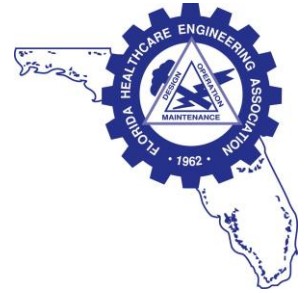




**FSI**



**Atrium Health**



# From Good to Great: How to Make Your CMMS Better

May 2025



**Dennis Ford, MHA, CHFM, CHC, FASHE**  
**Corporate Support Services**  
***Plant Operations & Maintenance (POM)***



Over 30 yrs of Healthcare Facilities Engineering experience

2025 President-Elect, [American Society for Healthcare Engineering \(ASHE\)](#)

Faculty, the University of Texas San Antonio ([UTSA](#)) online Facility Management Masters Program

MHA from [Texas A&M](#)

Work experience includes:

- Atrium Health / Advocate Health
- Texas Children's Hospital
- Univ of Texas Medical Branch (UTMB)
- Baptist Healthcare System
- USAA Insurance Company
- Drawbase Software
- United States Air Force Medical Service Corps (USAF MSC)





**Joe Stockman**  
**Director Of Product Experience**



Almost 30 years of Healthcare CMMS experience, focusing on improving the user experience and the design of CMMS products.

Joe Stockman has a wealth of experience in product management, customer success, and software development.

Work experience includes:

- Four Rivers (TMS)
- TeleTracking
- FSI (CMS)
- Consulting
- Asset Inventory (Millions of Sq Ft)
- End User Training
- Data Conversions



# Facility Management

## MASTER'S PROGRAM

The Master of Science in Facility Management is designed to educate and equip facility management students with advanced knowledge and specialized skills to enhance their performance and professional qualifications.

**Facilities Management Master's Degree  
UTSA – 100% Online**

**Facilities Management Graduate  
Certificate – first 5 courses**

<https://online.utsa.edu/programs/master/facility-management/>



**Shalita Myrick**  
**Principal Facilities Project Manager**  
The University of Texas  
**MD Anderson Cancer Center**

**Master of Science in Facility Management**  
**First Graduate (Fall 2022) UTSA 100% online**

<https://online.utsa.edu/blog-content/shalita-myrick-student-spotlight/>

### To complete the online master's degree, you'll take ten courses in key areas:

- Facilities Management Professional Trends
- Operations and Maintenance of Built Assets
- Project Management, Planning, and Execution
- Business and Financial Aspects of Facilities Management
- Facilities Management Leadership and Strategy
- Energy Management & Sustainable Facilities
- Human Factors and Resources
- Quality, Productivity & Technology
- Environmental Health, Safety, Risk Management, and Business Continuity
- Graduate Capstone Project: Solving Problems in Facilities Management



## FM 5713 Course Modules:

1. Asset Management & Quality
2. Asset Commissioning and Life Cycle Management
3. Total Quality Management, Quality Management Systems and Quality Control Measures
4. CMMS
5. Writing Functional Software Requirements
6. Data & Software Quality Control
7. Productivity, CMMS data & KPIs
8. Change Management and Document Management
9. Maintenance Strategies
10. Facility Condition Assessment and Operational Excellence
11. FM Software Applications
12. Software Evaluations and Implementation

The image shows a screenshot of a website with a dark grey header and a white modal window. The header contains navigation links: Programs, Admissions, Cost and Aid, Student Resources, and About UTSA. The modal window is titled "FM 5713. Quality, Productivity & Technology in Facility Management" and contains a description of the course. A red "Close" button is located at the bottom right of the modal. The background of the website is slightly blurred, showing various course titles and a "Contact Us" button.

Programs Admissions Cost and Aid Student Resources About UTSA

Management Professional Trends Maintenance: Management of Management Contact Us Apply

Execution of Projects

FM 5713. Quality, Productivity & Technology in Facility Management

Course will provide foundational concepts relating to facility management technology and how it is used to assure quality, productivity and operational excellence in facility operations. Includes the use of technology, quality assurance, economics and life-cycle cost analysis and performance measurement & operational reporting to advance the productivity of facilities staff & provide customers and stakeholders with excellence in FM Services.

Close

FM 5313. Finance and Business: Financial Aspects of Facilities Management

FM 5513. Energy, Utilities & Environmental Stewardship: Energy Management & Sustainable Facilities

FM 5613. Human Factors and Resources in Facilities Management

FM 5813. Environmental Health, Safety, Risk Management, and Business Continuity in Facilities Management

FM 5903. Graduate Capstone Project – Solving Problems in

# How do I make my CMMS better?

## 1. Standardized Nomenclature

- a. Assets
- b. Functional Areas (Impacted areas)

## 2. Ensure Quality of Data

- a. Total Quality Management
- b. Quality Control Measures
- c. Data and Software Quality Control

## 3. Manage Asset Life Cycle

## 4. CMMS Requirements

- a. Productivity
- b. KPIs
- c. Maintenance Strategies (ITMs)
- d. Facility Condition Assessments
- e. Operational Excellence

## 5. Software Implementation/Change Management



# Standardized Nomenclature (Assets)

---

- **Know what's in the box**
  - *Asset Inventory*
  - Develop a reliable inventory of all Facilities Assets
  - Inventory must be practical and maintainable
- **Label what's in the box**
  - *Asset Tagging*
  - Standardize the Inspection, Testing and Maintenance (ITM) and Risk Management Programs
  - Common approach to regulatory compliance
- **Manage what's in the box**
  - *Standardization*
  - Standardize Management and Contracting Practices
  - Leverage opportunities for cost savings and contract management



<https://www.thetoyinsider.com/whats-in-the-box-game-review/>

# Standardized Nomenclature (Assets)

- **Standardization**

- Introduced as Design Standard
- Included in Bases of Design (BOD)
- BIM Standards are set
- Regulatory Compliance drives some requirements

- **Benchmarking**

- Multiple facilities within same organization
- Other organizations
- Professional Development organizations

- **Data Quality**

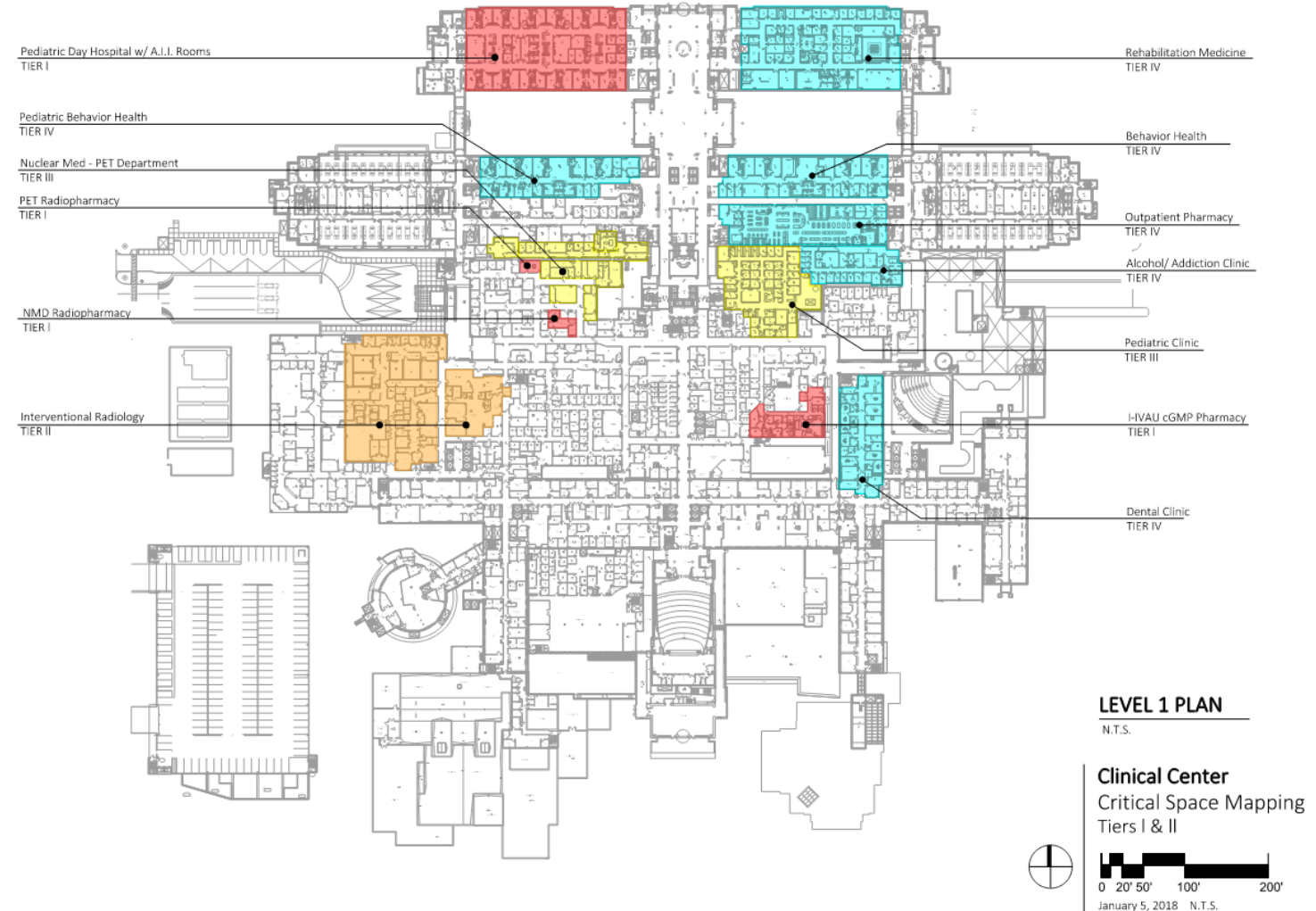
- Reports including exception reporting
- Searches
- Dashboards



<https://www.plaquemaker.com/stainless-steel-asset-tags?quantity=1&width=4&height=2&production-style=2&backing=22&shape=2&print-color=3&qr=2&mounting=3&size=1>

# Standardized Nomenclature (Functional Areas)

- A functional area is an extent of space or surface serving or supporting interrelated units with persons and equipment with common goals
- Spaces are grouped into functional areas (i.e., “Departments”)
- Starting at system level and form asset chains (e.g., parent-child relationship)
- Risk assigned to assets based on functionality and space/area served
- Naming of rooms is important from a regulatory perspective



# Development of Standardized Functional Areas

Department or Other Functional Area	FGI Reference
Building Support   Engineering and Maintenance Services	2.1-5.6
Building Support   Environmental Services	2.1-5.5
Building Support   Materials Management	2.1-5.3
Building Support   Waste Management	2.1-5.4
Clinical Service   Laboratory Services	2.1-4.1
Clinical Service   Pharmacy Services	2.1-4.2
Clinical Support   Linen Services	2.1-5.2
Clinical Support   Morgue Services	2.1-5.7
Clinical Support   Sterile Processing	2.1-5.1
Clinical Support   Transfer Support	1.3-3.7
D&T   Electroconvulsive Therapy	2.5-3.4
D&T   Emergency Services	2.2-3.1
D&T   Endoscopy Services	2.2-3.11
D&T   Hyperbaric Suite	2.2-3.13
D&T   Imaging Services	2.2-3.4
D&T   Infusion Therapy	2.2-3.12
D&T   Intensive Outpatient and Partial Hospitalization Program	2.2-3.14
D&T   Observation Unit	2.2-3.2
D&T   Pre- and Post-Procedure Patient Care Areas	2.1-3.4
D&T   Radiation Therapy	2.2-3.5
D&T   Rehabilitation Therapy	2.6-3.1
D&T   Renal Dialysis Services	2.2-3.10
D&T   Respiratory Therapy	2.2-3.9
D&T   Surgical Services	2.2-3.3
D&T   Telemedicine Services	2.1-3.3
Food and Nutrition Services	2.1-4.3

Patient Care   Alzheimer's and Other Dementia Patient Care Unit	2.5-2.4
Patient Care   Bariatric Patient Care Unit	2.2-2.14
Patient Care   Behavioral Health Crisis Unit	2.2-2.17 (2022 Guidelines)
Patient Care   Burn Trauma Critical Care Unit	2.2-2.16 (2022 Guidelines)
Patient Care   Critical Access Patient Care Unit	2.4-2.2
Patient Care   Critical Care Unit	2.2-2.6
Patient Care   Forensic Behavioral and Mental Health Patient Care Unit	2.5-2.5
Patient Care   General Behavioral and Mental Health Patient Care Unit	2.5-2.2
Patient Care   Hospice Patient Care Unit	2.2-2.15
Patient Care   In-Hospital Skilled Nursing Patient Care Unit	2.2-2.13
Patient Care   Intermediate Care Unit	2.2-2.5
Patient Care   Medical/Surgical Patient Care Unit	2.2-2.2
Patient Care   Neonatal Intensive Care Unit	2.2-2.8
Patient Care   Nursery Unit	2.2-2.10
Patient Care   Obstetrical Unit	2.2-2.9
Patient Care   Oncology Patient Care Unit	2.2-2.3
Patient Care   Patient Living Areas	2.6-2.3
Patient Care   Pediatric and Adolescent Oncology Patient Care Unit	2.2-2.4
Patient Care   Pediatric and Adolescent Patient Care Unit	2.2-2.11
Patient Care   Pediatric Behavioral and Mental Health Patient Care Unit	2.5-2.3
Patient Care   Pediatric Cardiac Critical Care Unit	2.7-2.7
Patient Care   Pediatric Critical Care Unit	2.2-2.7
Patient Care   Pediatric Medical/Surgical Patient Care Unit	2.7-2.2
Patient Care   Rehabilitation Patient Care Unit	2.6-2.2
Public and Administrative Areas   Administrative Areas	2.1-6.3
Public and Administrative Areas   Landscape Design Features	1.3-3.6
Public and Administrative Areas   Outdoor Parking	1.3-3.4
Public and Administrative Areas   Public Areas	2.1-6.2

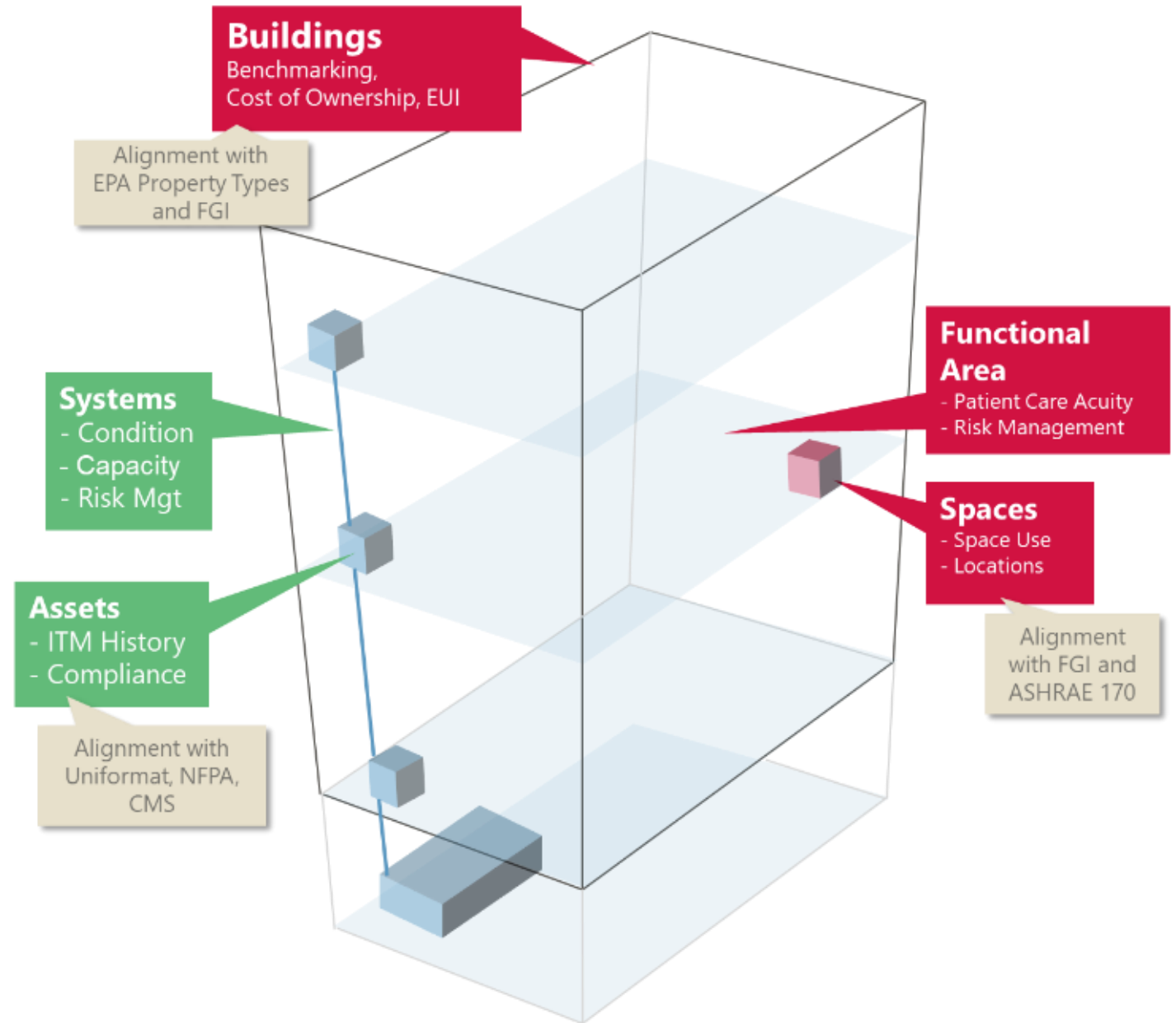
## What?

Develop a classification for buildings and their functional elements.

## Why?

Provide planners, designers, and operators with a common nomenclature.

Standardization of nomenclature and hierarchy, i.e., parent-child relationships.



## Value generation

Data-driven optimizations

- Risk Assessments
- Resourcing
- Investments

## Standardized Processes

Effective, efficient maintenance & operations processes, *ITM, Risk Assessments*

## Standardized Foundational Data

Asset and Space Inventory  
*Organized to represent facilities engineering function*

**Capability for Operational Excellence**  
Risk Root Cause Analyses  
Optimization of Infrastructure Investments

Inspections, Testing, Maintenance  
Rounding  
Risk Assessments

Building Infrastructure Data

Functional Program Data

## Value

Improved Customer Satisfaction  
Reduced Failures (Risk)  
Reduced Operational Cost  
Increased Compliance

# Health Care Facilities Management Data Nomenclature Standards

Supported by ASHE and FGI, a group of health care professionals developed five classifications schemas for the following data sets:

- Buildings
- Functional Areas (departments)
- Spaces
- Building Systems
- Building System Assets

These classification schemas are designed to provide health care planners, designers, and operators with a common nomenclature, and to generate these benefits for health care facilities departments:

- Simplify the maintenance of reliable building master records
- Simplify and streamline health care facility risk management
- Increase compliance with regulatory requirements
- Support benchmarking
- Increase visibility into total cost of ownership



**HEALTH FACILITIES**  
MANAGEMENT

Architecture Construction Engineering

INFRASTRUCTURE

## Quantifying excellence for health care facilities

Data standardization project at Yale New Haven Health builds a foundation for better operations

October 12, 2020 | Matthias Ebinger



# Work Order AND Asset Management

- Create data standards for CMMS Work Order configurations
- Data standards are designed to simplify and streamline Work Process, to support a robust Asset Management practice.
  - Goal: All (or most) WOs routing through a single system
  - Single place for tracking and analyzing corrective work and its failure code, including the tracking of “Events”
  - Framework for optimization of work planning and scheduling
- The following data elements should be reviewed:
  - WO Categories                      Classifies work by “nature of work”
  - WO Status                              Represents the process flow
  - WO Trades                              Represents the trade of the work order
  - WO Priority                              Represents the relative importance
  - WO Problem Code                      Classifies problems of corrective WO
  - WO Failure Code                      Provides failure codes for a corrective WO
  - WO Survey                              Gathers feedback from users



## WO Category

Customer Request	Online Atrium Health Call Center CHS Call Center Lincoln Harris Call Center Entered by Facilities Team Member
ITM	Regulatory Life Safety Regulatory Fire Detection and Suppression Regulatory Fire Extinguisher Regulatory Fire Exit Regulatory Water Safety Regulatory Ventilation Regulatory Emergency Power Regulatory Ventilation Regulatory Gas and Vacuum System Regulatory Vertical Transportation Regulatory Gas and Vacuum System Non Regulatory - General Non Regulatory - HVAC Non Regulatory - Plumbing Non Regulatory - Electrical
Corrective Maintenance	Breakfix Correction to ITM Schedule Out-of-Range ITM Reading
Event	
Finding	from External Survey from Energy Connect Program from Mock Survey from Regulatory Agency from Rounding
Facilities Work	Rounding by EOC Team Rounding by Facilities Rounding by Admin Facility-led activities
Project	
Training	

## Example Trades

General Maintenance

Carpentry

Electrical

Painting

HVAC/Refrigeration

Plant

Plumbing

Tube system

Grounds

Fire Safety

Security

Safety

Departmental Equipment

Locksmith

Administrative



<https://reliabilityweb.com/articles/entry/battle-of-the-work-types>

## Simplified Customer Survey Configuration

1	Did we provide quality service?	Strongly Agree   Agree   Disagree   Strongly Disag
2	What could we do to improve our service?	Text
3	What did we do particularly well?	Text

# Data uses for an Inspection, Testing and Maintenance (ITM) Program

---

**Ensure all assets requiring ITMs are properly associated with routine maintenance procedures/tasks**

→ Filter for “Missing Schedule” – Assets that are not associated with a procedure.

**Ensure all assets requiring ITMs have schedules for routine maintenance**

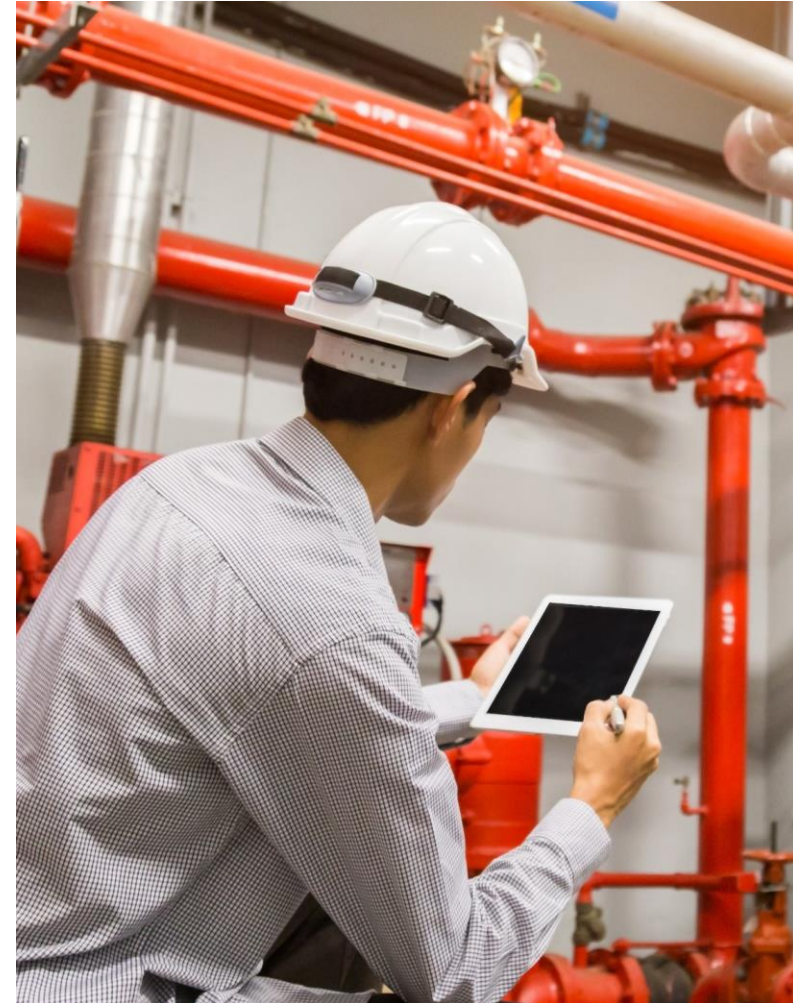
→ Filter for “Inactive Schedule” – Assets that are associated with a procedure, but don’t have an active schedule.

**Ensure assets within the same category have the same associated maintenance procedures**

→ Filter for “Mismatched Procedure” – Assets whose category does not match with the category associated with the procedure.

## **Leading Practice**

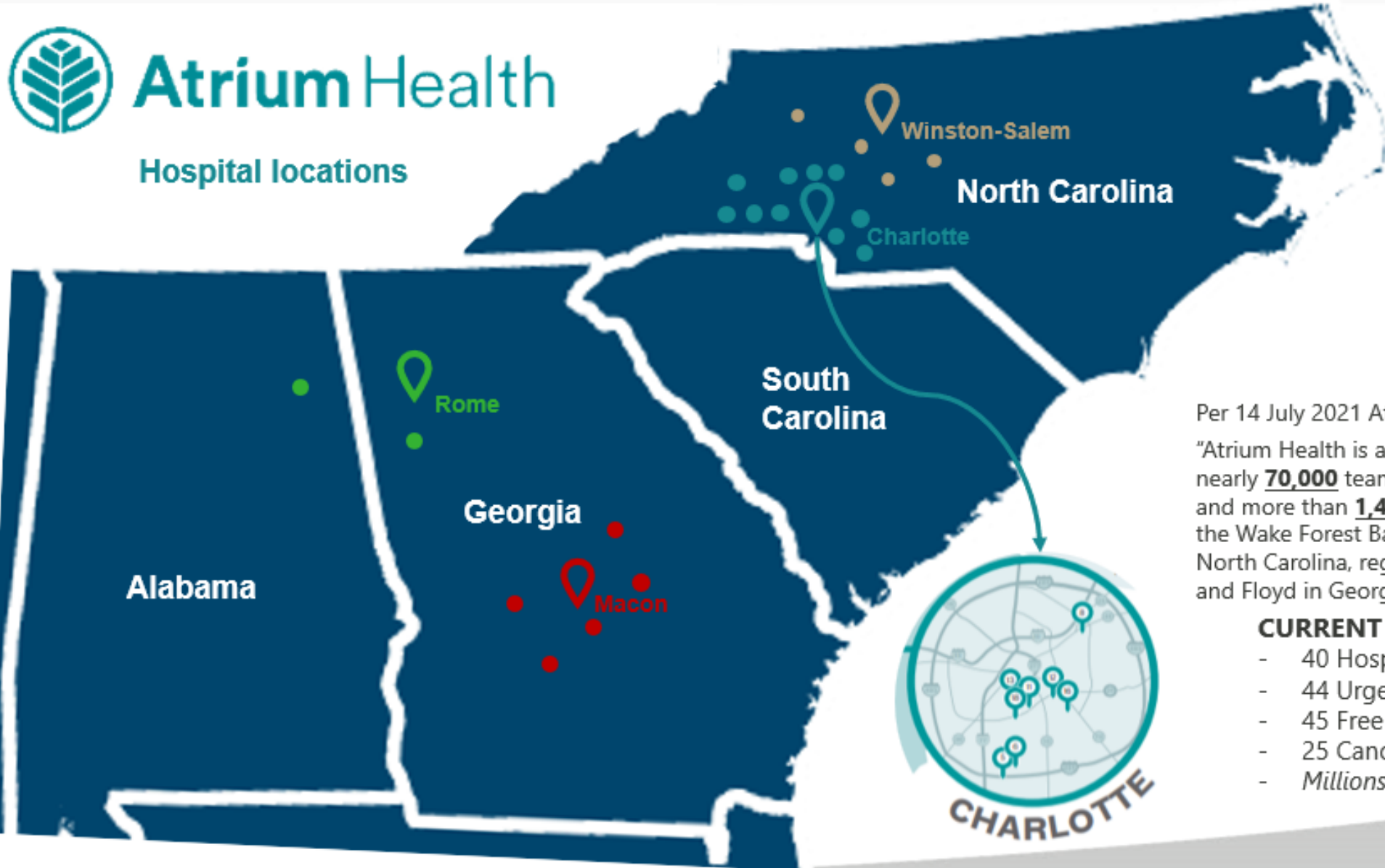
The ITM program has no missing/inactive schedule or missing procedure.





# Atrium Health

Hospital locations



-  **CHARLOTTE MARKET**  
- 18 Hospitals
-  **WAKE FOREST BAPTIST**  
- 5 Hospitals
-  **NAVICENT**  
- 6 Hospitals
-  **FLOYD**  
- 3 Hospitals

Per 14 July 2021 Atrium Health news release:  
 "Atrium Health is an integrated, nonprofit health system with nearly **70,000** teammates serving patients at **40** hospitals and more than **1,400** care locations. It provides care under the Wake Forest Baptist Health name in the Winston-Salem, North Carolina, region, as well as Atrium Health Navicent and Floyd in Georgia."

- CURRENT TOTALS:**
- 40 Hospitals *plus...* {32 locations shown}
  - 44 Urgent Care locations *plus...*
  - 45 Free standing EDs *plus...*
  - 25 Cancer Care locations *plus...*
  - Millions of square footage

# Overview



## Atrium Health

- Size and location of hospitals
- Investment into CMMS
  - Data standardization for over 100,000 assets
  - Data quality and analytics

## Challenge

- Maintain productivity without compromising quality or compliance
- Leverage CMMS data via data analytics
- Develop a strategy
- Standardize Inspection, Testing and Maintenance (ITM) program
- Identify acuity levels and anomalies
- Benchmark against ourselves, then others
- Mitigate risks

## Outcomes:

- Standardized nomenclature
- Structured asset inventory
- Standardized risk assessments
- Leveraged data feeds condition assessments
- Data analyses confirms
- System effectiveness and performance

# Plant Operations & Maintenance (POM)

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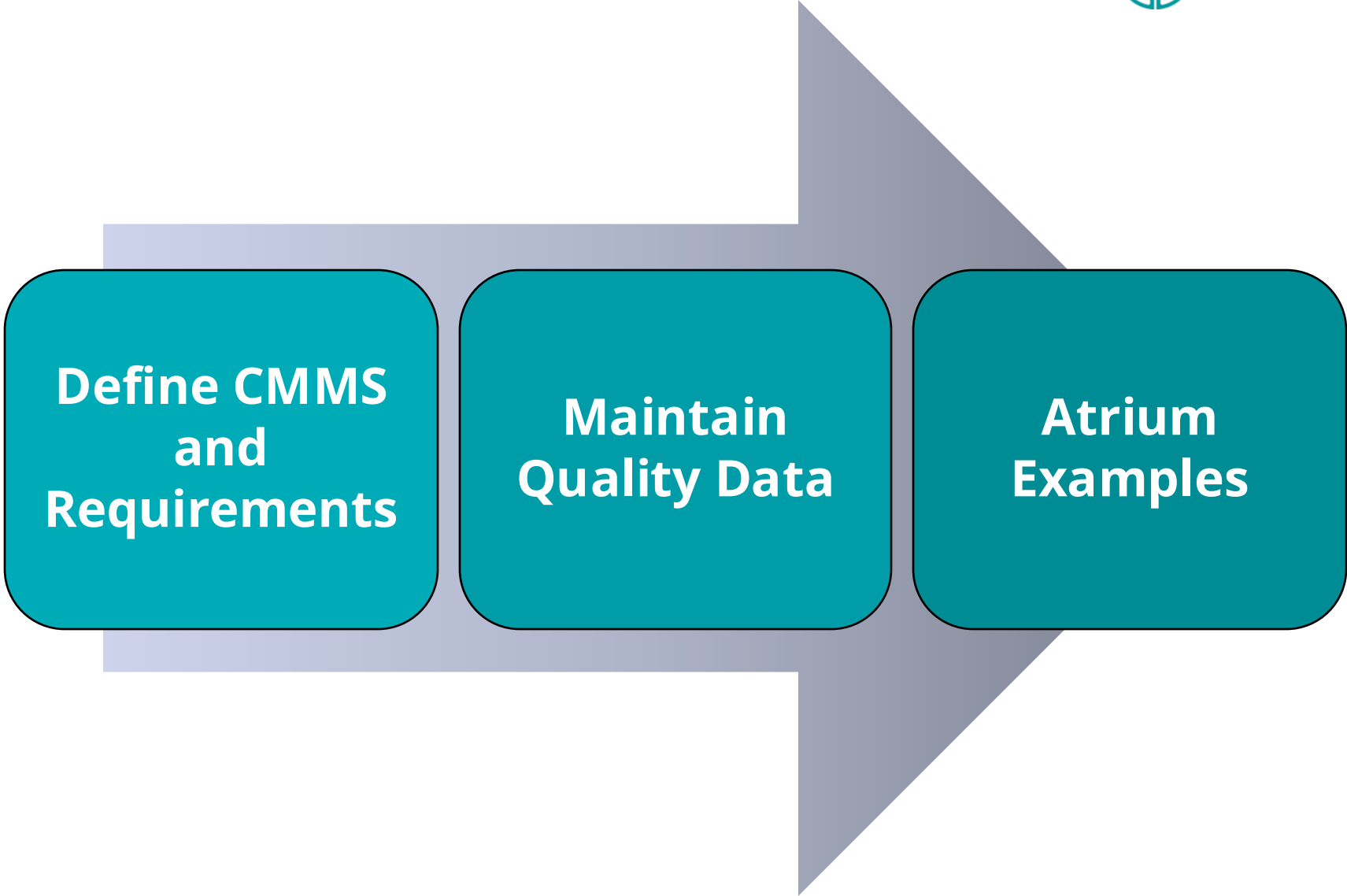
## The Data

- For over a decade, the Facilities Team at Atrium has committed to the creation of reliable data
- For the past seven years, Atrium has been standardized on a single CMMS platform
  - Standardized Asset Categories
  - Single set of ~500 procedures in use consistently across the health system

## The Team

- There are over 265 POM teammates supporting the Atrium Health Charlotte market
- Continuously looking for opportunities to proactively reduce cost
- Labor benchmarking: Atrium POM operates at the 35<sup>th</sup> percentile of their peer group (per Premier)
  - Analysis is based on a metric (worked hours, supply costs, etc) per Adjusted Patient Day
  - Primary metric is WHpU → Worked Hours per Adjusted Patient Day (the “Key Indicator”)

To achieve further optimization, Atrium realized it had to drive optimization leveraging its CMMS platform more effectively



# Basic Elements of a CMMS

---

## Definition

- CMMS – Computerized Maintenance Management System (Coined in the 1960's)
- A tool that helps businesses manage maintenance activities
- Improve efficiency, reduce costs, and document work



Work Order  
Management



Preventative  
Maintenance



Asset Management



Reporting, Analysis,  
and Auditing

# Healthcare CMMS Common Requirements

---

Work Orders

Inspection  
Testing  
Maintenance

Asset  
Management

Reporting

Compliance

Ease of Use

Fast

Mobile

Materials

Secure

Environment  
Of Care

Patient  
Satisfaction

# Transformation for Growth



## Atrium Health

- Size and location of hospitals
- Investment into CMMS
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## Challenge

- **Maintain productivity without compromising quality or compliance**
- **Leverage CMMS data via data analytics**
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- Standardized nomenclature
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- System effectiveness and performance

# Maintaining Quality Data



**Standardize Inspection, Testing and Maintenance (ITM) program**

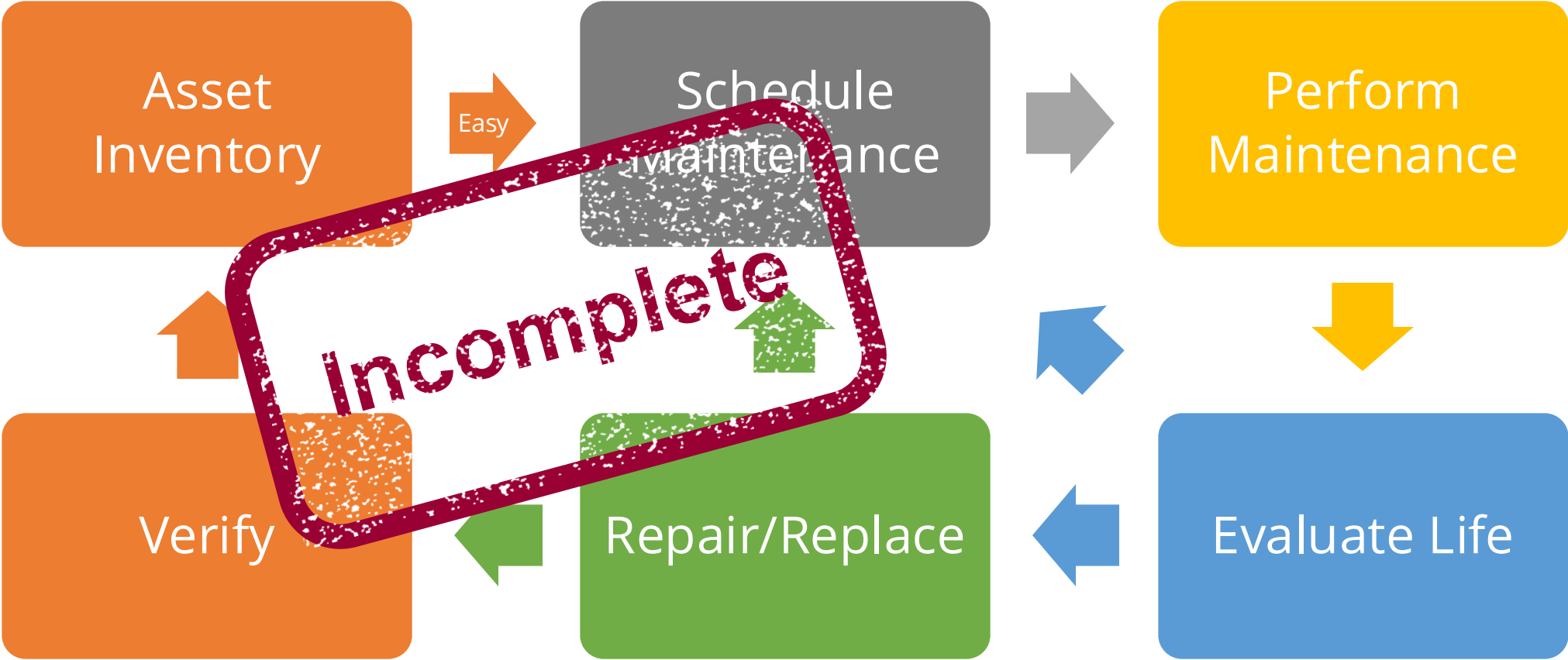


**Maintain productivity without compromising quality or compliance**

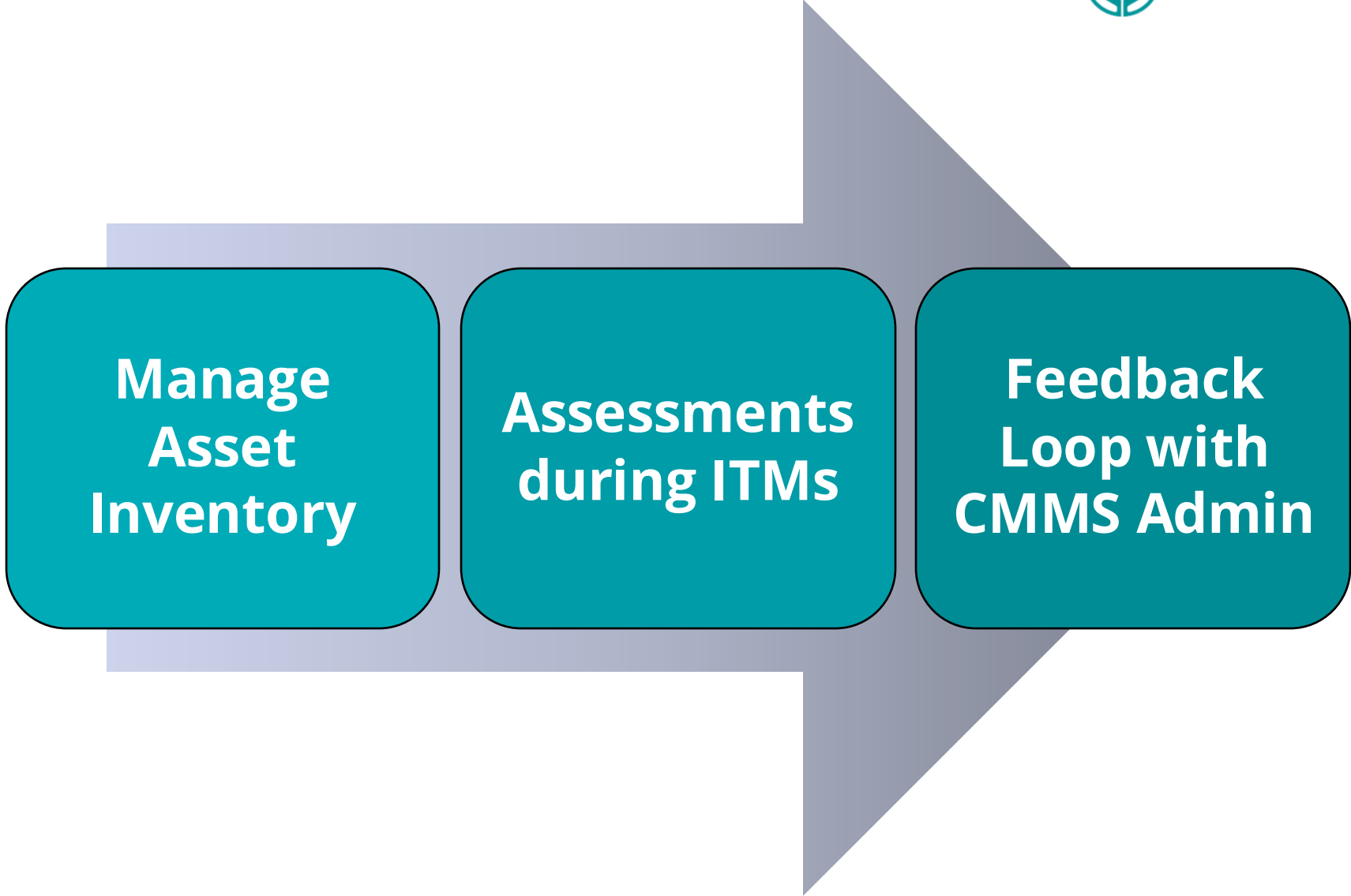


**Leverage CMMS data via data analytics**

# Maintaining Quality Data



# Maintaining Quality Data



# Maintaining Quality Data

**Outcomes:**

- Know what you have and where it is
- Keeps technicians from missing inspections
- Easy for new employees to find assets

The screenshot displays the TOOLBOX software interface for a facility named 'WF - Highpoint'. The interface includes a search bar, navigation buttons for 'Asset' and 'WO', and a sidebar menu with options like 'Dashboard', 'Work Orders', 'Assets', 'Procedures', 'Procedure Schedules', 'Contracts', 'Companies', 'Models', 'Contacts', and 'Materials'. The main view shows a floor plan of the 1st Floor with five smoke compartments color-coded: Smoke Compartment 1 (pink, 17414 SF), Smoke Compartment 2 (green, 10349 SF), Smoke Compartment 3 (purple, 2209 SF), Smoke Compartment 4 (orange, 13119 SF), and Smoke Compartment 5 (light blue, 10906 SF). Numerous fire extinguisher icons are overlaid on the floor plan, indicating their locations. A legend in the bottom right corner states 'THIS FLOOR IS BUSINESS OCCUPANCY' and provides a 'Life Safety Legend - SUITES & SMOKE Compartments' with color-coded boxes for each compartment.

# Maintaining Quality Data



**Be vigilant in adding new equipment**



**What about removing equipment?**



**Assessing equipment condition**



**Document changes**



**You're never DONE!**

# Asset Management System for Value Assurance at Every Life Cycle Phase

## 10 RIGHTS OF ASSET LIFECYCLE MANAGEMENT



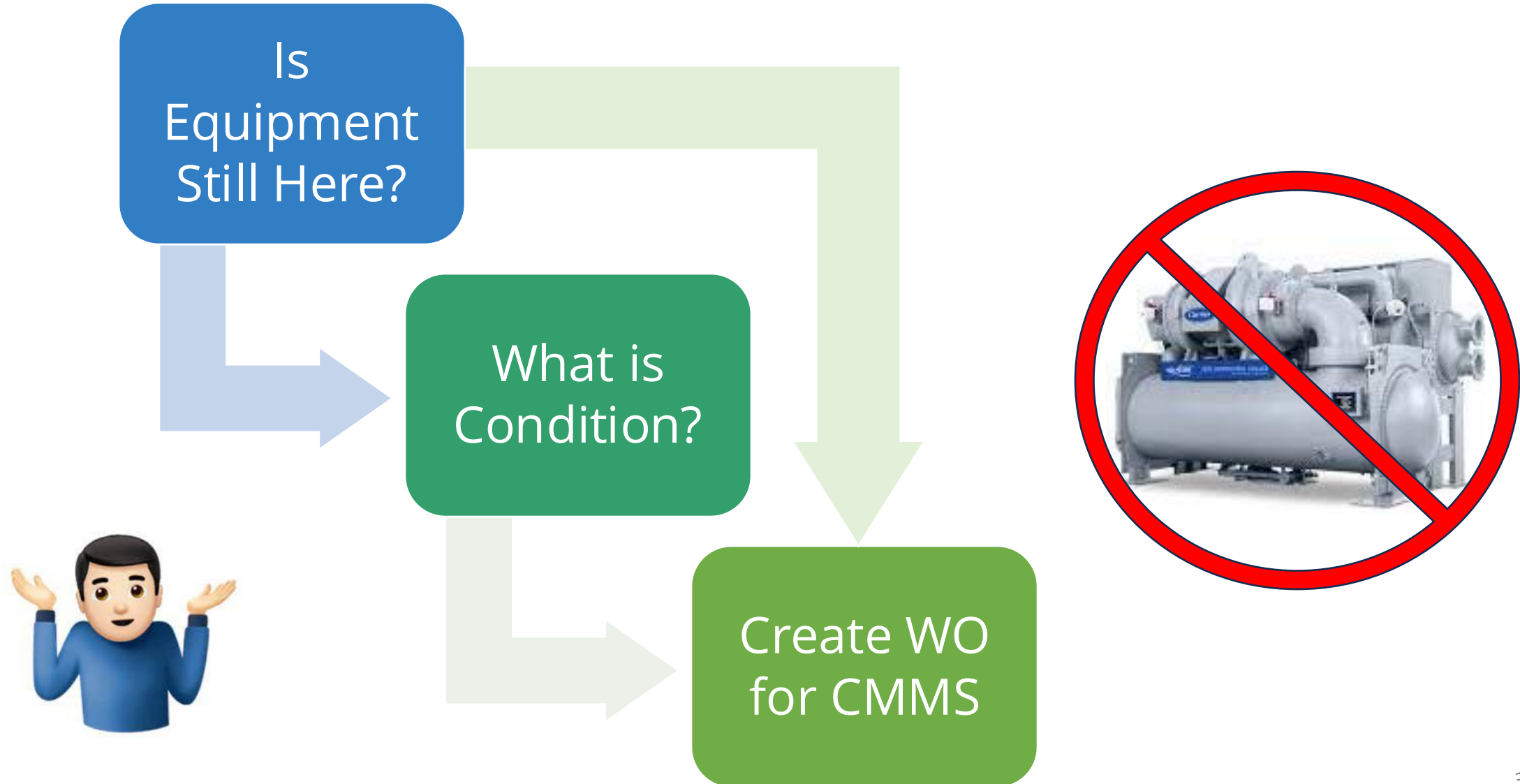
Asset Lifecycle



## Cross-Functional Defect Elimination Teams



# Maintaining Quality Data



# Development of Standardized Functional Areas

## Maintaining Quality Data

### Outcomes:

- Empower Technicians to let CMMS admin know equipment is missing or has the wrong procedure
- Stop Technicians from completing PMs for Out of Service Assets

### Procedures

Failed Readings 0

Air Handling Unit Filter | Semi-annual Pass All

1) Check filter(s) cleanliness. 2) Replace filter(s) if necessary. 3) Clean frame, filter box, and insufflation chamber. 4) Make sure there are enough filters on hand (or in storage) for future changes. Order more if necessary. Note If parts were needed, please document them as attached materials to this work order. Updated for use on handheld device 11/09/2020

● 085420 FILTER HOUSING - HEPA - HEF-6 Atrium Health Cabarrus Surgery Center - 02 SURGERY CENTER - PENTHOUSE Pass

Are there defects that require follow-up with a corrective work order? If so, select yes and provide detailed comments below, which will then go into the automatically triggered CM.

Last Reading: 12/20/2023 8:46 AM - No

Yes No

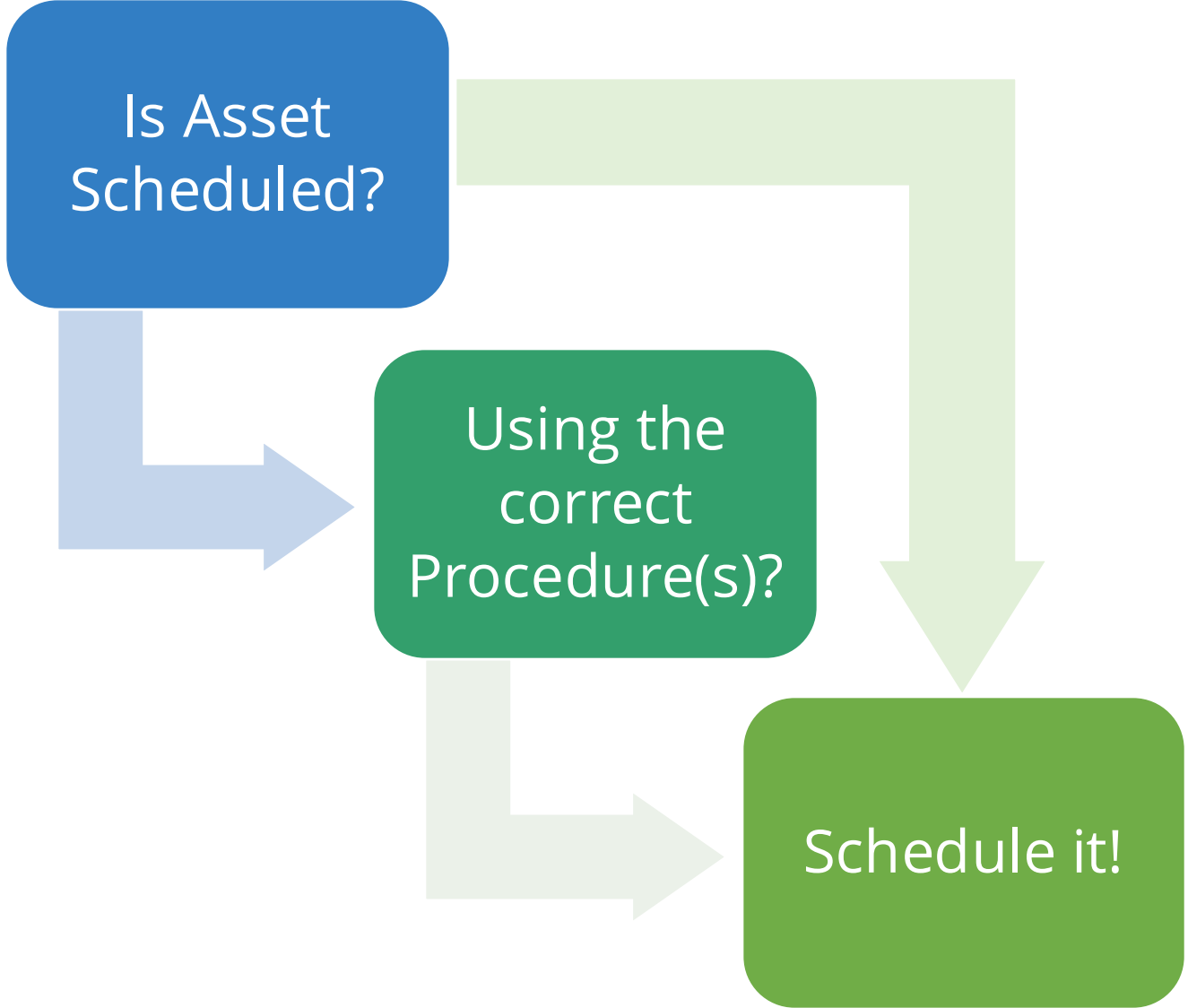
Does this procedure or the asset information need to be updated? If so, select yes and provide detailed comments below, which will then go into the automatically triggered CM. This CM will be routed to your Asset Information Professional for resolution.

Last Reading: 12/20/2023 8:46 AM - No

Yes No

Required Info Needed Cancel Save

# Maintaining Quality Data



All Assets	Missing Schedule	Mismatched Procedures	Asset Category
150K	1,242	8,249	All
	0.8%	5.5%	Procedure ID: All
			Procedure: All

Assets by Location, Procedure and Category

Asset Category	Procedure	Frequency	Risk	Facility	Current Count
C. Interiors - Doors - Corridor Door	MAG LOCK DOOR INSPECTION - SEMI - ANNUAL - EC 02.03.05. EP 4b	6 Months	Category 3 - Non-High Risk	WF - Winston Campus	9
	Missing Schedule	Missing Schedule	Not risk classified	Atrium - South Region	6
C. Interiors - Doors - Delayed Egress Hardware	Corridor Door   Annual   Regulatory	1 Months	Category 3 - Non-High Risk	Continuing Care - North	37
		1 Years	Category 3 - Non-High Risk	Atrium Health- Mercy	5
				Continuing Care - Central	6
				LH - West Location	1
		12 Months	Category 3 - Non-High Risk	LH - Central Properties	1
				LH - West Location	5
		Delayed Egress Door   Quarterly   Regulatory_	3 Months	Category 3 - Non-High Risk	Atrium - Central Region
Atrium - East Region	2				
Atrium Health - Lincoln	8				
Continuing Care - Central	1				
Not risk classified	Atrium - Central Region				1
Access Control   Quarterly   Regulatory	3 Months	Category 3 - Non-High Risk	Atrium - Central Region	3	
			Smoke Door   Annual   Regulatory	12 Months	Category 3 - Non-High Risk
Atrium Health - University	1				
Atrium Health- Mercy	10				
			Not risk classified	Atrium - South Region	1

**Outcomes:**

- Analytics provides global view of Procedures Missing or Mismatched across entire system
- Allows CMMS Admin to focus on troubled areas

# Maintaining Quality Data



Specific Procedures

Procedure

Has Procedures

Missing Required Procedures

Procedure Schedules   1

## Outcomes:

- Tools assist in correcting troubled areas
- Only show procedures linked to the Asset by Category

Missing Procedures for Asset Category

Search...

<input checked="" type="checkbox"/>		Generation Date		Procedure Number	Procedure Name	Frequency		Readings	Active Schedules
<input checked="" type="checkbox"/>		4/1/2024		33386	Fire Extinguisher - Monthly Inspection Instructions	Monthly Every 1 Month(s)		1	58
<input checked="" type="checkbox"/>		4/1/2024		37951	Fire Extinguisher - Monthly Inspection Instructions - K Tag	Monthly Every 1 Month(s)		1	19

# Benefits - Ice Machine Example



Completed WOs, Asset Count, and Time by Facility > Location Level 1

Facility	Completed WOs Current	Assets Worked On Current	Total Hours Current	Avg Min WO/Asset Current	Completed WOs Comp	Assets Worked On Comp	Total Hours Comp	Avg Min WO/Asset Comp
Atrium - Central Region	550	579	1,271	119.7	643	677	1,483	120.0
Atrium - North Region	557	569	1,137	115.6	576	587	1,195	118.1
Atrium - South Region	337	360	699	103.6	412	435	852	106.6
Atrium Health - Cleveland	179	195	430	107.1	211	227	482	107.1
Atrium Health- Mercy	185	199	413	109.7	190	208	435	109.0
Continuing Care - North	96	159	387	105.2	102	162	371	93.6
Atrium - East Region	224	271	355	75.3	253	302	451	86.7
Atrium Health - Stanly	95	107	181	72.6	103	115	180	68.3
Atrium Health - University	07	07	167	88.6	107	107	100	68.5
<b>Total</b>	<b>2,506</b>	<b>2,729</b>	<b>5,380</b>	<b>104.8</b>	<b>2,810</b>	<b>3,041</b>	<b>6,010</b>	<b>105.8</b>

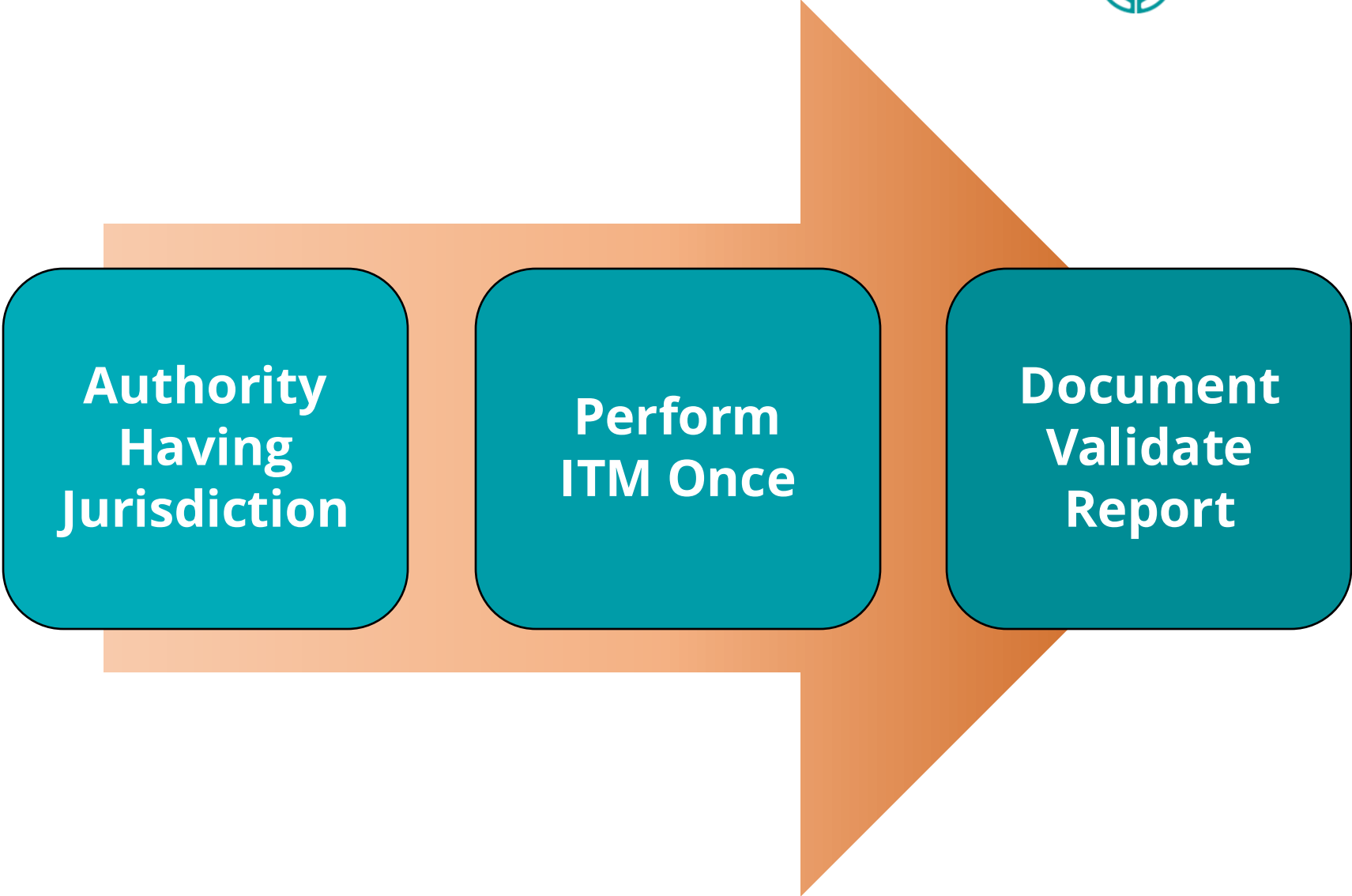


## Outcomes:

- Compare hours between facilities
- Address quality concerns

Completed WOs, Asset Count, and Time by Quarter > Month (All Data)

Quarter Start	Completed WOs	Assets Worked On	Total Hours	Avg Min WO/Asset
01/01/2024	262	323	521	83.9
10/01/2023	747	811	1,705	114.1
07/01/2023	767	828	1,588	101.5
04/01/2023	687	742	1,433	101.4
01/01/2023	659	716	1,417	107.6





## **TJC - EC 02.03.05 - EP 15**

At least monthly, the hospital inspects portable fire extinguishers. The completion dates of the inspections are documented.



## **DNV - PE.2; SR.8 - 4-3.1**

Portable fire extinguishers inspected at approximately 30-day intervals



## **CIHQ - CE-19: Q**

Every month, inspection of portable fire extinguishers is performed in accordance with NFPA 10, 2010 Edition, Section 7.2.1.2.



## **NFPA 10**







NFPA 10 requires extinguishers be inspected when they are initially installed and once a month after that. You should inspect extinguishers more frequently if they are installed in locations where they are more prone to rust, impact or tampering



















# TOOLBOX Compliance Dashboard

Date Range: 1/1/2023 to 12/31/2023

Locations: Atrium Health Cabarrus Heart and Vascular Tower, Atrium Health Cabarrus Medical Arts Building

**Legend**

-  All Inspections completed and passed
-  Incomplete Inspections
-  All Inspections completed but some past due date
-  All Inspections completed and failures resolved
-  Incomplete Inspections and unresolved failures
-  All Inspections completed and unresolved failures

			2023								
Dashboard	Standard		January	February	March	April	May	June	July	August	September
Standard EC 02.05.07	EP 1 At least monthly, the hospital performs a functional test of emergency lighting systems and exit signs required for egress and task lighting for a minimum duration of 30 seconds, along with a visual inspection of other exit signs. The test results and completion dates are documented. (For full text, refer to NFPA 101-2012: 7.9.3; 7.10.9; NFPA 99-2012: 6.3.2.2.11.5										
	EP 1 At 30-day intervals, the hospital performs a										

**Outcomes:**

- Reporting can provide a high level view of compliance
- Drill down for more details

# Compliance Setup Checklist

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**Link Assets/Procedures to the Regulatory Codes**

**Ensure Procedures cover ALL AHJ's, not just the national ones**

**Understand which ITM Work Orders are compliance related**

**Track progress throughout the month... and year!**

**Validate through Work Order Searches, reporting tools & analytics**

**Store Electronic Documents in one place, including Vendor reports**

Search....

Asset

WO

Analytics

Dashboard

Work Orders

Assets

Procedures

Procedure Schedules

Contracts

Companies

Models

Contacts

Materials

EC 02.05.07

Default View

Filter



<input type="checkbox"/>	Description	File Name	V...	Stat...	Date Upda...	User Upd...	Is Attac...	Links
	2024						(All)	cabarrus

Attributes: Battery Powered Task Lights for Generator Areas - Annual

<input type="checkbox"/>	013 31 Task Lights Generator Annual - Medical Arts Building - Feb 2024	013 31 Task Lights Generator Annual - Medical Arts Building - Feb 2024	1	eLSCB - Reviewed	3/6/2024 9:43:46 AM	John Lowry	No	Atrium Health Cabarrus Medical Arts Building - 00, Standard EC 02.05.07 - EP 2
--------------------------	--	--	---	------------------	---------------------	------------	----	--

Attributes: Battery Powered Task Lights for Generator Areas - Monthly

<input type="checkbox"/>	013 30 Task Lights Generator Monthly - CEP II - Feb 2024	013 30 Task Lights Generator Monthly - CEP II - 1 Feb 2024	1	eLSCB - Reviewed	3/18/2024 10:49:06 AM	John Lowry	No	Atrium Health Cabarrus Memorial Building, Standard EC 02.05.07 - EP 1
--------------------------	--	--	---	------------------	-----------------------	------------	----	---

<input type="checkbox"/>	013 30 Task Lights Generator Monthly - CEP II - Jan 2024	013 30 Task Lights Generator Monthly - CEP II - 1 Jan 2024	1	eLSCB - Reviewed	3/18/2024 10:48:22 AM	John Lowry	No	Atrium Health Cabarrus Memorial Building, Standard EC 02.05.07 - EP 1
--------------------------	--	--	---	------------------	-----------------------	------------	----	---

<input type="checkbox"/>	013 30 Task Lights Generator Monthly - Surgery Center - Feb 2024	013 30 Task Lights Generator Monthly - Surgery Center - Feb 2024	1	eLSCB - Reviewed	3/6/2024 9:43:26 AM	John Lowry	No	Atrium Health Cabarrus Memorial Building, Standard EC 02.05.07 - EP 1
--------------------------	--	--	---	------------------	---------------------	------------	----	---

<input type="checkbox"/>	013 30 Task Lights Generator Monthly - Medical Arts Building - Feb 2024	013 30 Task Lights Generator Monthly - Medical Arts Building - Feb 2024	1	eLSCB - Reviewed	3/6/2024 9:43:26 AM	John Lowry	No	Atrium Health Cabarrus Medical Arts Building - 00, Standard EC 02.05.07 - EP 2
--------------------------	---	---	---	------------------	---------------------	------------	----	--

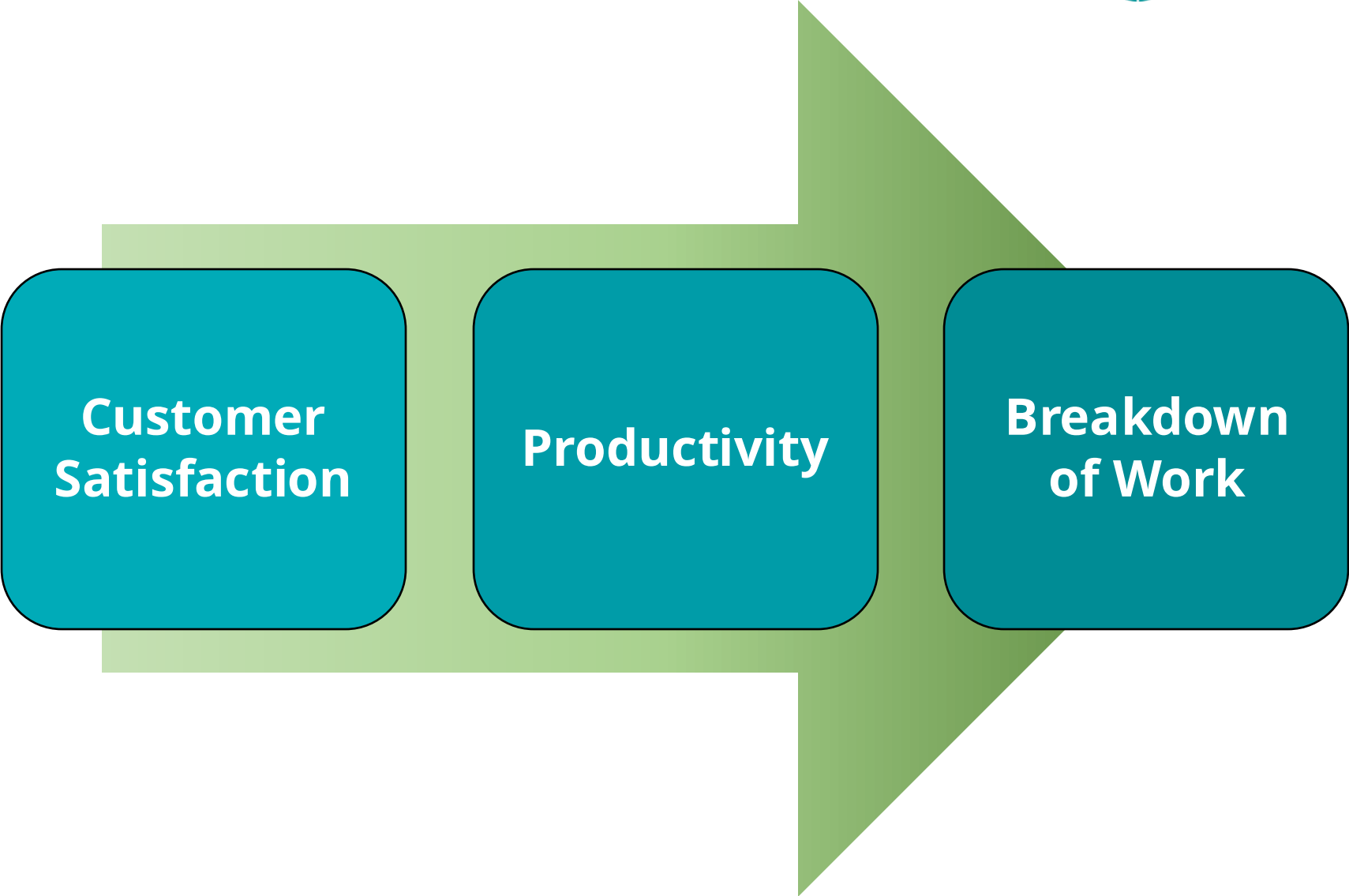
[Description] Contains '2024' And [Links] Contains 'cabarrus'

10 20 50 100 200 500

**Outcomes:**

- PDF documents organized in CMMS
- Easy to find by EP, Building, Date

# Other Metrics



# Surveys

## Outcomes:

- Direct feedback from hospital staff on service requests
- Improves customer and patient satisfaction scores

1. Please rate the service provided. \*

Excellent Service ★★★★★

Good Service ★★★

Poor Service ★★

Very Poor Service ★

2. What can we do to improve our service?

Nothing. Your technicians are wonderful.

3. What did we do particularly well?

You fixed the problem fast.

# TOOLBOX

## We want to hear from you!

The work of our facilities maintenance technicians is critical to the upkeep of our physical environment. Each technician has a variety of skills and seeks to provide the best customer service possible.

It is important for us to hear directly from you on how we are doing, and if there are things that we can do better.

Thank you for taking the time to answer this very brief survey.



Submit Survey

# Surveys

## Outcomes:

- Track quality of the work being performed
- Sites strive to not be at the bottom

### Response Rate

6.1% **6.4%** +5.4%

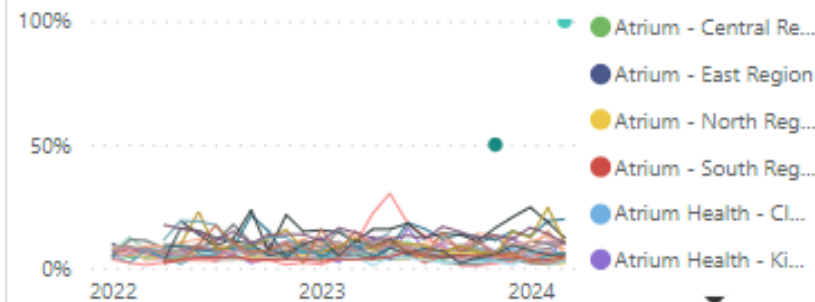
Comparison vs Current

### Positive Responses

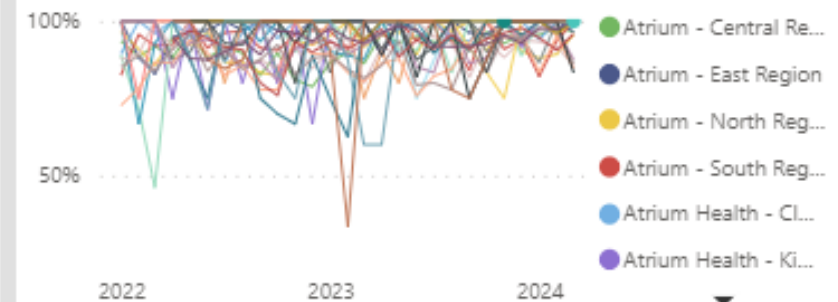
95.3% **95.7%** +0.5%

Comparison vs Current

### Response Rate by Facility by Month



### Positive Responses by Facility by Month



### by Facility > Location Level 1

Facility	Responses	Response Rate	Positivity Rate	Response Rate Comp.	Positivity Rate Comp.
Central Energy Plant	1	33.3%	100.0%		
WF - Davie	40	19.1%	97.5%	35	15.5%
WF - Lexington	49	17.0%	98.0%	16	7.0%
LH - Wake Forest	76	16.4%	98.7%	66	13.3%
WF - Winston Campus	204	13.4%	97.5%	193	13.3%
LH - Central Properties	106	10.6%	88.7%	113	12.4%
Continuing Care - Cent...	54	10.2%	100.0%	46	9.3%
LH - East Location	104	10.0%	95.2%	86	9.1%
Atrium Health - Lincoln	38	9.2%	97.4%	19	5.2%
<b>Total</b>	<b>1,630</b>	<b>6.4%</b>	<b>95.7%</b>	<b>1,474</b>	<b>6.1%</b>

### by Problem

Problem	#	Positive	# Comp.	Positive Rate Comp.
Other	302	95.0%	341	96.8%
Electrical - Li...	159	98.1%	139	93.5%
Non-Clinical ...	98	95.9%		
Door	87	94.3%	89	98.9%
Furniture - O...	69	98.6%	36	97.2%
Door - Door ...	60	95.0%	58	93.1%
Plumbing - T...	57	100.0%	56	96.4%
HVAC - * Te...	55	96.4%	63	95.2%
Site - Other	54	92.6%	46	95.7%
Patient Care ...	53	98.1%	99	97.0%
Plumbing - S...	53	96.2%	43	89.5%
HVAC - * Te...	33	84.8%	31	83.9%

# Productivity



Avg Hours for Working Days

6.4 **6.4** +0.1%

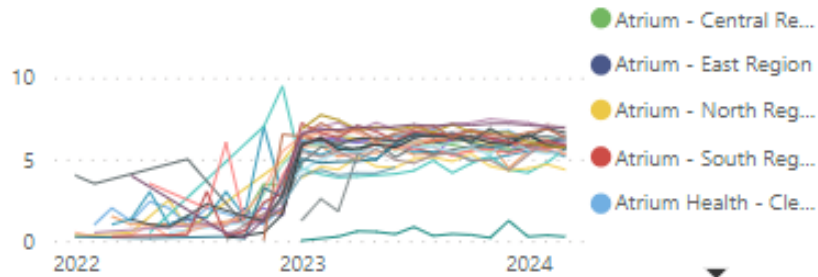
Comparison vs Current

Avg Hours for Non-Working Days

6.4 **6.1** -4.0%

Comparison vs Current

Avg Daily Hours per Team Member per Week > Month



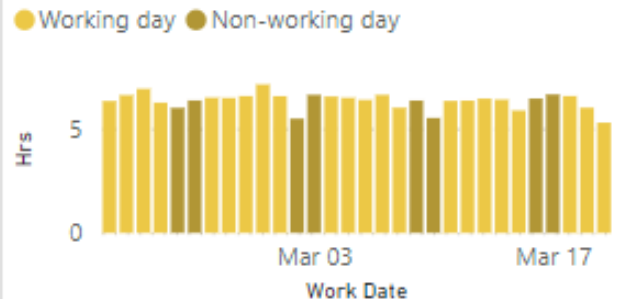
Labor Charge Entries Count and Avg Daily Hours by Facility > Trade

Facility	Working day			Non-working day		
	# of Entries	Avg Hrs	Avg Hrs Comp.	# of Entries	Avg Hrs	Avg Hrs Comp.
WF - Winston ...	11,296	7.0	6.9	567	8.8	6.9
Atrium Health-...	1,581	7.0	6.7	125	7.2	6.7
WF - Offsite R...	1,604	6.7	6.6	8	4.5	6.6
WF - North Wi...	1,650	6.6	6.8	57	6.0	6.8
LH - East Locat...	1,488	6.6	7.2	12	3.1	7.2
Atrium Health ...	1,207	6.5	6.0	43	4.2	6.0
Floyd - Main C...	2,467	6.3	6.4	141	6.1	6.4
Atrium Health ...	958	6.3	6.1			6.1
Continuing Ca...	1,254	6.5	5.9	11	1.6	5.9
Atrium - East R...	2,191	6.1	6.1	22	6.5	6.1
WF - Highpoint	3,008	6.0	6.0	147	5.7	6.0
<b>Totals</b>	<b>53,328</b>	<b>6.4</b>	<b>6.4</b>	<b>1,895</b>	<b>6.1</b>	<b>6.4</b>

Labor Charge Entries Count and Avg Daily Hours

Trade	# of Entries	Current	Comp.
Carpentry - Vendor	5	13.0	13.7
Grounds - Vendor	1	8.0	8.0
Painting - Vendor	14	8.0	7.0
Painting	116	6.7	5.3
Plant	651	6.2	7.2
IS-Telecom/Contractor - NET...	3	6.0	0.1
Carpentry	1,017	4.6	4.7
Property Management	289	4.4	4.4
General Maintenance	25,081	4.1	4.0
Health Care Equipment	4,090	3.6	3.4
Locksmith	68	3.0	2.1
Leadership	103	2.9	1.9
HVAC/Refrigeration	5,930	2.9	2.9
Dispatch	300	2.9	3.1
IS-Telecom/Contractor	4	2.6	0.7
Electrical	5,242	2.4	2.4
HVAC/Refrigeration - Vendor	42	2.3	0.6
Tube system	570	2.3	2.4
Plumbing	6,060	2.3	2.5
Grounds	54	2.1	2.5

Avg Daily Hours for Current Period



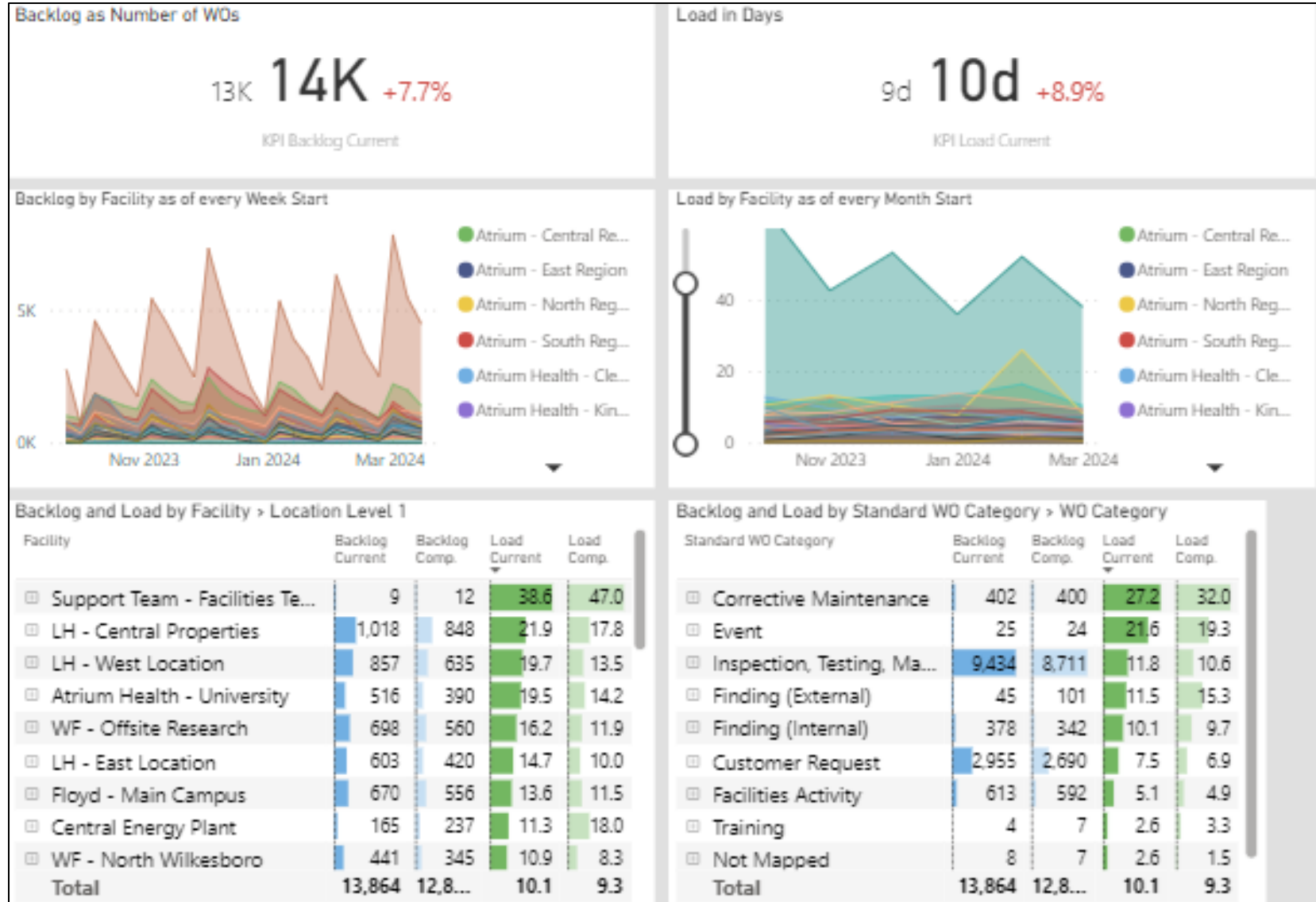
## Outcomes:

- Track which sites and which technicians are documenting hours
- FTE Justification based on hours and count per sq. ft.

# Backlog

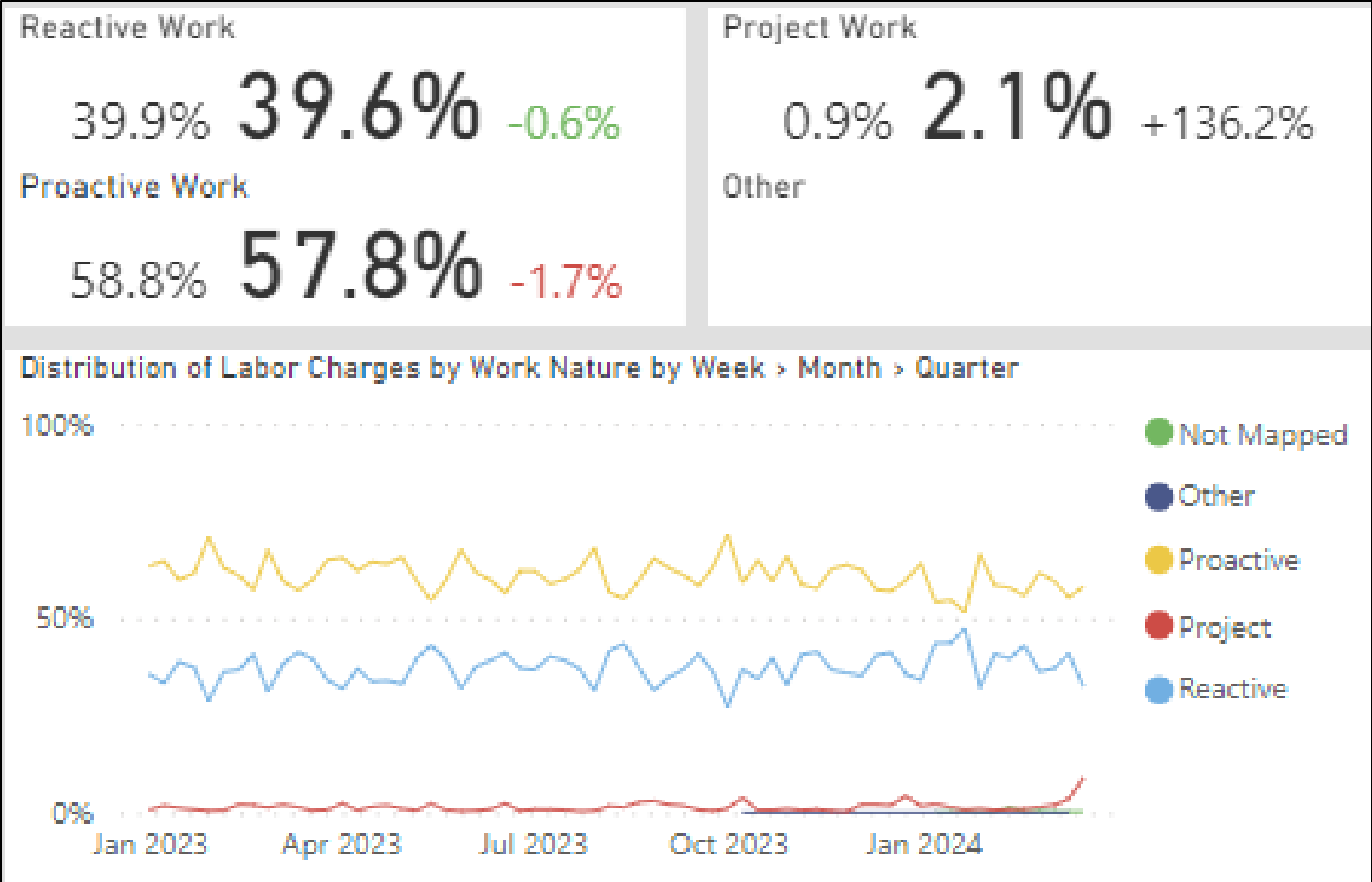
## Outcomes:

- Trend today's backlog to 30/60/90 days ago
- Compare backlog across facilities



# Work Nature

- Outcomes:**
- Look for the balance between PMs and Non-PMs
  - Track Project and Other Work as well



# Fire Doors

## Outcomes:

- Eliminated 25% of Inspections by tagging double doors as 1 asset
- Technicians were happier with the process

The screenshot displays the TOOLBOX software interface. The top header shows the location "WF - Highpoint" and navigation icons. The left sidebar contains a search bar and a menu with options: Dashboard, Work Orders (highlighted), Assets, Procedures, Procedure Schedules, Contracts, Companies, Models, Contacts, and Materials. The main area shows a floor plan of "Lobby 1066" on the "1st Floor". The floor plan features several red diamond icons representing fire doors. A yellow highlighted area on the right side of the plan contains blue circular markers. The interface also includes a "Last Search (3)" button, a "Default" view selector, and a "Grid View" toggle.

# Summary



**Standardize Nomenclature**



**Maintain Accurate Asset Inventory**



**Standardize ITM Program**



**Do the work! ...and track it!**



**Validate and Document for each AHJ**

- Standardize Nomenclature
  - Assets
  - Functional Areas (Impacted areas)
- Accurate Inventory (Quality of Data)
  - Total Quality Management
  - Quality Control Measures
  - Data and Software Quality Control
- ITM: Manage Asset Life Cycle
- Tracking via defined Owner Requirements
  - Productivity
  - KPIs
  - Maintenance Strategies (ITMs)
  - Facility Condition Assessments
  - Operational Excellence
- Process of Continual Improvement

# Thank You!



**Dennis Ford, MHA, CHFM, CHC, FASHE**  
Corporate Support Services  
*Plant Operations & Maintenance (POM)*



**Joe Stockman**  
Director Of Product Experience

