

Integrating Maintenance “Best Practices” for Work Management, Planning and Scheduling Along With Upgrading and/or Implementing a an EAM System (Maximo)

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This Presentation Will Cover

- **Asset Reliability Issues Today**
- **Software Methodology**
- **“Best Practices” Improvement Approach**
- **CMMS/EAM Evaluation**
- **Implementation Process**
 - **Q&A**



World-Class organizations view
“Asset Reliability and Best Practices”
as a strategic initiative that delivers
availability (uptime) and manages **resources**
(labor, materials, & capital) at the lowest
possible cost.

LOTS OF “BEST PRACTICE” INITIATIVES TODAY . . .



Drive to
“World-Class”
Mfg.

ERP

EAM

BPR

TPM

RCM

LEAN

SIX SIGMA

ODR

5-S

Background

Thousands to millions of \$\$ are spent on new EAM software each year...

- Companies are always looking for the “silver bullet”
- Two years later they find themselves using less than 20-25% of the capability
- “Your system, is not your strategy or your solution. It is only an enabler.”

60% of EAM/CMMS
Implementations Fall Short
of Expectations



It's Not the Software's Fault!

What Went Wrong?

The Top-7 Critical Pitfalls

1. IT-driven project, little “real” end-user input
2. Failure to update/streamline business processes using “best practices”
3. Little in-depth thought on codes & tables
4. User-levels not well defined and set up
5. Software and process training not aligned
6. Inadequate KPI’s/reports/”dashboards”
7. No “super-users” defined and trained.

1. A User-Driven Process

IT certainly has an important and useful role to play

- However, not always the best judge of end-use application
- End-users must be involved from Day-1
- End-users, however, may also not know or understand the software's full capability and how/when to actually apply.

2. Business Process Review

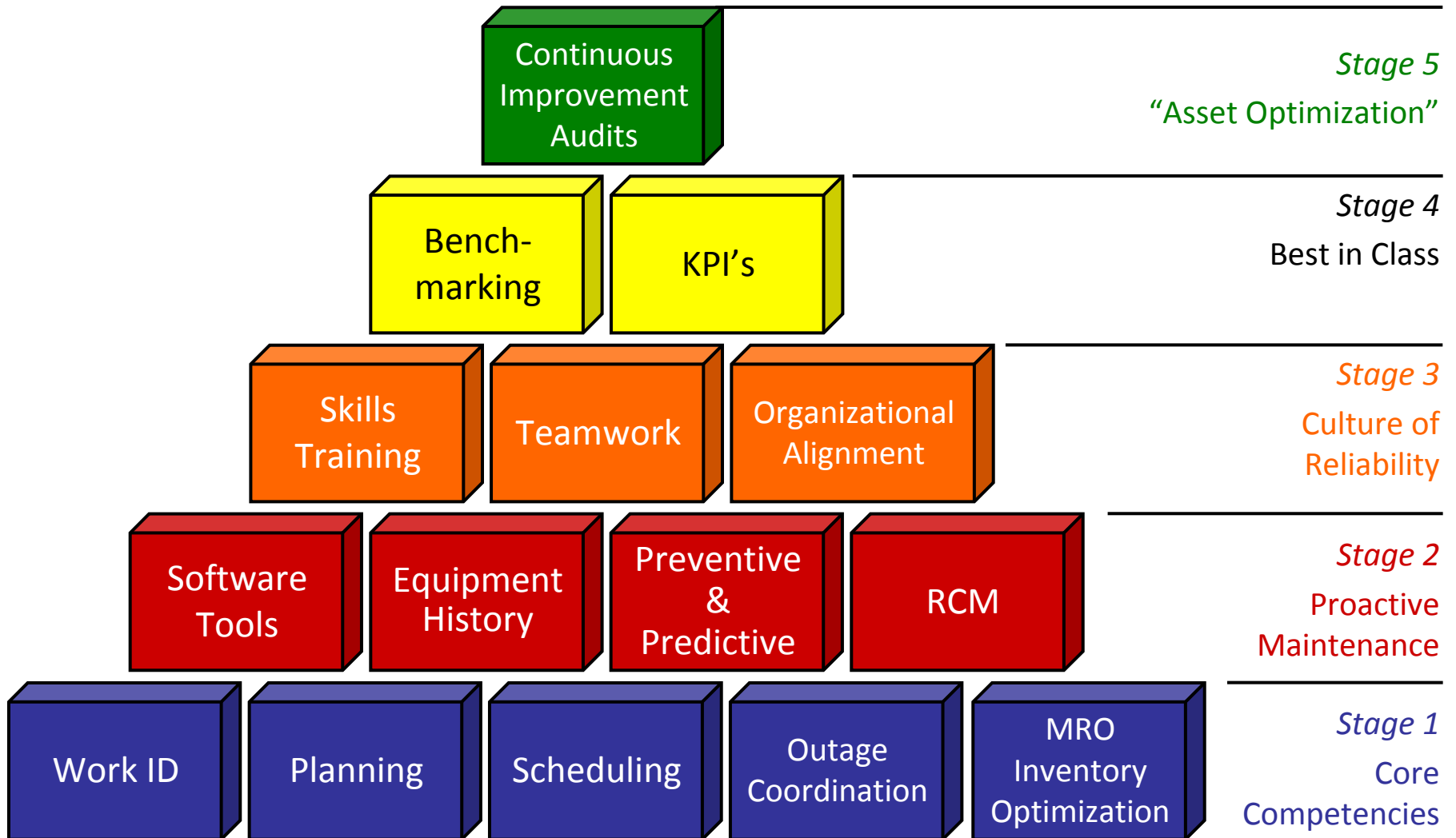
“You don’t want to automate a poor process.”

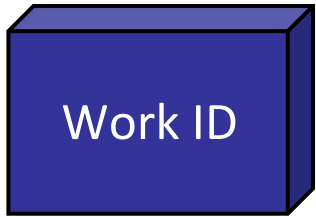
- Process Review Teams need to update and streamline the current business practices using “best practice” guidelines
 - Software services/implementers don’t do this well
- Data collection... who? what? where? when? and how?
- The “technical and functional specs” of the software must then be matched to the new way of doing business...

2. Business Process Review (con't)

- Appoint a user's "project manager" to drive the "best practice" improvement processes
- These processes must be documented in the form of SOP's
- These SOP's should become the standard for process and software training
- Upper and middle management must agree and adhere to the new processes.

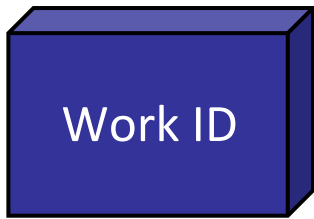
Asset Reliability “Best Practices”





Must Adopt the “3” Cardinal Rules...

- I. No work order, no work.*
- II. No work order, no parts.*
- III. No parts, no work.*

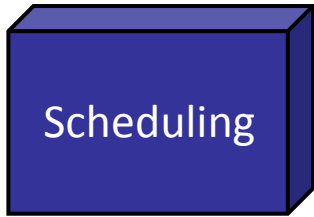


- Establish Prod Maint Coord (PMC) position
- All work done via a work order
- Operations writes most work requests
- Joint approval process in place
- Initial estimates for all work orders
- Explicit, but simple W/O Type/Class/Status/Priority system must be thought through with users!
- Work flows developed to expedite W/O's
- Backlog constantly monitored ...



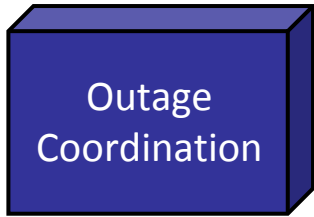
Planning

- Maintenance Planner(s) in place
 - Not just focused on outages
 - Not just material expeditors
 - Backup planners must be designated
 - Work content “scoped & estimated”
 - Formal “job packages” created
- Technicians assist in job/project planning
- Administrative support can be a help
- Well documented work completion process
- Feedback analyzed...



Scheduling

- Operations (PMC) direct involvement
- 12-Month and 6-8 Week out schedules
- Weekly Schedules developed by Planners
 - 100% of the resource availability
- Daily Schedules developed from the Weekly
- Routinely question any “schedule break-ins”
- Planner reviews completed “job packages” with the supervisor/crews before scheduling
- Track schedule compliance ...



Outage Coordination

- One schedule for both Operations/ Maintenance
- Shutdown optimization the “goal”
- Planned 14-30+ days out
- Defined “cut-off” dates... no jobs added after
- All work has “job packages”
- Manage the controlling job
- Supervise contractors
- Pre-stage tools and materials
- Critiqued during and after outage ...



MRO
Inventory
Optimization

- Secured storerooms
- Some vendor-managed inventory
- Bar-coding in use
- “Pick Tickets” a must
- 98-99% inventory accuracy maintained
- Cycle-counting a must
- Accurate/Updated BOM’s required
- Common parts/catalogs in use and accessible
 - Standardized and clean data
- Pre-kitting, staging and delivery capability.

3. The Right “Codes & Tables”

- Computer works best with “codes & tables” not free-form text
- Avoid “*garbage in, garbage out*”
- These codes & tables need to be well-thought through... not generic
- Can have too little or too many!
- Have to be developed as a part of the “business process” reviews.



- Maintain latest version of your EAM/CMMS
- **No customization, only configuration**
- Configuration codes, tables, work flows must be well thought out and usable
- Everyone trained on system use for their specific needs
- Common numbering and equipment hierarchies in place
- Electronic “job package” capability (library)
- “Attached documents” management
- Direct tie to intranet/internet
- BOM’s correct and up-to-date.

4. Correct User Levels

- “Not everybody needs to be able to see everything and certainly... *add*, *change*, or *delete* data
- With a thorough and complete... review and update of the “business processes” at the right level of detail, the needed user-levels will be revealed
- It is often best to “nest” certain user access by category, then apply to job categories by role.

5. Targeted User Training

- Training must be targeted at specific user-levels... not a *one size, fits all*
 - Must see in class, what they will see on their own computer back in their office or area... exactly!
 - Simplified screens... *if you don't need it, you don't see it!* Mandatory fields must lock-out further progression.
- Best to do “best business process” training and software training simultaneously
- Users must see the “fit” between their new “roles & responsibilities” and use of the software as a “tool” to help them do their job.

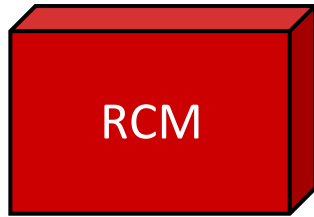


- Skills development & training provided
- Operator Driven Reliability (ODR) initiated
- Joint planning/scheduling meetings
- Work feedback given back to requester
- Common yardsticks of performance across multiple sites
- Accountability for cost and quality of work
- Production and maintenance work hours aligned.

6. KPI's and Reporting

Hopefully, this is why you're implementing an EAM... **you need more data, and better data, at a greater level of detail to make better fact-based decisions!**

- The right KPIs and reports need to be automated as much as possible, graphical in nature (where applicable) and timely
- Not everybody needs the same information and the same level of detail.
- You want information to... *guide you into a proactive decision mode, not force you into a reactive “after the fact” decision mode.*



- Daily, weekly, monthly, annual PPM's in EAM/CMMS and tracked
- Dedicated lubrication program
- Vibration analysis, NDT, thermography, ultrasonic, etc. in place
- Condition-based monitoring where feasible
- Precision maintenance (laser alignment)
- Statistical Process Control (SPC) used
- RCFA's, FMEA's, MTBF used routinely.

7. EAM “Super-Users”

- Somebody needs to know... *in detail and in depth...* what the new business processes are and how the software system is used to support those processes
- Typically, that is NOT somebody from IT!
- Each major user department needs its own “super-user” (i.e.. quasi-system administrator) as the key contact, to...
 - Assign/re-assign user-levels
 - Assist with KPI and reporting development
 - Provide limited on-going training support on the processes and the software.

Keys to a Successful Maximo (EAM) Implementation or Upgrade Summary

- Do your *due diligence* and get the right system (Mx)
- Establish an **EAM Project Champion** not from within IT
- Involve the end-users extensively throughout the process
- Take the necessary time to **review, streamline** and **update** all business processes that will be affected by the new software...

Keys to a Successful EAM Implementation

(con't)

- Carefully think through the end-use applications and configure the EAM to support those applications
- Develop a sound and thorough implementation plan (e.g., existing data?)
- Customize the training for individual users... aligned with their new job duties
- Provide on-going training and support.

Example Implementation

- Assessment
- Plan
- Execution
- Follow-Up
- Continual Process Improvement



Continuous
Improvement
Audits

- Formal CI process in place
- Identify the gaps
- Monitor the “before and after”
- Track performance
- Give credit where credit is due
- Audit and manage internally.

Thank you for your time and attention...

Questions / Discussion?

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