



# ANALYTIKA USERS FORUM

January 2021

Getting Results

# AGENDA

1. Introduction to Analytika Users Forum
2. Focus Topic: Getting Results
3. Fun With Graphs!
4. Q&A / Open Forum
5. What's Next?

# What is Cimetrics Analytika?



## Analytika services

- **Continuous data monitoring**
- **Ongoing commissioning** (CCx / MBCx) using **automatic fault detection & diagnostics** (AFDD)
- **Engineering consulting**
- **Analytika Portal SaaS**



## Solve owner challenges

- Help building owners, managers, vendors and partners **run their facilities more efficiently and effectively**
- Targeted recommendations for **energy savings & optimization opportunities** and **insidious equipment faults**
- **Task prioritization, vendor management, & KPI tracking**
- **Regulatory & ESG compliance tracking & reporting**
- **Minimize shutdowns** through reliability improvements & early fault detection
- **M&V to insure energy efficiency investments**



## Create better buildings

- **Save energy costs**
- **Reduce GHG emissions**
- Improve **comfort & safety**
- **Prioritize & streamline** maintenance tasks
- Achieve **sustainability goals**

# Why an Analytika Users Forum?



## Learn

Learn how to achieve your goals from Cimetrics experts and Analytika power users



## See

See best practices, techniques, tips & tricks demonstrated live



## Ask

Ask questions and get guidance on resolving challenges



## Share

Share your unique cases and experiences to help others get the most out of Analytika

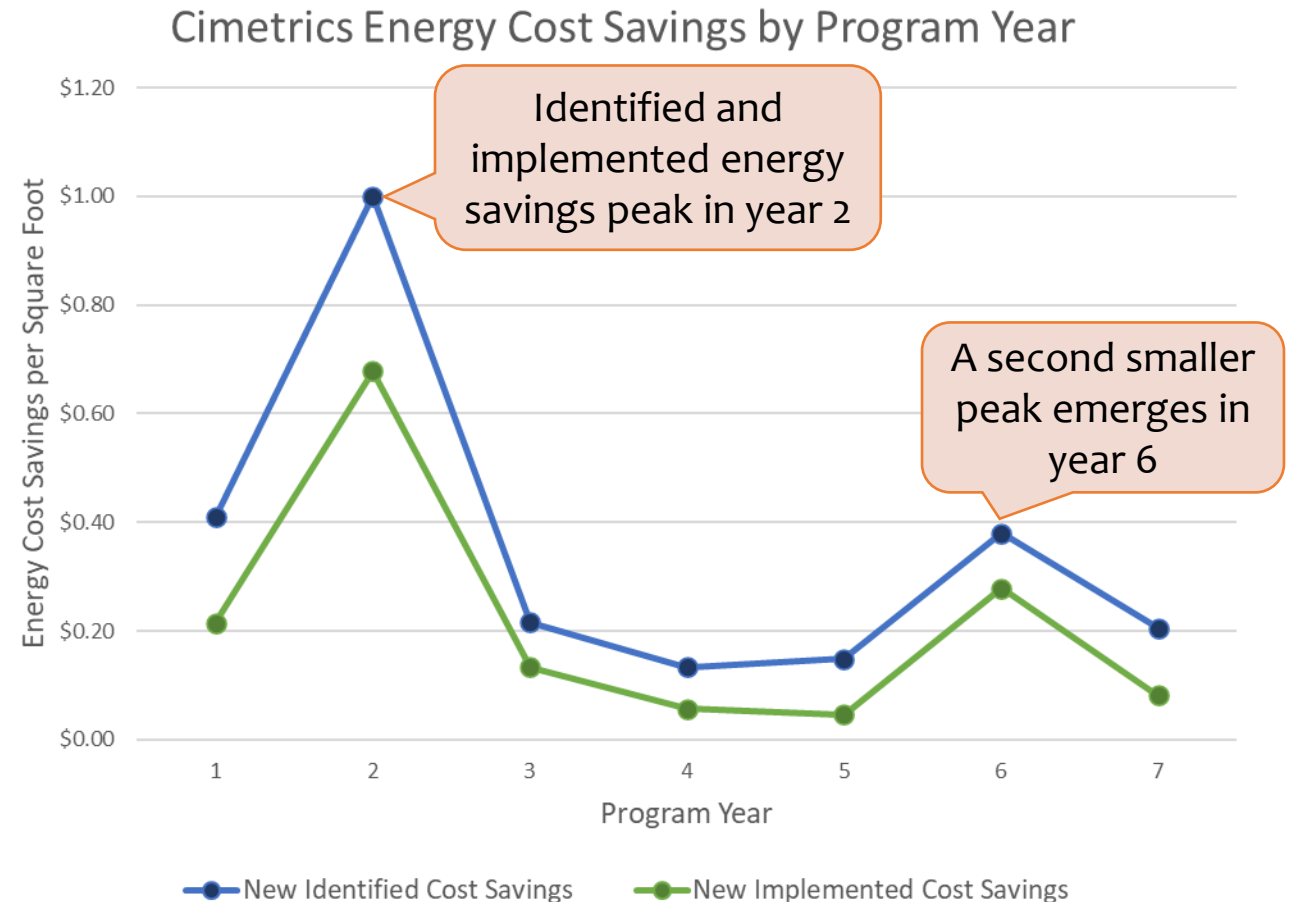
Learn how to get the most out of Cimetrics Analytika to create safe, reliable, energy-efficient buildings!

## Focus Topic: Getting Results

- Planning
- Task assignment
- Custom issues views
- KPI tracking visualizations

# Energy Cost Savings

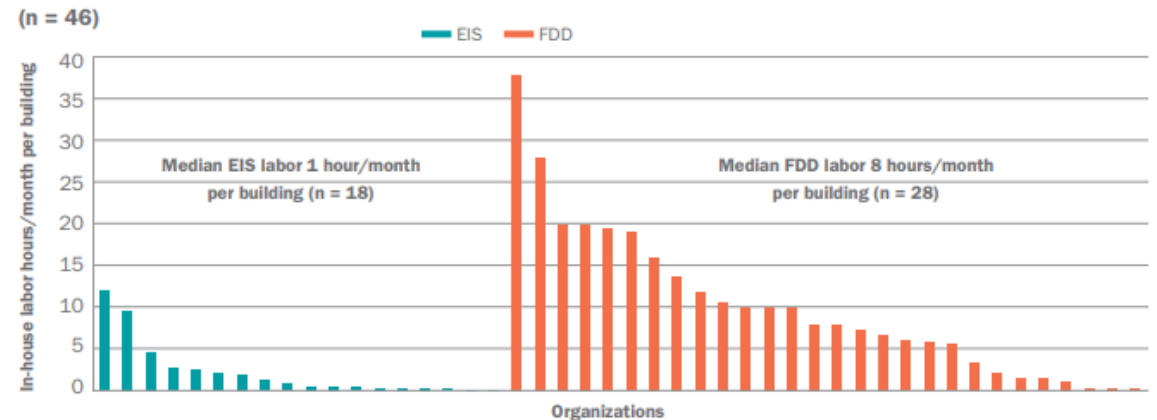
- In just the first year of the program, Cimetrics clients saw an average of \$0.40 per square foot in identified energy savings and achieved an average of \$0.22/ft<sup>2</sup> in energy savings
- Newly identified and implemented energy cost savings peak in year 2 at an average of \$1.00/ft<sup>2</sup> identified and \$0.68/ft<sup>2</sup> implemented
- A second smaller peak in energy savings occurs in year 6 due to equipment life cycle and performance drift correction
- Energy savings represent annualized avoided energy costs and are **persistent year over year**
- Implemented savings lagged identified savings by \$0.10/ft<sup>2</sup> after year 2



# Internal Resource Allocation

- Designate an internal Analytika owner & advocate
- A 2020 LBNL study found organizations interact with their FDD 8 hours per month per building
- Cimetrics data shows that **client teams who meet at least quarterly have nearly double the implementation rate as clients that meet less frequently**
  - Only slight improvement with monthly or more frequent meetings due to lead time for parts and repairs
- LBNL has a Monitoring-Based Commissioning (MBCx) Plan Template to assist building staff in developing an MBCx process

**FIGURE 12: Estimated in-house labor cost by EMIS type**



Hannah Kramer, Guanqing Lin, Claire Curtin, Eliot Crowe, and Jessica Granderson. October 2020. Proving the Business Case for Building Analytics. Retrieved from [https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/Proving%20the%20Business%20Case%20for%20Building%20Analytics\\_Oct2020.pdf](https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/Proving%20the%20Business%20Case%20for%20Building%20Analytics_Oct2020.pdf)

Title	Role
Energy Manager	Manages the project, oversees planning and implementation of MBCx, and communicates progress and outcomes to management.
Building Engineer	Assists with EMIS installation and is involved in the development of the Monitoring Action Plan. Familiar with the building's control system and architecture.
Owner IT Representative	Supports EMIS design and setup with regard to IT networks, data transfer processes, and network cybersecurity.
EMIS Integrator	In this MBCx program, the EMIS vendor serves as the system integrator. Responsible for setting up the EMIS according to the Monitoring Action Plan and installing and configuring systems to communicate and transfer data. Responsible for supporting development and executing the EMIS Configuration Phase.
Commissioning Provider	Responsible for writing the Monitoring Action Plan with support from building engineers and EMIS Integrator, and with oversight of the Energy Manager. Assists in the MBCx Planning Phase and supports the team during MBCx Implementation.

Hannah Kramer, Eliot Crowe, and Jessica Granderson. June 2017. Monitoring-Based Commissioning (MBCx) Plan Template. Retrieved from <https://buildings.lbl.gov/sites/default/files/mbcx-plan-template-june-2017-final.docx>

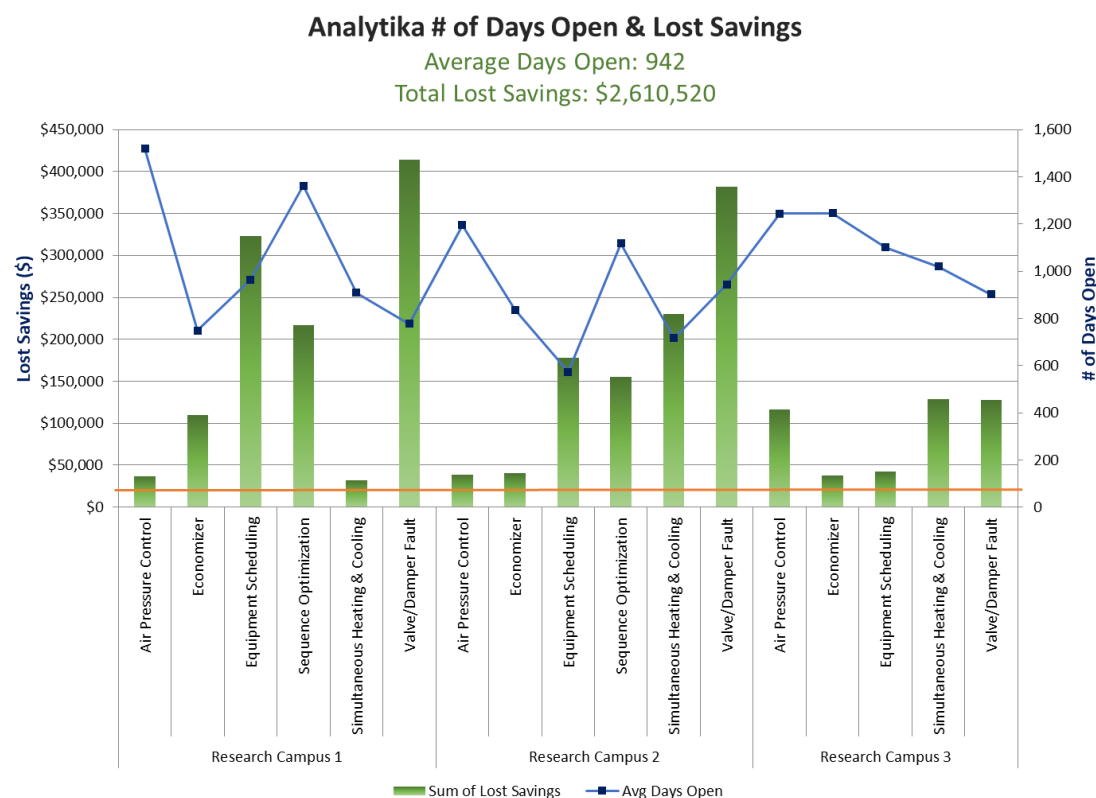
# Building Selection and Prioritization

- Building rotation
  - Consider this approach for large university campuses with hundreds of buildings
  - Select buildings with highest potential for impact, e.g. high EUI, system complexity, largest area, etc.
- Collect all data and prioritize based on needs
  - Suitable for lab/pharma campuses with multiple critical and/or energy-intensive systems
  - Data is always readily available for forensics, compliance reporting, etc.
  - Prioritize remediation efforts based on fault prevalence, impact, goals

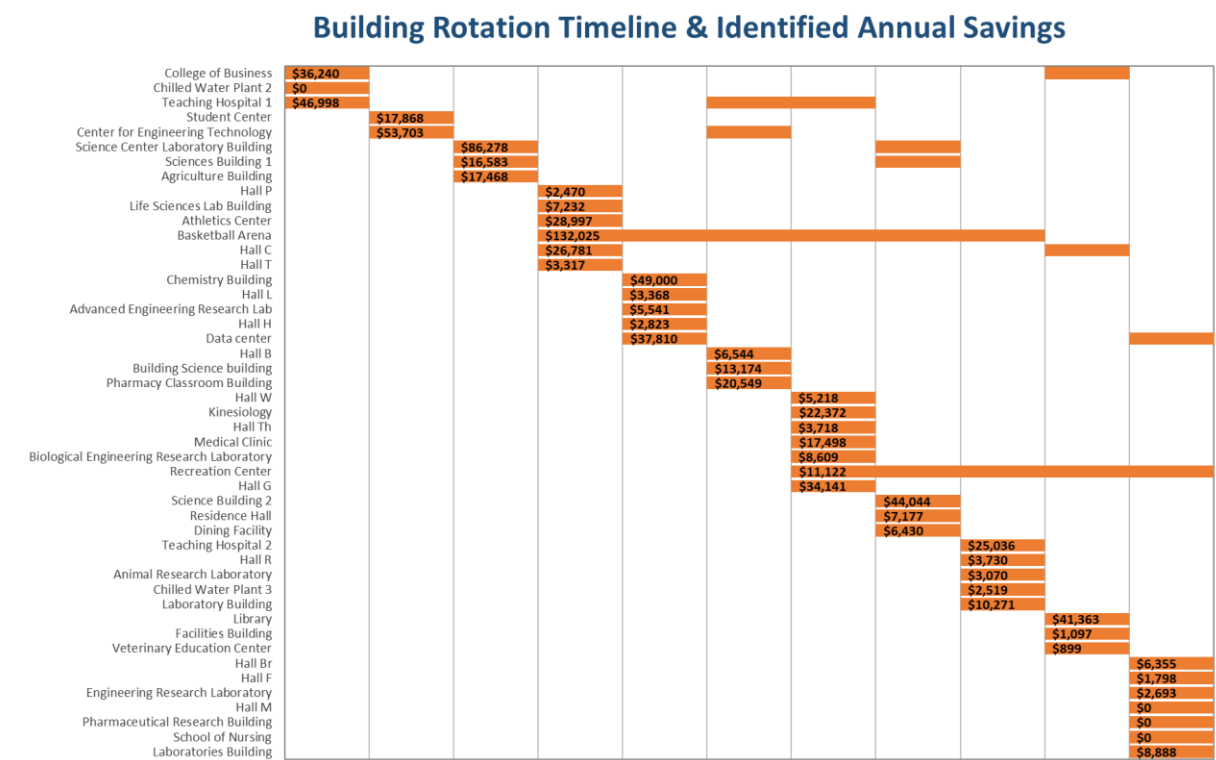


# Two Different Building Selection Approaches

## Campus-wide Deployment



## Building Rotation



# Task Assignment

CREATE NEW ISSUE TASK

Name:

Owner:

hwebb@cimetrics.com

Owner Group:

Analyst

Public:

☒

Status:

Created

Assigned to:

Creation Date:

01/20/2021

Assigned To Date:

01/20/2021

Due Date:

Completion Date:

Work Order Number:

Create

Cancel

Tasks

Calibrate PHT DAT Sensor is Assigned, Work order: 5789956, Assigned to Alexander Farren No due date

Now

+ Add Comment

Julianne Rhoads

Created Task [Calibrate PHT DAT Sensor], Assigned Task to Alexander Farren

03/03/2020

Task Assigned

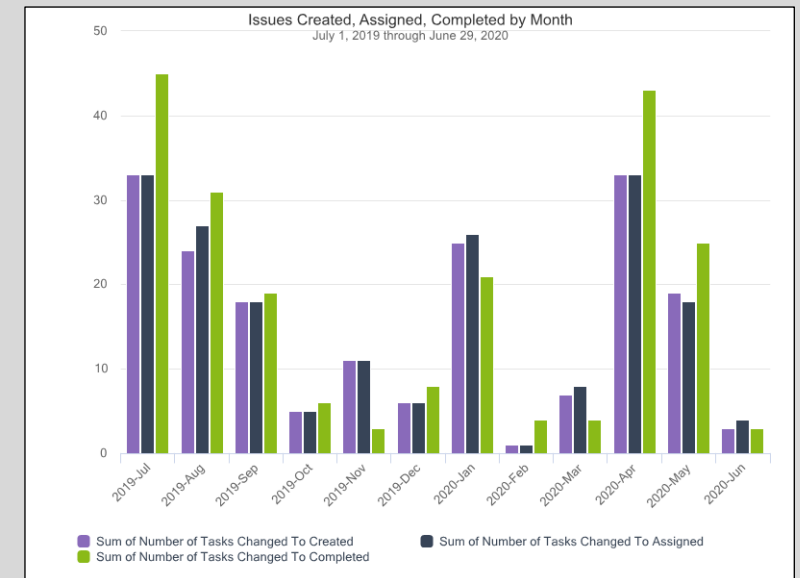
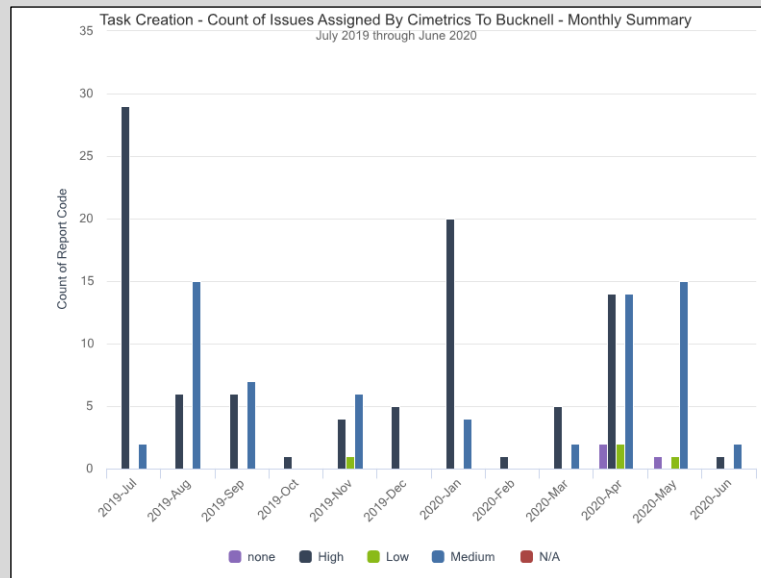
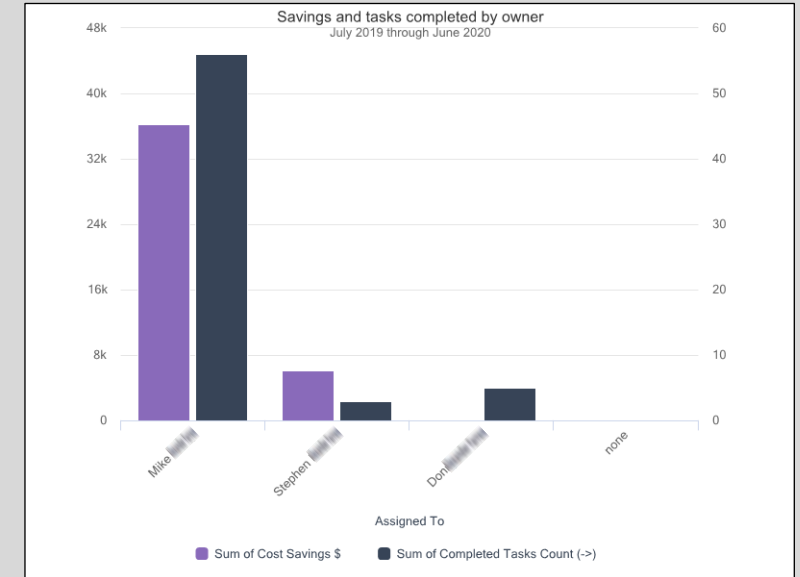
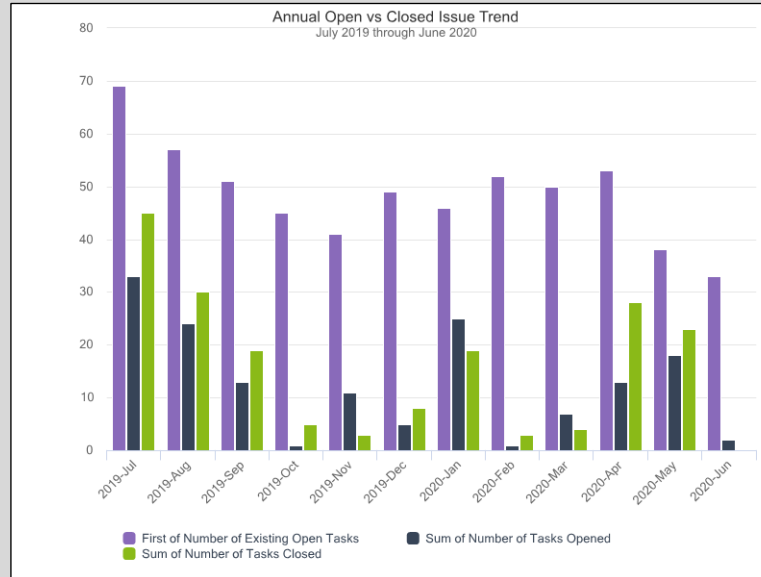
03/03/2020

Task Created

03/03/2020

View: <div>Tasks</div>															Issue Creation Date <div></div> : <div><div><div></div></div>Fri, 1 Nov, 2013</div> to <div><div></div></div> Mon, 1 Feb, 2021										<div><div></div></div> <div><div></div></div> <div><div></div></div> <div><div></div></div>			
<div></div>	Issue Name <div></div>	Issue Number <div></div>	Task Status <div></div>	Priority <div></div>	<div></div> <div></div>	Task <div></div>	Issue Creation Date <div></div>	Assignment Date <div></div>	Due Date <div></div>	Completion Date <div></div>	Assigned To <div></div>	Work Order Number <div></div>	Latest Task Comment <div></div>		Days Open <div></div>													
<div></div>	AHU-8_01 Preheat DAT, DAT Sensor Calibration	68KUP-08-003-c	Assigned	High	\$0	Calibrate PHT DAT Sensor	03/03/2020	03/03/2020			Alexander Farren	5789956			323													
<div></div>	AHU-09_06 economizer sequence	68KUP-09-006	Assigned	High	\$9 K	Investigate damper adjustment to provide min OA	01/02/2014	02/20/2020			Alexander Farren				335													
<div></div>	AHU-08_03 preheat and cooling valves open simultaneously	68KUP-08-004	Completed	Medium	\$0	tuning the pneumatic valve actuators with a Spirax Sarco technician	12/15/2013	08/15/2019	10/01/2019	10/01/2020		5107398			413													
<div></div>	AHU-09_06 economizer sequence	68KUP-09-006	Completed	High	\$9 K	Enable Economizer Mode	01/02/2014	07/11/2019		08/15/2019	Alexander Farren	5107507			35													

# Task and Performance Tracking



## Create custom views by editing columns and filters

**ANALYTIKA** | HOME | EXECUTIVE DASHBOARD | **MY ISSUES** | UTILITY MANAGER | FAVORITES | GRAPHS | EQUIPMENT | REPORTS | ADMIN | HELLO, HADAS | HELP

Filter View x

Reset All

- Building ☒
- Status ☒
- Priority
- 24 Hr Evidence
- Latest Evidence
- Owner Group
- Public
- Owner
- Has Issue Number
- Cost Savings ☒
- Percent Implemented
- Latest Update ☒
- Date Opened ☒
- Issue Type
- Task Creation Date
- Task Assigned Date
- Task Completion Date
- Management Type
- Report Categories
- Incentive
- Fault Days
- Fault Percent

View: Gold List

Issue Creation Date: Fri, 1 Nov, 2013 to Mon, 1 Feb, 2021

Status	Priority	Implemented Percent	Incentive	Customer Comments	Report Comments
New	High	\$6 K	0 %	Rescheduling proposed by [redacted] : In the past, AHU-05_11 or 05_13 serve office spaces, however one of them also serves a room with Nitrogen. This could be a safety issue. (2020-04-14) Smart warm-up in metasys; probably turning on to get the zones up to temperature. Large mechanical space in this building that is not insulated very well, lot of exterior walls. Zones get cold during winter.	Assess command point; ensure supply fan is operating according to the intended occupancy point.
Updated	High	\$5 K	0 %	Rescheduling proposed by [redacted] SUBMITTED REQUESTS TODAY FOR NEW SHUTDOWN SCHEDULES. (2020-11-19) below are agreed upon AHU operating schedules that require programming: M-F: Occupied 6AM - 6PM Weekends: Unoccupied Unoccupied heating setpoint: 65 degF Unoccupied cooling setpoint: 85 degF (2020-11-19) AHUs 11-1, 11-2, 11-3, and AHU-3-5: we have an SME coming on Jan. 26 2021 to investigate. ([redacted] 2020-01-19)	Implement new operating schedule; 6AM-6PM Weekdays
Pending	High	\$5 K	0 %	AHU-03_03A is observed to have a leaking Chilled Water Valve	Unit is not running; issue is pending (this is a lead/lag unit with AHU-03_03). Evaluate Chilled Water Valve Operation. Assess supply fan operation; is this unit in commission?
Updated	Medium	\$5 K	0 %	AHU-10_01 Passing HW, CHW Valves	Inspect the preheat and CHW valves, ensuring the valves modulate 100 open/closed when signaled to be so.
Updated	High	\$2 K	0 %	AHU-11_2 Scheduling	Rescheduling proposed by [redacted] SUBMITTED REQUESTS TODAY FOR NEW SHUTDOWN SCHEDULES. (2020-11-19) below are agreed upon AHU operating schedules that require programming: M-F: Occupied 6AM - 6PM Weekends: Unoccupied Unoccupied heating

Filter on issues currently occurring to target field work

Filter on evidence date range to weed out seasonal issues

Filter on issue type to streamline materials and work orders

Filter on fault days/percent to find most frequent issues

## Custom Issue Views

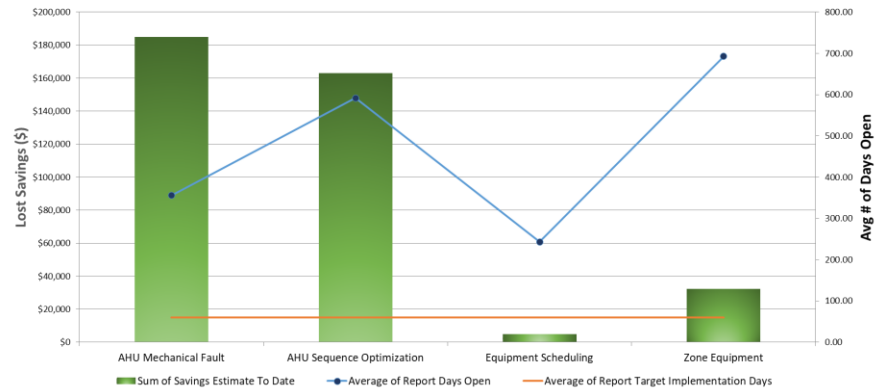
- Custom views help streamline implementation based on categories such as:
  - Similar issues types (e.g. leaking valves, failed sensors): aids in material and vendor management
  - Highest energy cost savings
  - Incentive eligible
  - Building or area
- Options to print issue list for quick hand-off or link directly to saved view

# KPI Tracking Visualizations

**Analytika # of Days Open & Lost Savings**

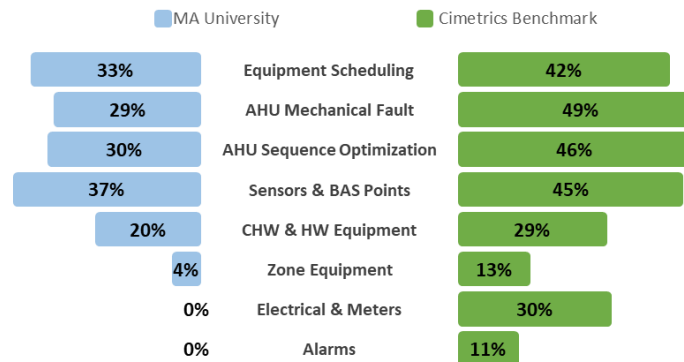
*Average Days Open: 471*

*Total Lost Savings: \$385,099*

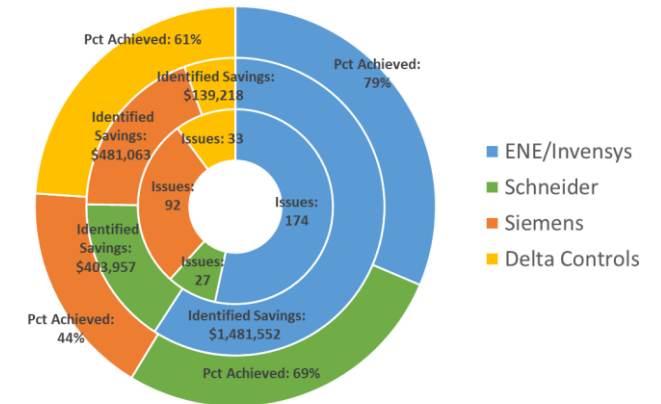


**Issue Implementation Rate vs. Cimetrics Benchmark**

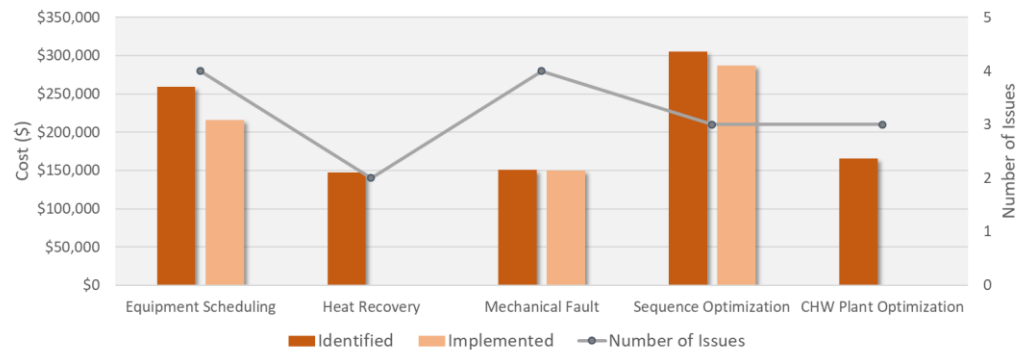
Percent of issues that have been implemented in each category



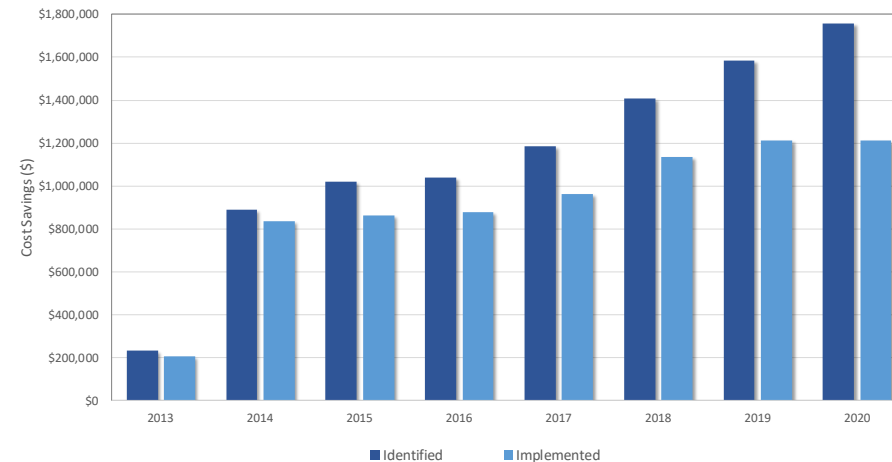
**Annual Savings & Issue Count**



**Energy Savings By Issue Type**



**Cumulative Annual Energy Savings 2013 - Present**





Link relevant documents  
(drawings, photos, etc.)  
with associated  
equipment from the  
Equipment tab...

BROWSE EQUIPMENT

1 FILTER EQUIPMENT BY CATEGORY

BUILDING (26)	CATEGORY (5)	MAJOR EQUIPMENT (9)	TYPE (3)
No Filter	No Filter	No Filter	No Filter
Across All (*)	Across All (*)	Across All (*)	Air Fan
EAST_03	Air Distribution System	AHU-05_11	Air Fan Variable Speed Drive
EAST_04	Central Plant	AHU-05_13	Air Handling Unit
EAST_05	Conditioned Spaces	AHU-09	
EAST_10	Utilities	AHU-11	
EAST_11		AHU-13	
EAST_12		AHU-14	

2 FILTERED EQUIPMENT - Select an Equipment


Building	Category	Commodity	Floor	Zone	Major Equipment	Type	Equipment	Documents
EAST_05	AIR_DIST	*	*	*	AHU-05_13	Air Handling Unit	AHU-05_13	2  

...and the document  
will be AUTOMATICALLY  
attached to any issues  
for that equipment

Back to Filtered Issues List

Issue: AHU-5\_13

Issue Profile	Description	Impact
Access: Public Analyst Issue	<b>AHU-5_13 Scheduling</b>	53 Metric Tons
Issue Number: 05-002-c	Assess command point; ensure supply fan is operating according to the intended occupancy point.	76 MWh
Priority: High	Rescheduling proposed by David R. In the past, AHU-05_11 or 05_13 serve office spaces, however one of them also serves a room with Nitrogen. This could be a safety issue. (2020-04-14)	220.3 MMBtu
Status: New	Smart warm-up in metasys; probably turning on to get the zones up to temperature. Large mechanical space in this building that is not insulated very well. Int of exterior walls. Zones	\$6,155
Detection Date: Tuesday, 19 January 2021		
Issue Type: Equipment Schedule Symptoms		
Issue Source: Analytika		

Description	Evidence	Impact	Resolution	Notes	Documents (2)
					

Document Name	Equipment	Category	Comment	Upload Comment	Owner	Owner Group	Public	Creation
5-13 JCI graphics screenshot	AIR_DIST/AHU-05_13	Workstation Diagram			jrhoads@cimetrics.com	Analyst	True	01/20/2021
AHU 5-13 Test and Balance	AIR_DIST/AHU-05_13	Balancing Report			jrhoads@cimetrics.com	Analyst	True	01/20/2021

# Fun With Graphs!

## Document Attachments

Click  
paper to  
view linked  
documents

Click  
arrow to  
upload  
documents

**QUESTIONS?**



# WHAT'S NEXT



## Next Analytika Users Forum session:

- March 2021

## Future topics:

- Analytika for Process
- Resource deployment & task tracking for efficient issue resolution
- Collaboration between multiple internal & external parties

## Learn more:

- Sign up to be notified about future events:  
<https://www.analytika.com/analytika-users-forum/>
- Learn more about Analytika:  
<https://www.analytika.com/>
- Contact me! [hwebb@cimetrics.com](mailto:hwebb@cimetrics.com)