5 Ways to Improve Maintenance and Reliability

February 18, 2021

Company Highlights

Industry Best Practices
Deep industry subject matter expertise in business and work processes

IBM Maximo
One of the largest resellers and implementers of IBM Maximo in North America, with over 200 Asset and Work Management projects

Rich Industry Experience
Utilities, Oil & Gas, Manufacturing, Facility Management, Aerospace & Transportation, Nuclear

IBM's Highest Accreditation for Maximo
Largest body of certified Maximo consultants compared to any other IBM Partner

Performance Management
Award winning solutions that enable organizations to continuously improve and Achieve Operational Excellence
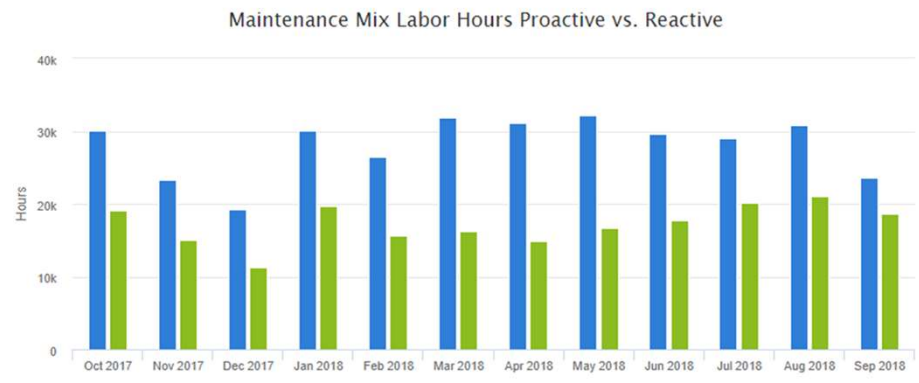
Propel™ - Performance Management

Bridging the Gap Between Strategy and Execution

- Align people and processes with objectives
- Identify and assess operational risk
- Visualize impacts and outcomes of continuous improvement initiatives
- Transform *trustworthy* data into actionable information
- Manage continuous improvement initiatives to achieve targets
- Operationalize and Automate performance management

- Performance Management Service
- Assessment
- Real-time performance metric visualization solution
- Rapid Implementation "weeks, not months or years…"
- Visualize, Align, Act

Maintenance Mix Labor Hours Proactive vs. Reactive

Presenter – Matt Midas

VP Performance Management Solutions

Work Experience

- USMMA
- US Navy
- Charleston Naval Shipyard
- Service Master Facilities Management
- PSDI/MRO Software
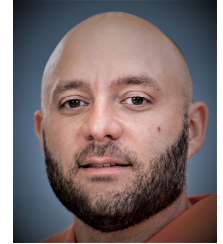- Genesis Solutions/ABS
- Solufy/Prometheus Group

Knowledge Base

- 30+ years in Engineering & Maintenance Management
- Overhaul and Repair (S5W/S6G Reactor Plants)
- Performance Management
- Reliability Centered Maintenance
- Planning and Scheduling
- Business Process Development & Improvement
- Work Management
- Safety Programs
- Maintenance Strategy / Optimization

PROPEL™

Cohesive Solutions
A BENTLEY COMPANY

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Presenter – Joe Lonjin

Performance Management Consultant

Work & Client Experience

- Stanford Healthcare
- Corning
- Arizona Public Service
- Penn State University
- Lockheed Martin
- Northrop Grumman
- Cheniere Energy
- Colonial Pipeline
- US Army

Knowledge Base

- 20+ years in Facilities & Maintenance Management
- Performance Management
- Data Quality
- Project & Change Management
- Business Process Development & Improvement
- Work Management Workflows, Analysis & Implementation
- EAM Functional Specifications
- Maintenance Strategy / Optimization

Overview & Takeaways

- Five foundational activities you can do to improve Maintenance and Reliability in 2021

- Understand how to use these foundational activities to build upon

- Understand the need to develop a culture of continuous improvement

- Understand the need to develop an improvement roadmap

Poll Question 1

What state of maintenance do you feel your organization is in?

- Reactive – fix it after it fails
- Planned – Fix it before it fails
- Precision – measure and fix
- World Class – Improve and sustain

Maintenance and Reliability

- Maintenance is the process of maintaining assets
  - Reactive - unplanned
  - Planned – Preventive, Predictive
  - Precision – Condition Based, Cross-functional, RCM, Optimization
  - World Class – Design in reliability, persistent leadership, empowered
- Reliability is the process of ensuring the assets are operating at their design specifications as well as ensuring efficiency, uptime, effectiveness
  - Identifying defects and eliminating them
  - Well defined processes
  - Focused on improvement
  - Criticality
  - Function to Plan

Top 3 Challenges
1. Unplanned Equipment breakdowns
2. Consistent documentation of work
3. Constant interruptions

State of Maintenance 2021 Report

5 Ways to Improve Maintenance and Reliability

1. Determine the quality and completeness of your data
2. Identify and Classify Critical Assets
3. Optimize Maintenance PMs and Job Plans
4. Develop a training program for Certified Reliability Leaders
5. Implement Asset and Process Performance Dashboards

Determine the Quality and Completeness of Your Data

- Improving Maintenance is all about the data
- If you don't measure something, you can't improve it
- With bad data, what are you actually measuring
- With bad data, how can you trust the results
- With incomplete data, you don't get the whole picture
- What data should you be tracking?
  - Assets
  - Inventory
  - Work
- Is data an asset?

Top 5 KPIs
1. Planned Maintenance
2. Uptime
3. Schedule Compliance
4. Unplanned Asst Downtime
5. Overall Equipment Effectiveness

State of Maintenance 2021 Report
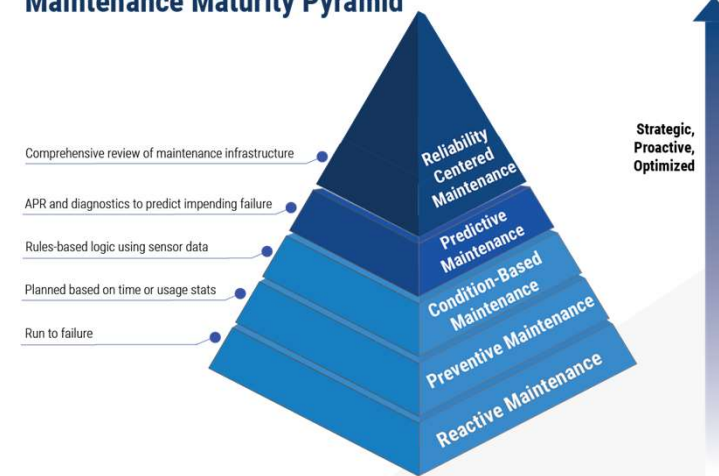
Identify and Classify Critical Assets

- Some assets are more critical than others
- Should be part of your EAM Strategy and data definition
- Do you treat all assets the same?
- How do you measure/assign criticality?
  - Operations
  - Environment
  - People
- Do you have a process to define and identify critical assets
- Allows you to prioritize maintenance activities
- Run to fail?

Optimize Maintenance PMs and Job Plans

- Calendar based?
- Straight from the OEM?
- What to look for?
  - Are we constantly putting out fires
  - Interruptions
  - When was the last time we reviewed/analyzed our PMs for effectiveness
    - can we extend them
    - Can we eliminate them
    - Can we replace them with CbM
  - When was the last time you reviewed your Job Plans?
  - How detailed are your job plans

Maintenance Maturity Pyramid

Comprehensive review of maintenance infrastructure — Reliability Centered Maintenance

APR and diagnostics to predict impending failure — Predictive Maintenance

Rules-based logic using sensor data — Condition-Based Maintenance

Planned based on time or usage stats — Preventive Maintenance

Run to failure — Reactive Maintenance

Strategic, Proactive, Optimized

Source: Plantservices.com

Develop a Training Program for CRLs

- Most organizations have roles specific for Reliability
- Developing a training program for Certified Reliability Leaders, CRLs, furthers the capabilities of the organization.
- CRLs look at situations differently.
- Don't just fix it **improve** it.
- Creates a culture of continuous improvement.
- Reliability will be ingrained in the organization.
- Reliability centered maintenance (RCM) initiatives will become the norm.

- https://reliabilityweb.com/crl-workshop-dates

Implement Performance Dashboards

- Assets, Inventory, Work Execution, Data and processes
- My data is bad so why bother?
- Understand what you are measuring and why
- Do you have the right data – link back to the 1st step
- Supports and improves decision making
  - Gut feel
  - Truth
- Objective driven
- Aligned with overall objectives and goals (and data)
- Need to be understood by all
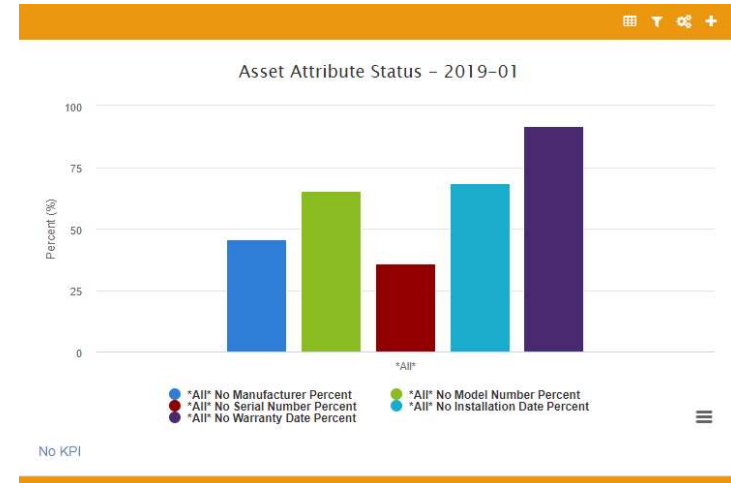
"In god we trust, all others bring data"
E. Deming

Why Do We Monitor and Measure?

- Tracking of performance/actions
- Trending of activities
- Control/manage
  - Output
  - Safety
  - Process adherence
- Improve

- *"It is not possible to manage what you cannot control and you cannot control what you cannot measure"* – Peter Drucker

Asset Attribute Status – 2019-01

Poll Question 2

What type of actions is your organization taking to improve Maintenance and reliability?

- We have a full road map supported by leadership
- We have several activities identified
- We need help identifying and prioritizing
- We are mainly striking at irons that seem appropriate

Tying it all together

- There are many other tasks/activities that can help improve maintenance and reliability.

- The 5 we discussed are what we consider foundational

- Creating a culture of reliability is not easy and requires strong leadership and vision

- Data is at the core of everything we do and is driving more and more automation and AI/AR

- Having the ability to visualize your data improves reporting and decision making and also impacts continuous improvement

- If you have questions on where to start, consider conducting an assessment

Change, Improvement, Continuous Improvement

- If you are not improving, you are falling behind.

- Any change requires measures to track

- How do you track and monitor
  - Set proper goals that can be measured effectively
  - Align actions to objectives/goals
  - Establish measures based on the goals/results, not actions

- *"It's a common misconception that KPIs need to be SMART to be effective. Yet, in fact, there's no such thing as a SMART KPI – it's your objectives or goals that need to be SMART." - Bernard Marr*

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Networking

Next Webinar

March 18, 2021

Visualize, Track And Manage Maintenance Improvement Initiatives With Propel®

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