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AABC Commissioning Group

AIA Provider Number 50111116



# Building Systems Commissioning – An Owner’s Approach to Maximize Benefits of the Cx Process

Course Number: CXENERGY1729



***Bradley Pollitt, AIA***

***Mark Dykes, UF Health Shands Hospital***

***Sanjyot Bhusari, P.E., CEM, LEED AP***

***Affiliated Engineers***

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Credit(s) earned on completion of this course will be reported to **AIA CES** for AIA members. Certificates of Completion for both AIA members and non-AIA members are available upon request.

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Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

This course is registered with **AIA**



# Course Description

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The overall objective was simple—create efficient, high-performing buildings and save money on the resulting utility reductions. Getting there was tougher. The UF Health facilities Vista Rehab and Cancer Hospital (South Tower) both received recognition from the American Hospital Association for their efforts. This session outlines their journey, its challenges, lessons learned and successes.

# Learning Objectives

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At the end of the this course, participants will be able to:

1. Learn about the challenges associated with and solutions to overcome them when performing an energy retrofit on an aging healthcare facility.
2. Understand the impact of extreme humidity, which creates HVAC challenges, particularly in the health care environment.
3. Learn ways to use new revenue streams created from energy savings to fund further optimization.
4. Learn methods of using regular communication between energy staff and facility maintenance staff to maintain optimization.

# Agenda

- UF Health Background
- UF Health Digital Path
- Retro-Cx Process and Success
- Sustaining the Savings
- Holistic Approach

# Who is UF Health?

- Teaching Hospital and Research for the University of Florida
- College of Medicine founded in 1883
- Two Academic Medical Centers
- Over 100 clinical locations and 6 hospitals
- Over 2000 Physicians and 18,000 staff









# UF Health Vision

- Our Mission for Sustainability:
- To ensure the **Perfect Patient Experience** and safest operational **Environment of Care** for a customers and staff
- To increase quality and reduce operational costs to redirect critical funds to clinical operations
- To participate in sustainability initiatives within our community and world by reducing our carbon footprint

# Digital Path

- 1990's- limited digital integration on large equipment thru performance contracting and was not successful
- Early 2000's- first digital controls on air control boxes
- 2006- the first fully automated building- remote surgery center and was a huge success
- 2009- opened 500,000 Cancer Hospital with fully automated system- rough start but excellent results.  
Lesson on points
- 2012- began earnest retrofit of major equipment and canary points



# Problems we were solving

- Overpromised under delivered software
- Too Much Data / Unreliable Data
- Too Many Alarms
- Not enough people
- Skill Set Gap
- Staff Retirement
- Energy costs increasing
- Hot Calls / Cold Calls
- Existing Software does not work

# Results

## UF HEALTH SHANDS

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### KEY PERFORMANCE INDICATORS:



80%



Reduction in Alarms



22%



Energy Savings in the Past Five Years - \$5M



Patient Comfort Improving



MAPPING BUILDING DNA FOR PREDICTIVE MAINTENANCE



### DATA ANALYTICS



3,000,000 SF OF HEALTHCARE SPACE



# Results

ASHE CASE STUDY



## ENERGY TO CARE SUCCESS STORY

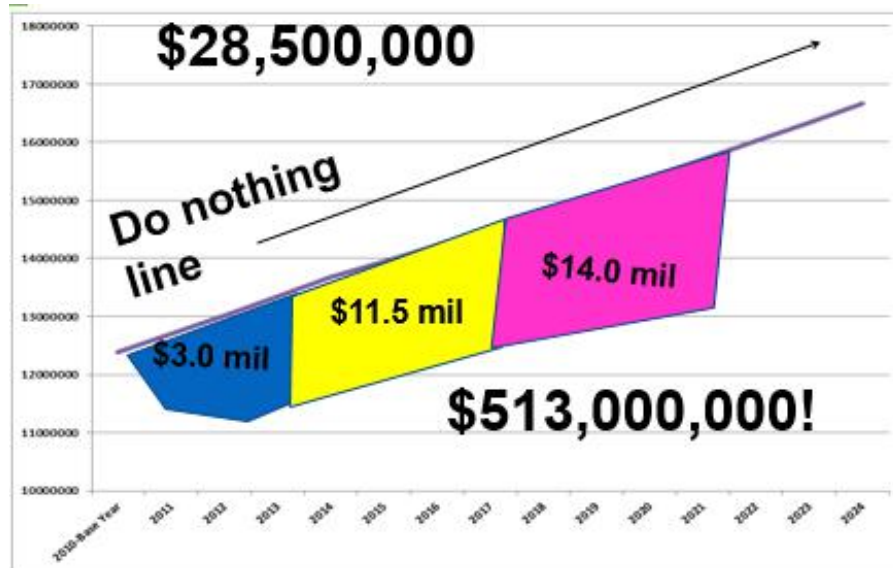
UF HEALTH SHANDS VISTA REHAB & UF HEALTH SHANDS CANCER HOSPITAL (SOUTH TOWER)

UF Shands uses commissioning and automation to save more than \$5 million in less than five years

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# Our Future

- Right Size new facility digital footprint
- Expand canaries in existing facilities
- Implement digital requirements for renovations
- Build more stringent digital standards
- Implement digital security
- Manage every energy source
- Integrate operations and maintenance activities

# Results

- Building: Admin / Office
- First Year Savings: \$100K
- Reduction: 17%
- Strategies:
  - Scheduling
  - Outside air optimization
  - Resets
  - Unique Exhaust Controls
  - Data Analytics





# Results

- Building: Endoscopy
- First Year Savings: \$13K
- Reduction: 13%
- Strategies:
  - Setbacks
  - Data Analytics



# Results

- Building: Rehab Center
- First Year Savings: \$80K
- Reduction: 13%
- Strategies:
  - Chiller Plant Optimization
  - Variable Pumping
  - Scheduling
  - Data Analytics



# Results

- Building: Surgery Center
- First Year Savings: \$50K
- Reduction: 22%
- Strategies:
  - Scheduling
  - ACH optimization
  - Data Analytics

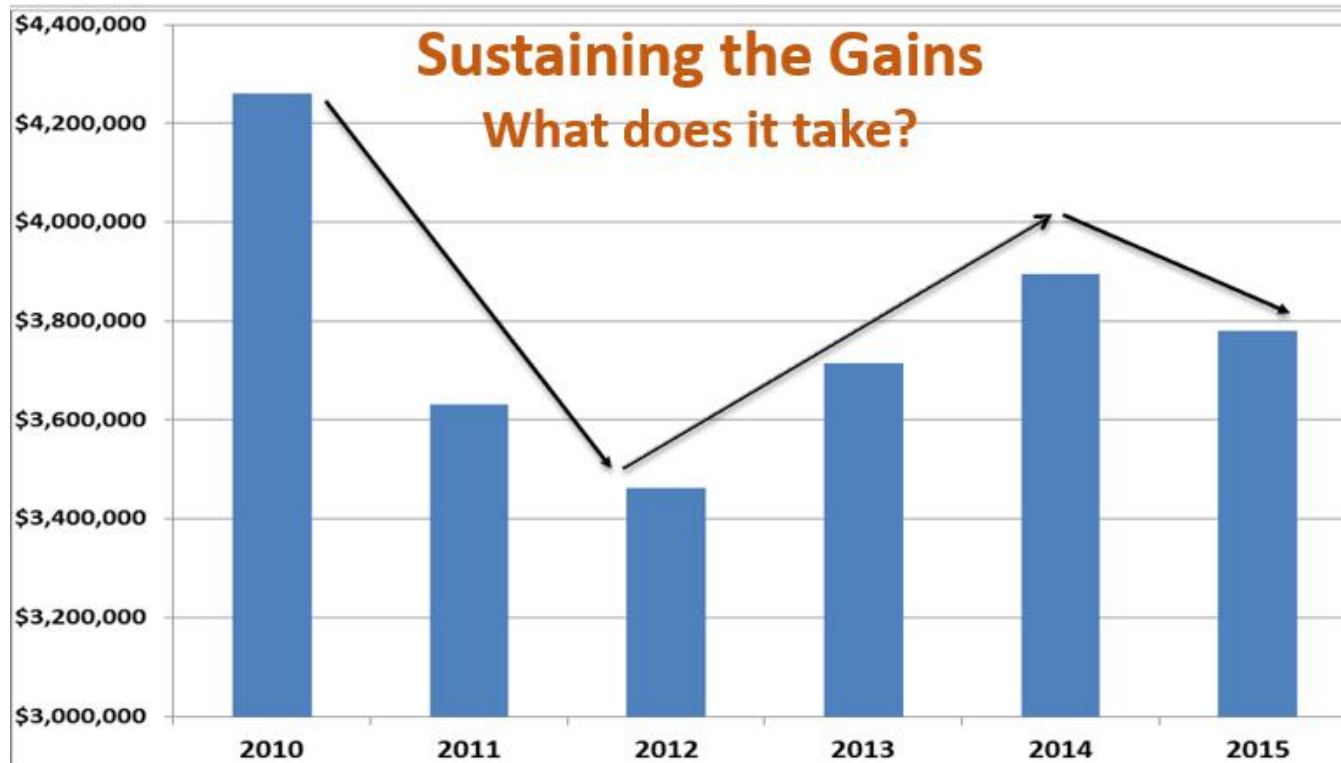


# Results

- Building: Cancer Hospital
- First Year Savings: \$600K
- Reduction: 15%
- Strategies:
  - Scheduling
  - CAV to VAV
  - Data Analytics



# Sustaining The Gains



# Sustaining The Gains

- Job Functions
- Skill Set and Specific Training
- Tools and Processes

# Holistic Approach

- Technology – Enterprise System, Data, Fault Detection
- People – Programmer, Automation Techs, Energy Manager
- Preventative Maintenance – Calibration Program and Ongoing Cx
- Resources – In house Performance Contracting
- Communications and Cultural Change
- Training

This concludes The American Institute of Architects  
Continuing Education Systems Course

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Contact Information

