How to Optimize your CMMS?

By Ricky Smith CMRP

The Founding of the 1st Fully Integrated CMMS

John Day, PE

Engineering and Maintenance Manager, Alumax / Alcoa Mt Holly
(designer of World Class Maintenance)

John was my mentor and advisor for over 20 years

Mt Holly's Accomplishments and Recognitions:

1984 – Plant Engineering Magazine Published Article on the first Fully Integrated CMMS / EAM in the World
1987 – AT Kearney Nominated Mt Holly Maintenance as "Best of the Best" (World Class Maintenance)
1988 – Maintenance Technology wrote an article which was shared around the world of their Maintenance Program
1998 – Alcoa purchased Alumax Mt Holly and used their Maintenance methodology and CMMS/EAM to advance their presence on the World Stage

Test

True / False

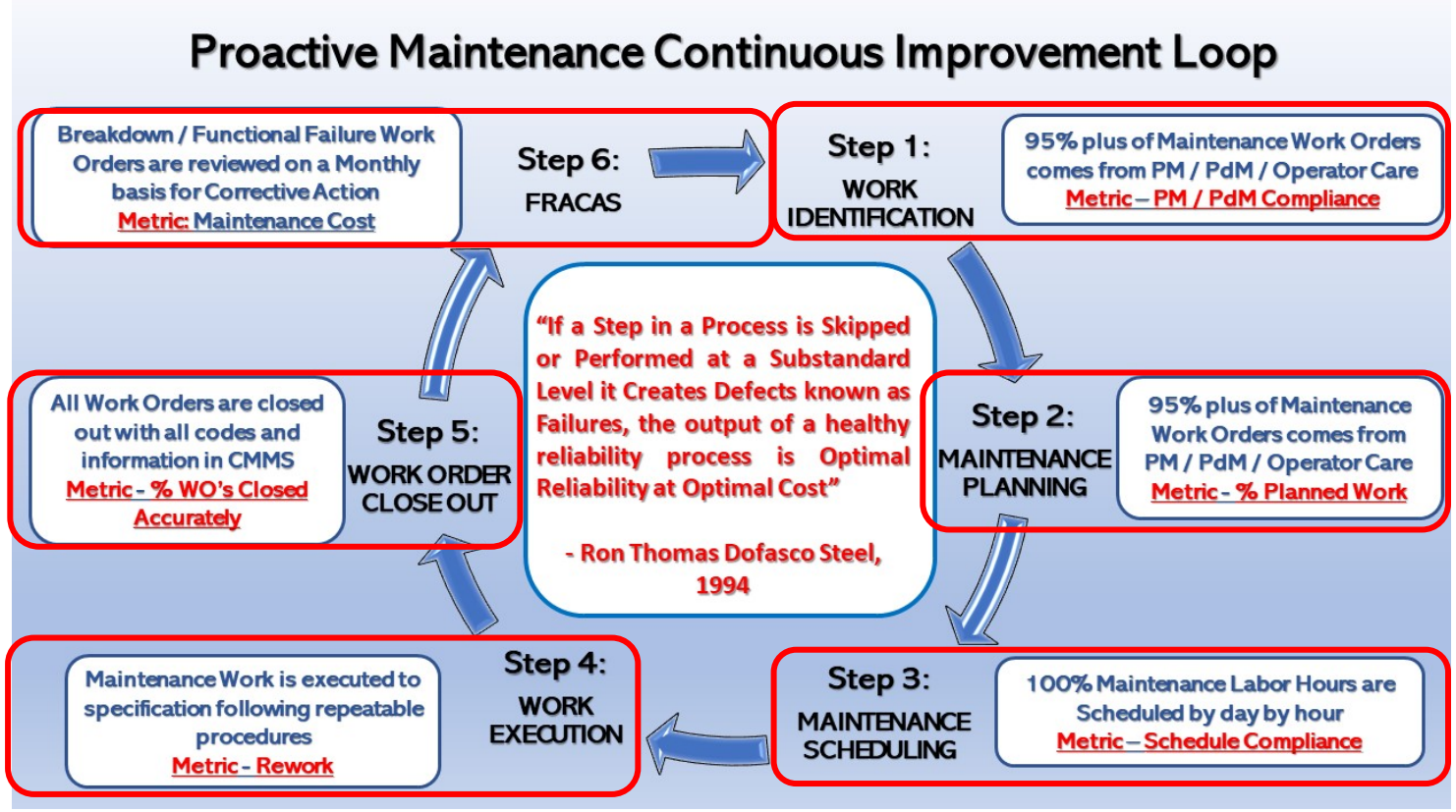
1. False ___ The Preventive Maintenance module of a CMMS is the main module through which all the data flows.
2. True ___ Maintenance Planning and Scheduling is key to effective use of a CMMS.
3. False ___ A Maintenance Analysis/Assessment is required for an organization after the CMMS is implemented.
4. False ___ In-house development of a CMMS is the method used by most companies to obtain their CMMS.
5. False ___ Most companies can save money on CMMS training, since most users can become proficient by reading the manual.
6. True ___ One of the most common reasons for CMMS failure is that the company fails to purchase a CMMS for future needs; instead, they focus on current business processes.
7. False ___ When selecting the CMMS, the Information Systems department can best specify what functionality the maintenance department needs in the product.
8. True ___ Without the management support necessary to enforce certain disciplines that the CMMS requires, the quality of the data in the CMMS reports will be suspect.
9. True ___ Future users of the CMMS should test the product before it is purchased, since they will have to use it to perform their jobs in the future.
10. True ___ Failure to properly estimate the time or cost to load the data prior to CMMS start-up has caused many projects to fail.

CMMS Requirements

1. Implementation is everything
2. Roles and Responsibilities must be defined for all users
3. Equipment walkdown, load **ALL** assets, with Equipment Data, and Parts Data into the CMMS
4. Asset Hierarchy must be established
5. Asset Criticality must be defined
6. Create a CMMS Users Manual / Education Module and train everyone in use of it
7. The Maintenance Department is Accountable for the Use / Application / and Management of the CMMS
8. All Work Order Data verified by Maintenance Supervisor before input into CMMS accurately and consistently by the Maintenance Planner

Step 1: Hire an Expert

Step 1: Hire an organization or individual who knows all the functions of a CMMS, all Maintenance Processes from "Work Identification (PM/PdM/OP Care) or buy a new one



Step 2: Create the CMMS Optimization Plan with all stakeholders

1. Use a Project Management Software to Create and Manage the Plan and Post for all to see
2. Define the Steps required to Optimize the current CMMS
3. Create the plan with all Stakeholders (or a person who can “sign the check”) with targets and goals by date
4. If Maintenance Process Maps do not exist, create or purchase them.
5. Identify the Roles and Responsibilities for each Stakeholder using the RACI Process

CMMS Optimization Plan

Task / Positions → ↓	Maint. Mgr.	Prod. Mgr.	Maint. Planner	Reliability Engineer	Stores Manager	CMMS Administrator	Plant Mgr.
Define Expected Outcome from CMMS	A	R	C	C	C	R	I
Verify Asset Hierarchy Source: ISO 14224	A	R	R	R	I	R	I
Walk down equipment / verify equipment data	A	C	C	R		R	I
Restructure Data if needed – Vertically/Horizontally	A	I	R	R	C	R	I
Verify Maintenance Process Maps are Optimized	A	R	R	R	R	R	I
Establish Leading/Lagging KPIs for all Maintenance Processes	A	I	R	R	R	R	I

Responsibility	“the Doer” (**multiple people**)
Accountable	“the Buck stops here (**one person**)
Consulted	“in the Loop” (**2 way Communication**)
Informed	“kept in the picture” (**1 way Communications)**

Step 3: Create an Education Plan

Step 1: Create a training/education plan for all stakeholders

Step 2: Educate through different methods and they must be targeted to the audience through training by a maintenance expert that knows the functionality of your CMMS

Step 3: Create RACI Charts and all stake holders, Tool-Box Talks, etc.

Step 4: Post a Dictionary of terms and words which may be interpreted differently by different individuals

Examples (Source: SMRP Metrics)

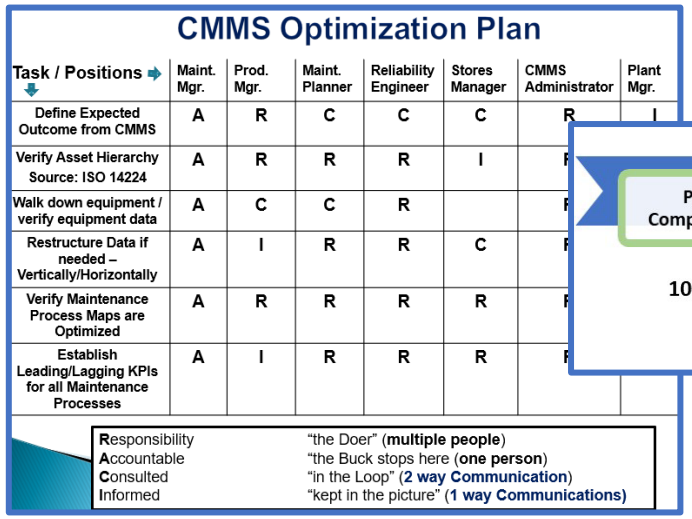
"Planned Work" is maintenance work that has gone through a formal planning process to identify labor, materials, tools, and safety requirements. This information is assembled into a job plan package and communicated to craft workers prior to the start of the work.

"Preventive Maintenance" is defined as actions performed on a time- or machine-run-based schedule that detect, preclude or mitigate degradation of a component or system with the aim of sustaining or extending its useful life through controlling degradation to an acceptable level.

Step 4: Execute and Manage the Plan

Define Expected Outcome → Verify Asset Hierarchy ISO 14224 → Walk Down Assets / Collect Asset Info. → Restructure CMMS Data → Verified Maintenance Process Maps → Establish Leading/ Lagging KPIs

1. Educate all stakeholders what/why/how CMMS Plan Execution – see RACI Chart / Tool-Box Talk / Leading/Lagging KPIs
2. Use a Project Software to track the project and update weekly
3. Identify Leading and Lagging KPIs which will be impacted by this new process
4. Post the Project Plan Board on Plant Monitors or large Charts for everyone to see when they enter the plant



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Verify Maintenance Process Maps are Optimized	A	R	R	R	R	R	
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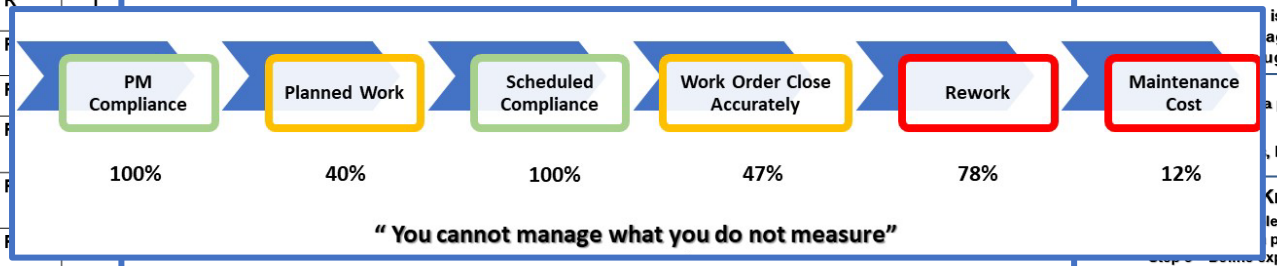
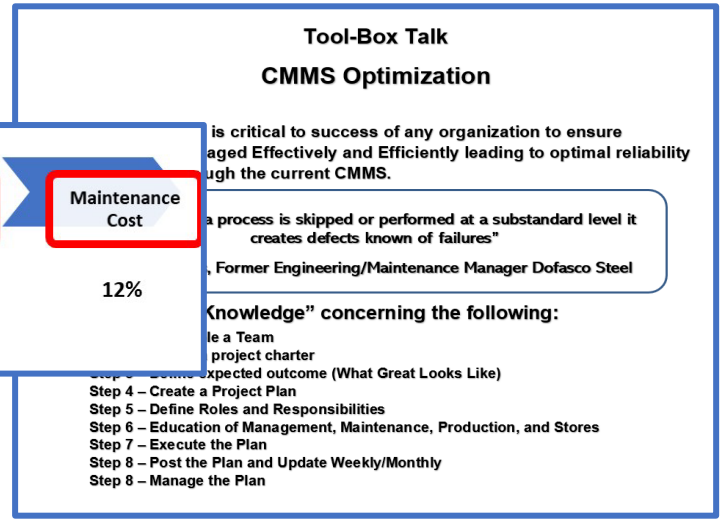




Tool-Box Talk

CMMS Optimization

is critical to success of any organization to ensure
aged Effectively and Efficiently leading to optimal reliability
ugh the current CMMS.

a process is skipped or performed at a substandard level it creates defects known of failures"

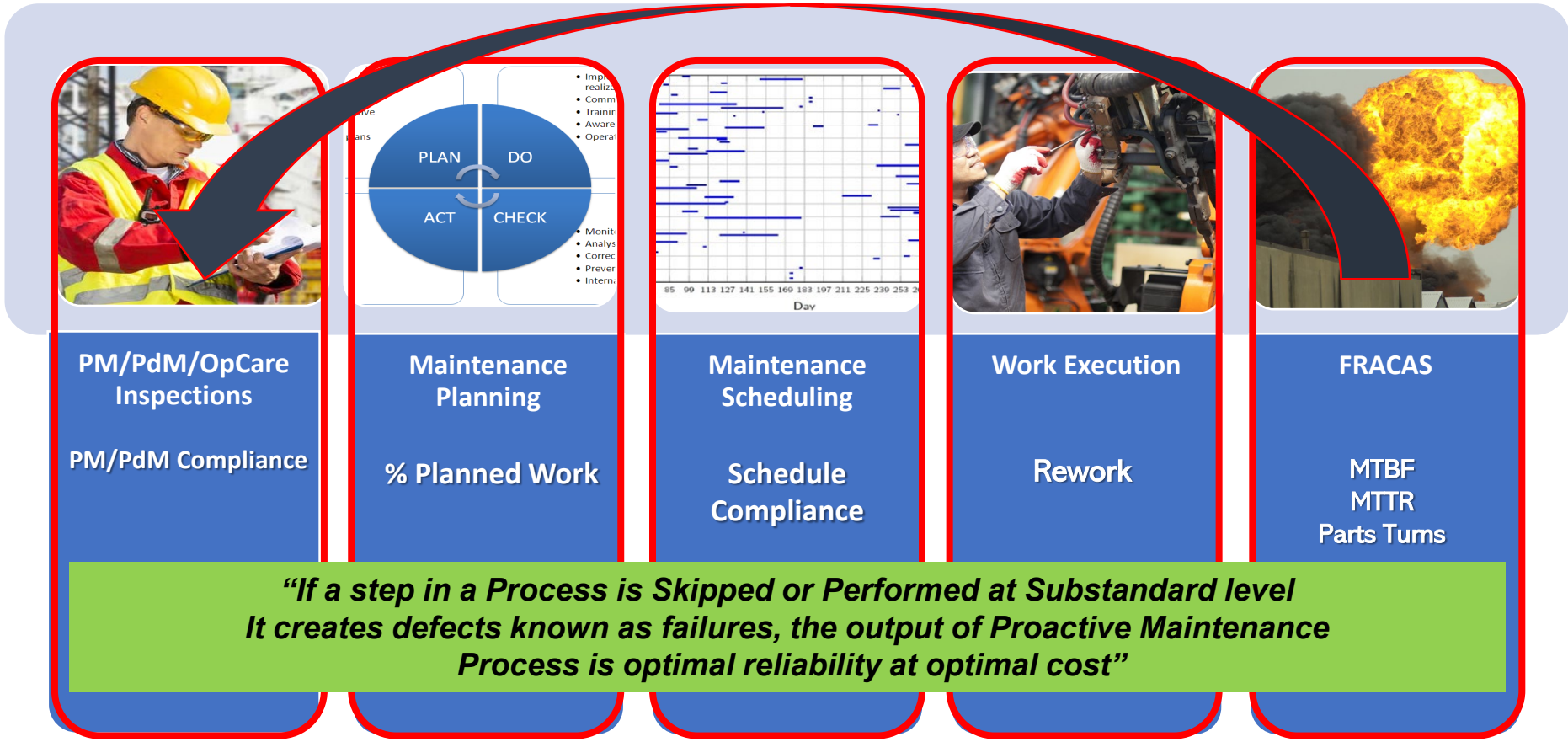
, Former Engineering/Maintenance Manager Dofasco Steel

Knowledge" concerning the following:

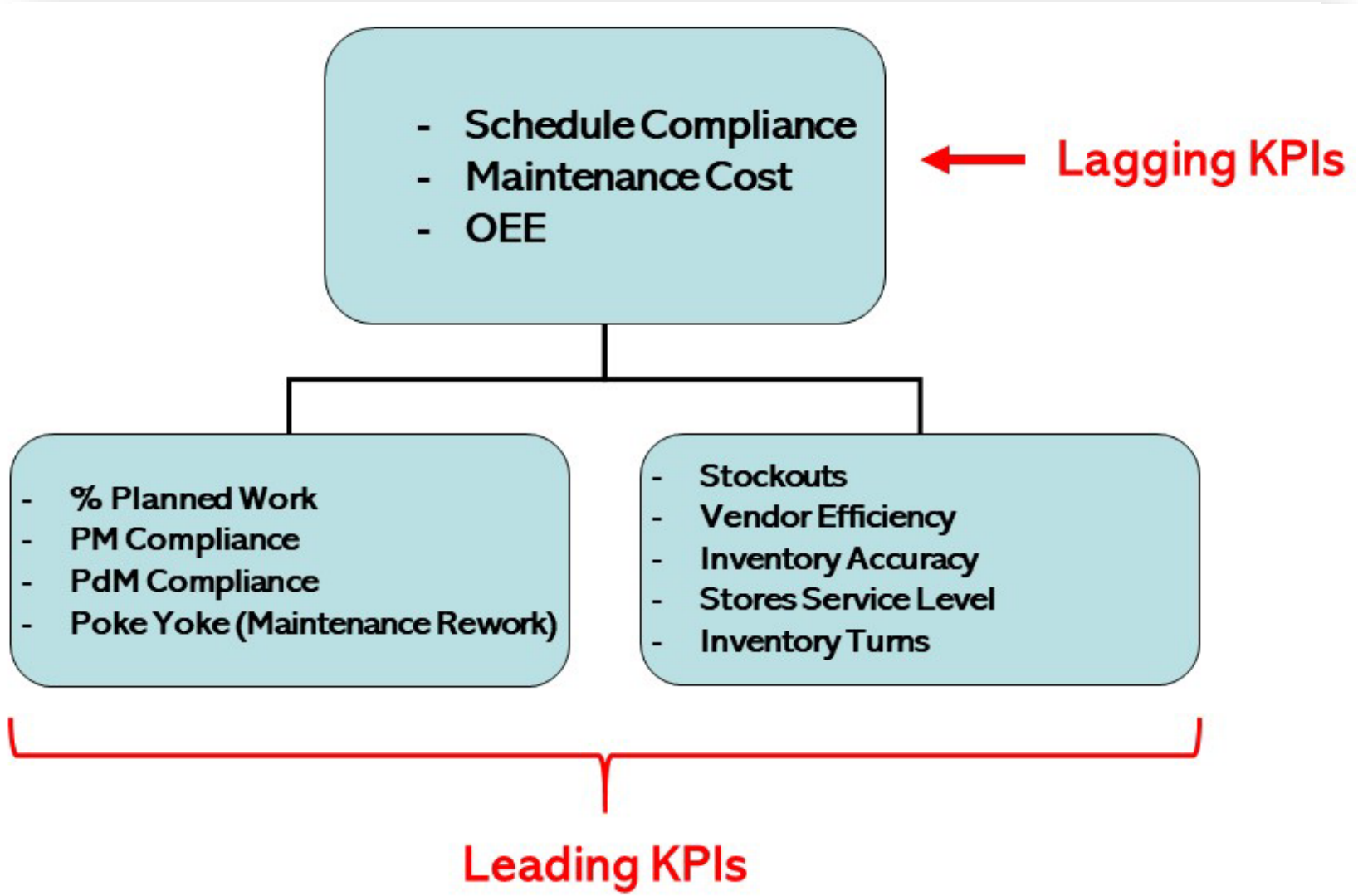
le a Team
project charter
xpected outcome (What Great Looks Like)
Step 4 – Create a Project Plan
Step 5 – Define Roles and Responsibilities
Step 6 – Education of Management, Maintenance, Production, and Stores
Step 7 – Execute the Plan
Step 8 – Post the Plan and Update Weekly/Monthly
Step 8 – Manage the Plan

Step 5: Verify Your Current Maintenance Process

1. Ensure you have a Proactive Maintenance Process
2. Map all your Processes in Proactive Maintenance and Define Metrics for Each Function
3. Define Metrics for each step in the Proactive Maintenance Process
4. Make Changes as Needed

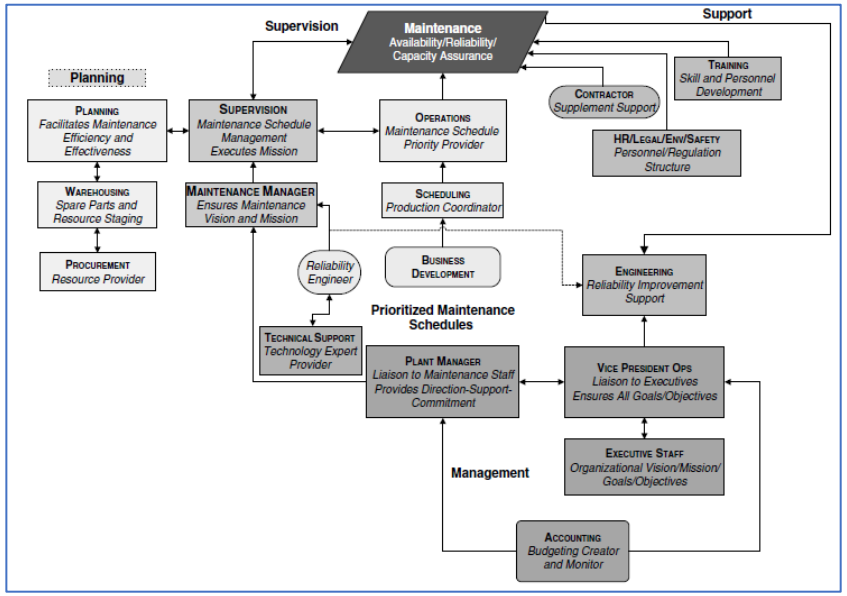


Step 6: Create KPI Dashboards for All Processes



Next Steps

1. Confirm whether your current KPIs **MATCH** with what you see in the Plant
2. Confirm you have **EFFECTIVE** Maintenance Process Maps
3. Confirm you have a **SIMPLE** "CMMS Users Guide" for specific users
4. Create RACI Charts for all Processes to define and align everyone's thinking



MAINTENANCE PLANNING AND SCHEDULING

Tasks (Decisions / Functions)	Maintenance Supervisor	Maintenance Planner / Scheduler	Maintenance Manager	Production Supervisor	Tradesman	Storeroom	Operator
Work ID PM/PdM/OpCare	R	I	A	A	R		R
Planning	C	R	A		C	C	
Scheduling	C	R	A	C		C	
Scheduling Meeting	I	R	A	C	I	I	
Work Execution	A		I		R		R
Work Order Close Out	A	R	I		R		R
FRACAS	A	R	R	R	R	R	R

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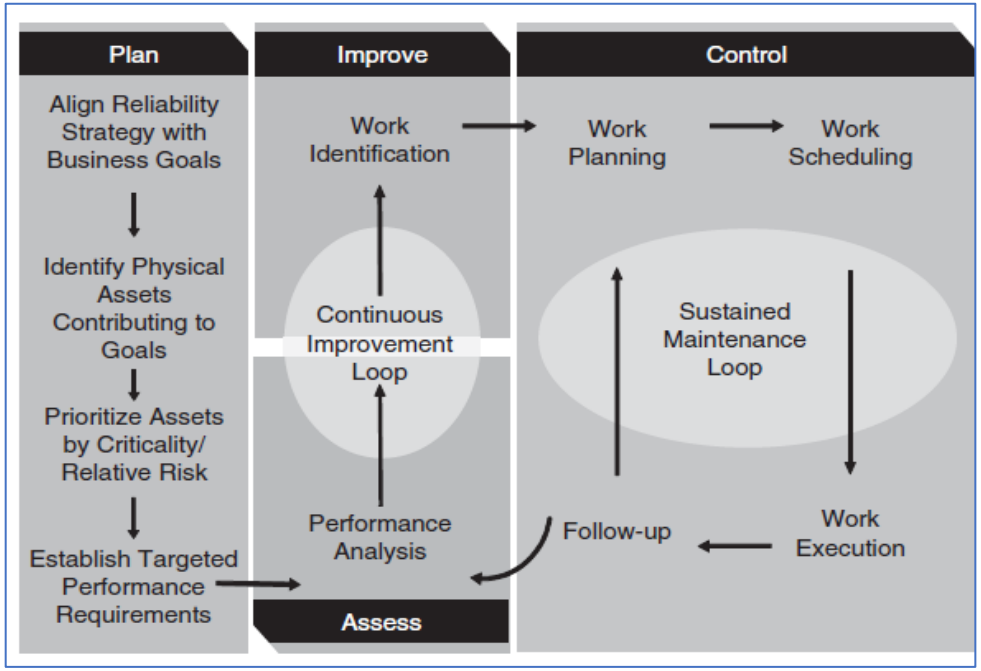


“The Journey of a Thousand Miles Begins with the first Step”
- Lao Tzu 600BC

Questions / Comments

Questions or Comments – email me at rsmith@worldclassmaintenance.org