshair on the right. The background is a mix of dark blue and purple, with some yellow and orange highlights at the top and bottom edges, suggesting a bright light source or a hot surface. The overall scene is a close-up of a building's exterior.

7.6°C

6.6°C

PROTMEX®

29.8 %RH
49.1 °F

PT6508
DIGITAL TEMPERATURE
HUMIDITY METER

Range:
-20°C - 60°C
-4°F - 140°F
0 - 100%RH

CE



MIN
MAX

DP
WB

READ

MEM

°C/°F

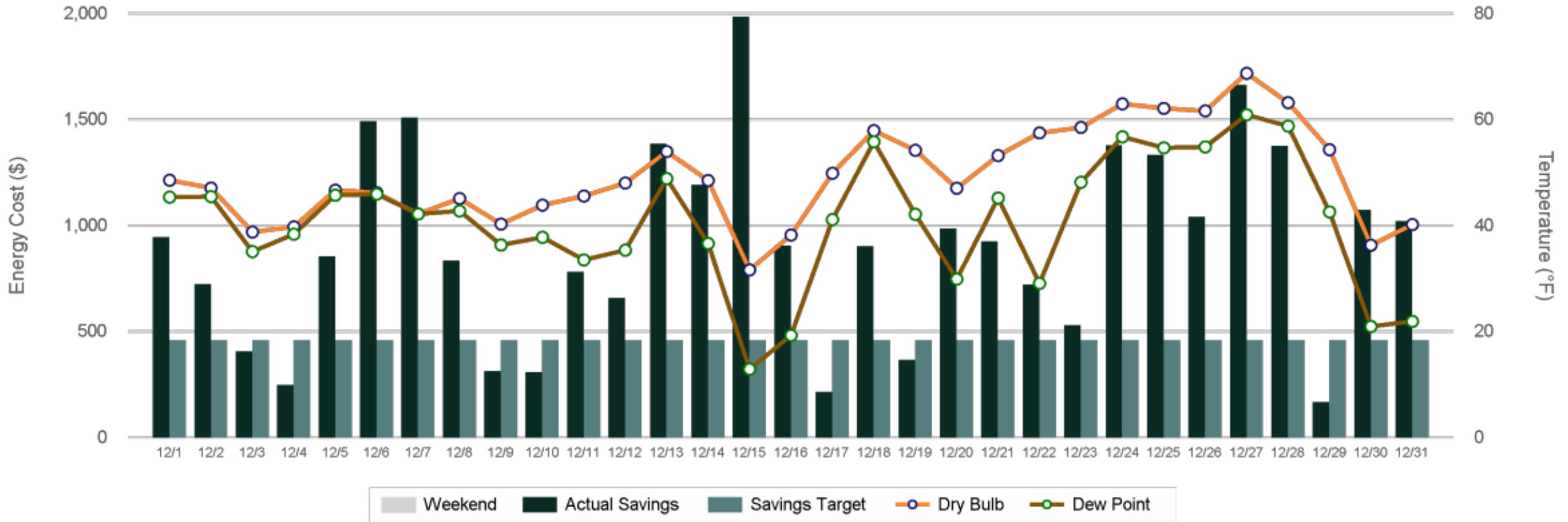


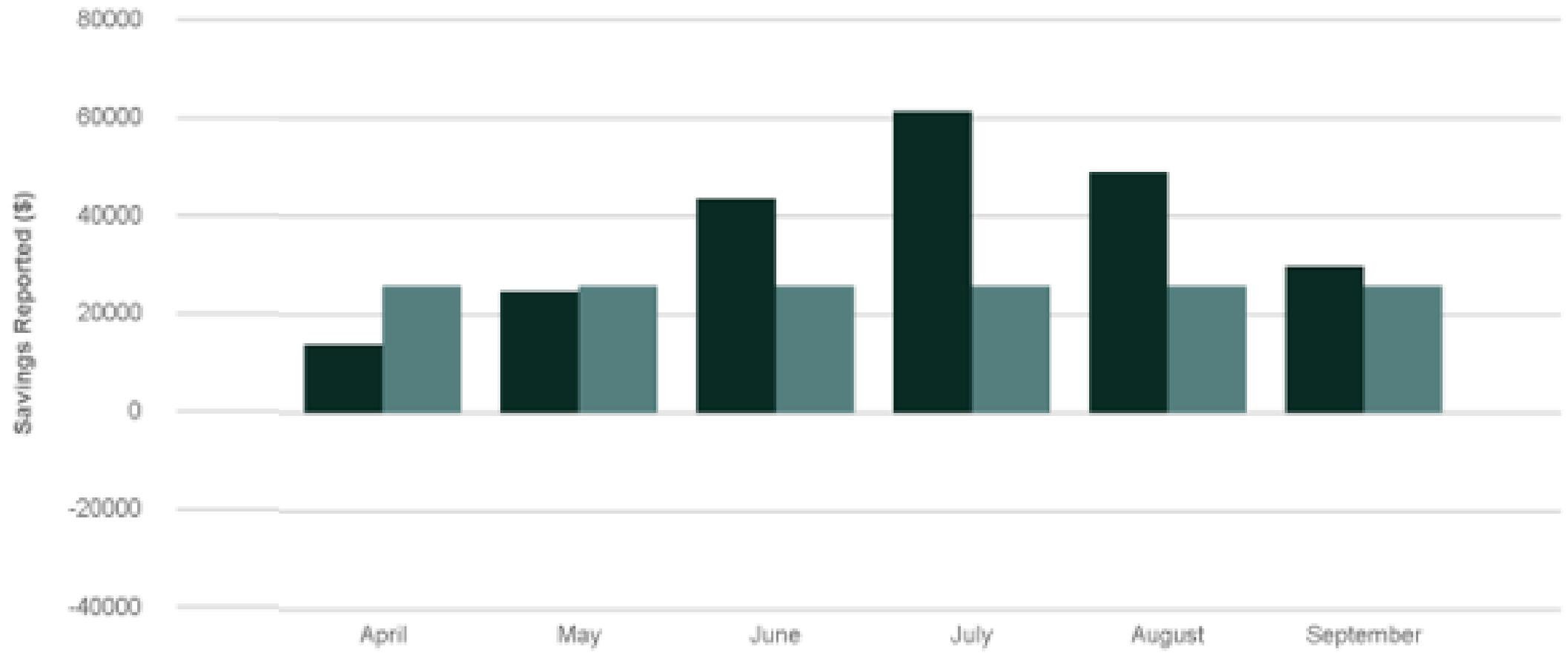




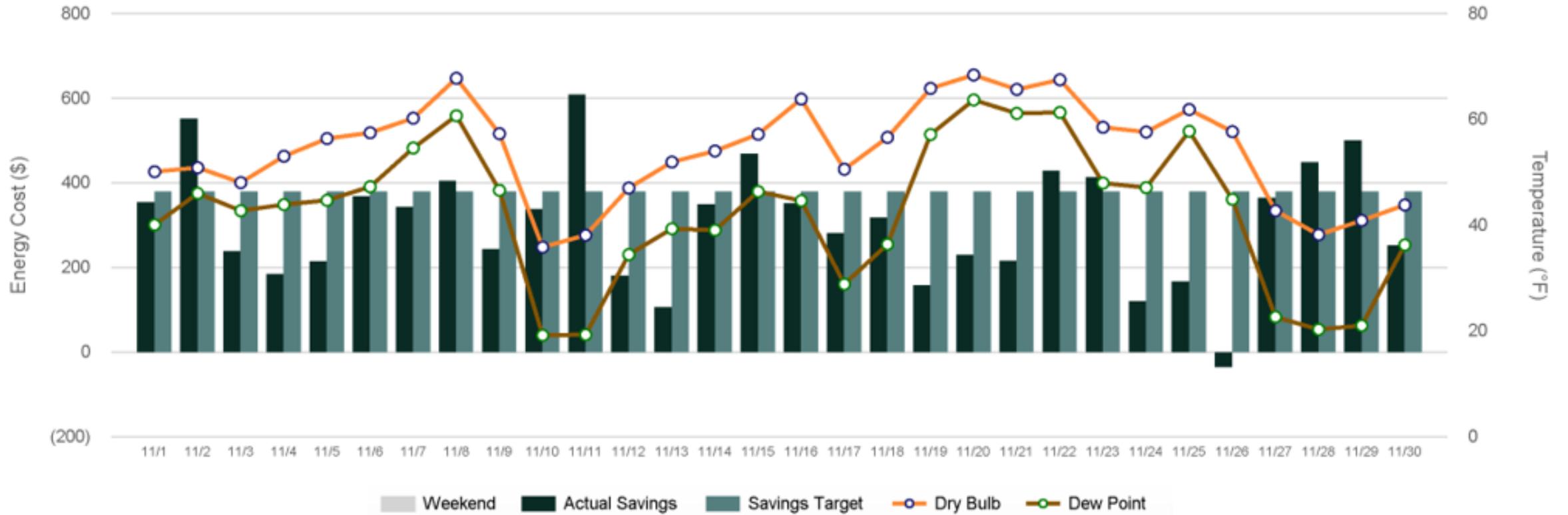
Results: Measurement and Verification (M&V)

Daily Energy Cost Savings





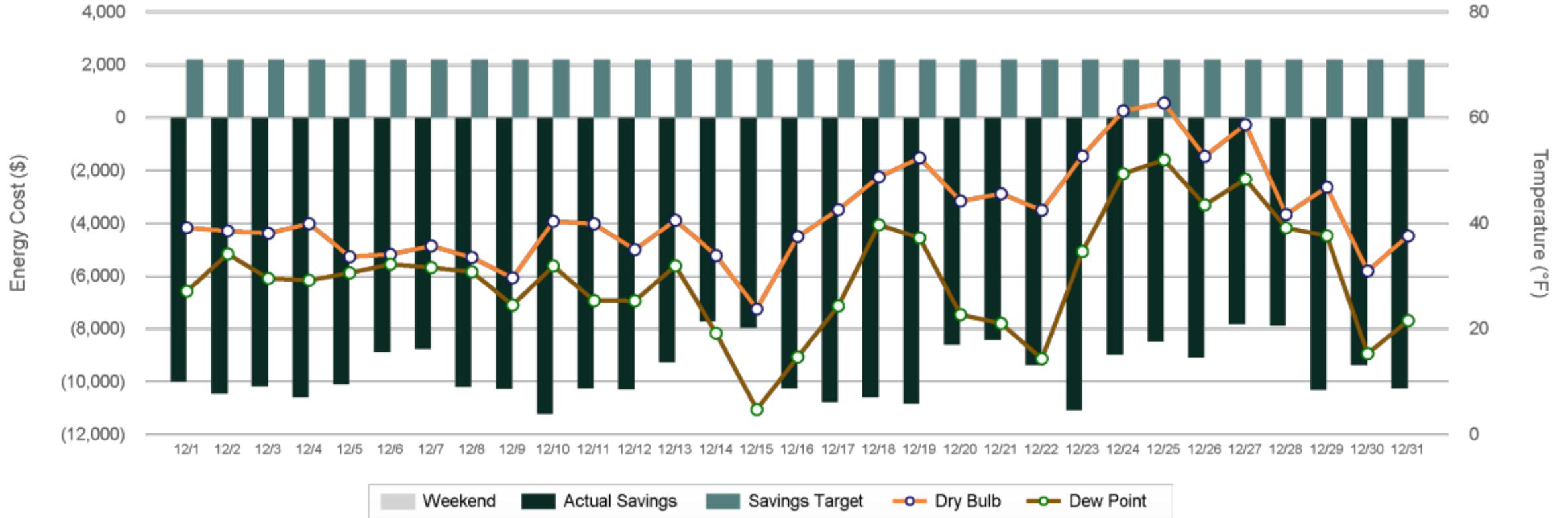
Daily Energy Cost Savings



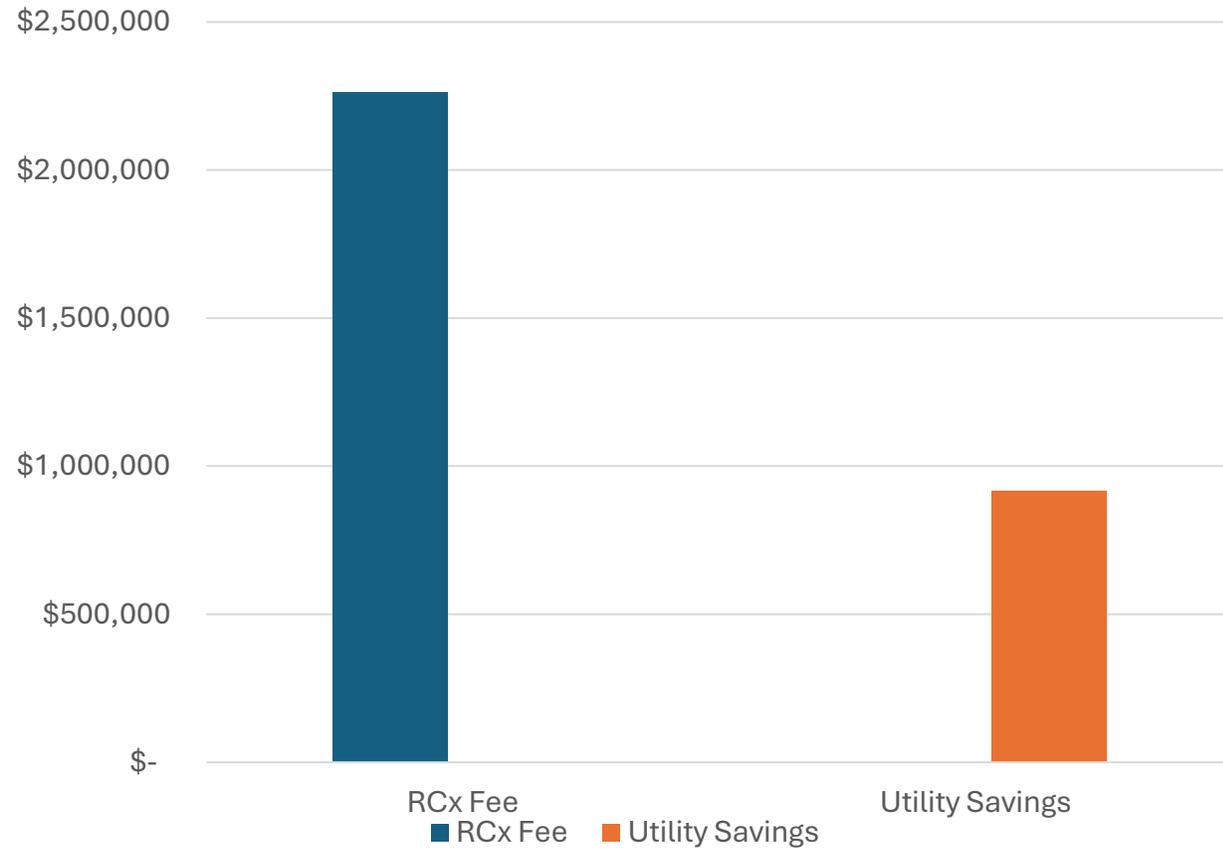
Daily Energy Cost Savings



Daily Energy Cost Savings



Project Fee vs Savings



2.5
Years







Questions?

