



A Procedure to Assessing Run To Failure (RTF) As a Maintenance Strategy

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Objectives



- **Run to failure (RTF)** means doing zero planned maintenance on equipment and letting them run until they fail.
- **Purpose** of this paper.
A new approach for RTF application process
- **Goal** of this paper.
It is about using technology that can make the maintenance strategy of RTF applicable with results of a cost saving.

Defining the Steps of the Proposed Procedure

- The RTF maintenance application process is under the supervision of a CMMS system; that is the step one of this procedure.
- CMMS System
- Life cycle.
- Prediction strategy.
- Drawback of predictive maintenance.

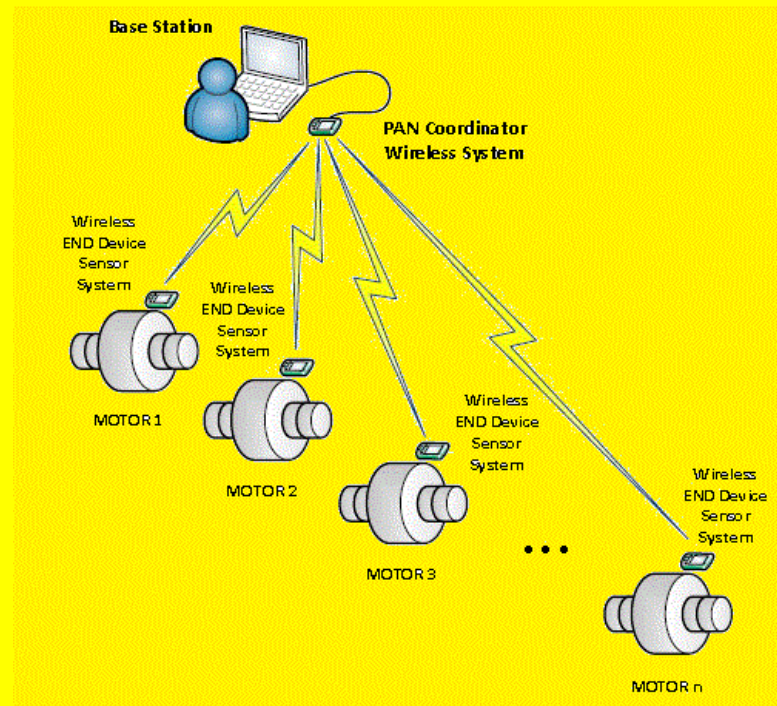
The Second Step is:

- Assessing and analyzing candidate asset.
- Making a list of chosen assets for this type of maintenance.
- This assessment must take under consideration:
 - the equipment cost,
 - labors cost,
 - and downtime cost.

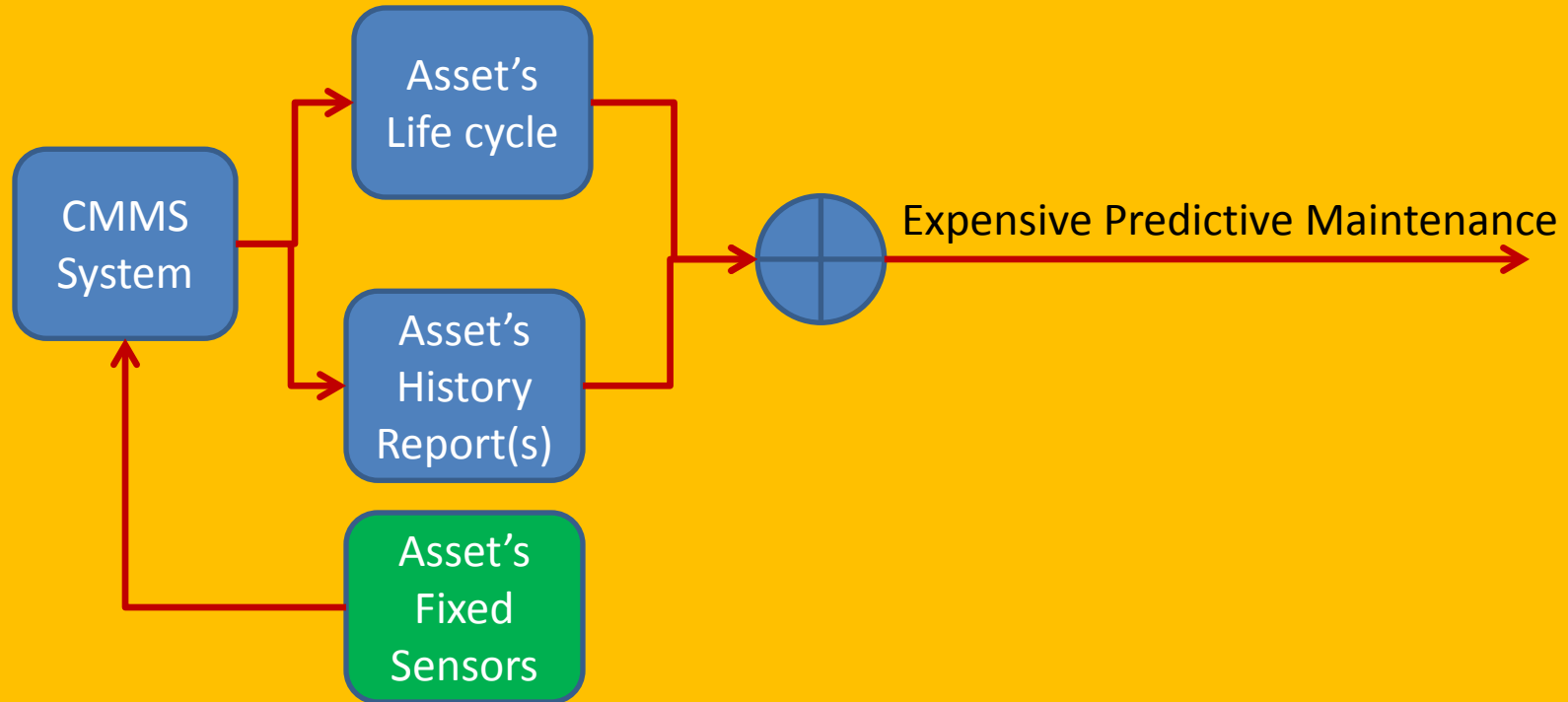
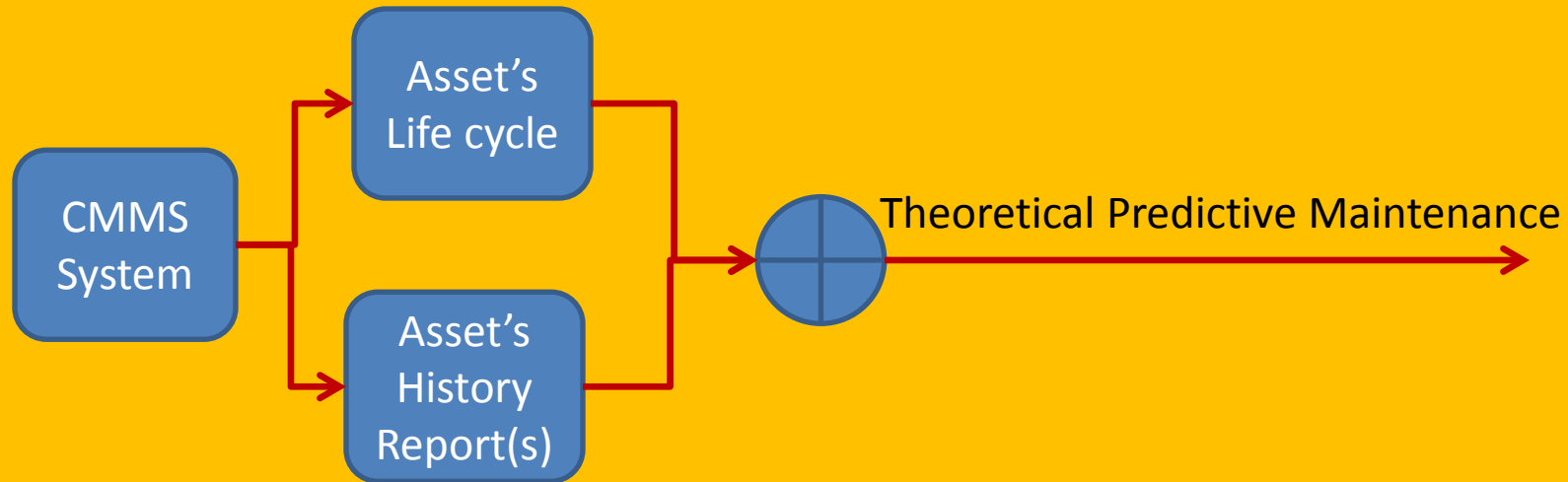


The Third Step:

- Technology assistance and support; past and present.
- Previously, using technology made RTF a successful application but very expensive one.
- Nowadays, movable Wi-Fi sensors are the future technology for RTF applications.
- Impact of this technology.

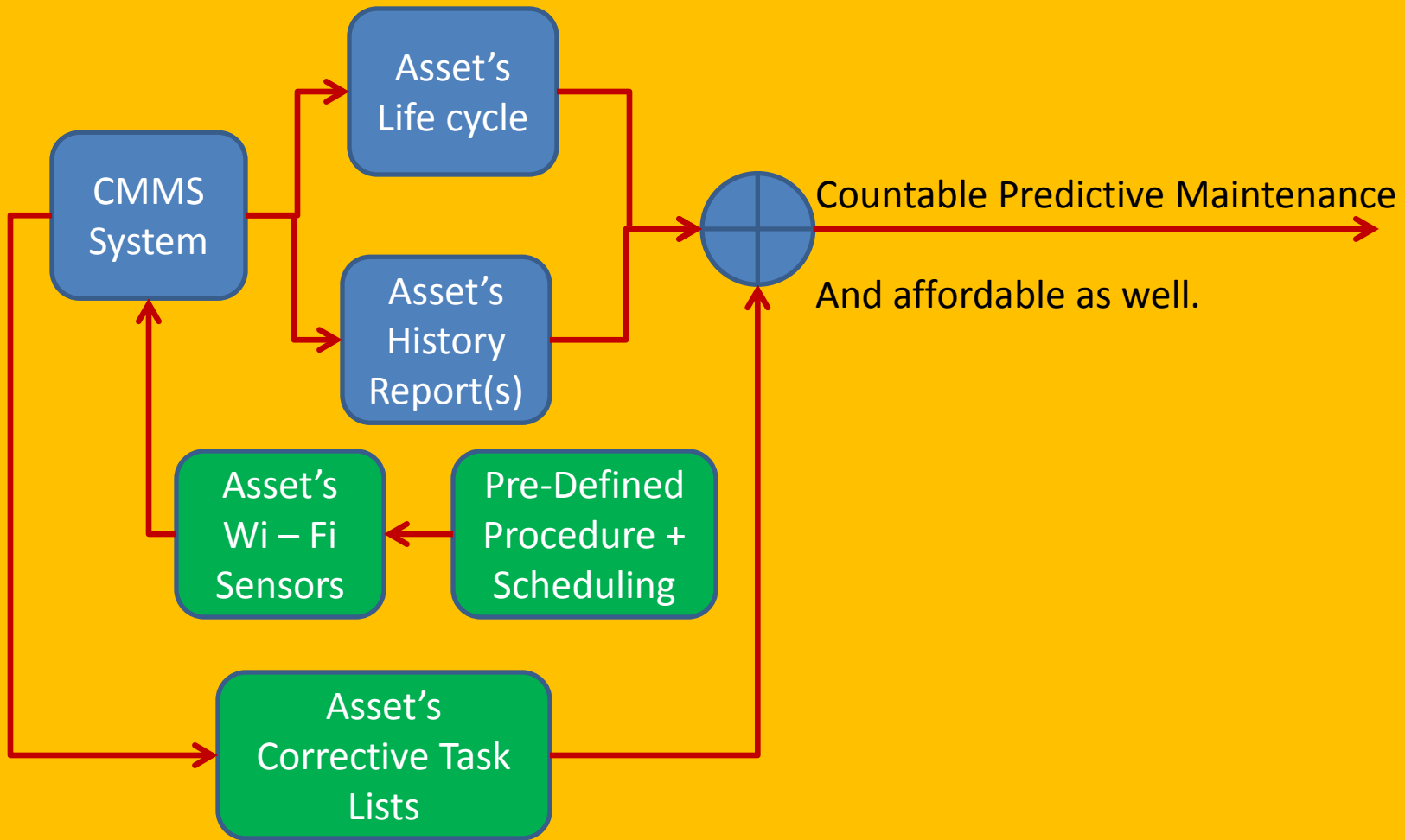


Conventional Run To Failure Application Process



Run To Failure Application Process Supported With Technology

A New Approach For Run To Failure Application Process



A prototype for such a corrective task list for this RTF type of proposed maintenance strategy.

Machine Type Pump	Symptoms									
Fault	Fluid Leakage	Length Measurement	Power	Pressure or Vacuum	Speed	Vibration	Temperature	Oil Debris	Oil Leakage	Coast Down Time
Damaged Impeller		X	X	X	X	X	X	X		X
Damaged Seals	X	X		X	X	X				
Eccentric Impeller			X	X	X	X	X			X
Bearing Damage		X	X		X	X	X	X	X	X
Bearing Wear		X				X	X	X		X
Mounting Fault						X				
Unbalanced						X				
Misalignment		X				X				

Corrective Task List Table for a Pump



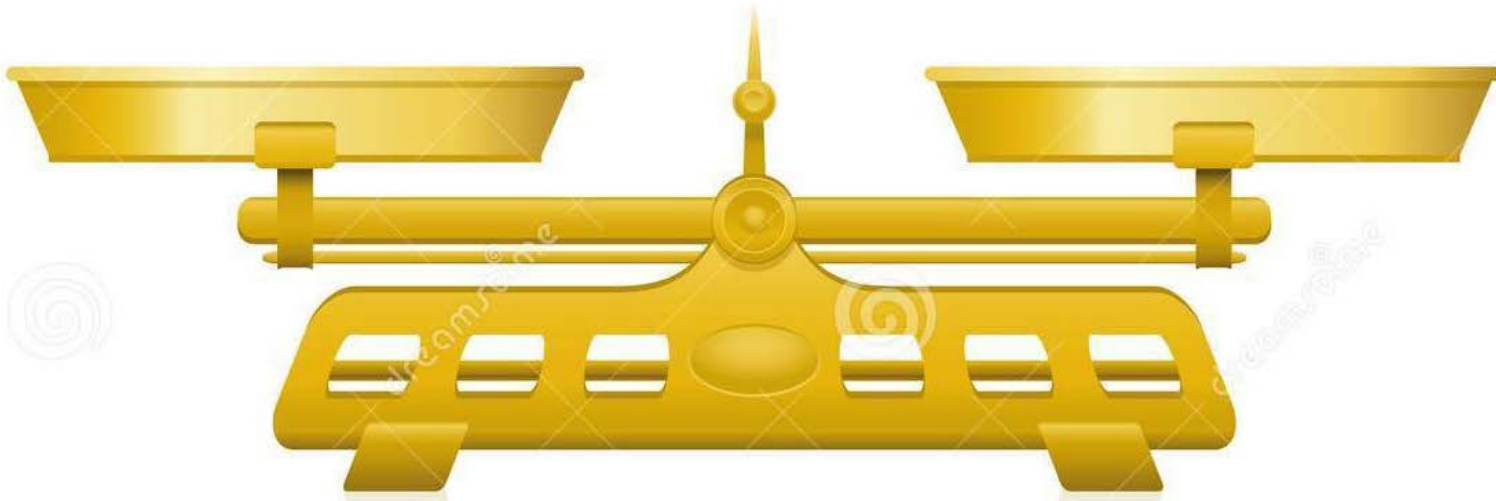
Advantages and Disadvantages of RTF Maintenance

Advantages

- Minimum Planning,
- Easy to Understand ,
- Cost Saving.

Disadvantages

- Unpredictable,
- Inconsistent,
- Costly,
- Inventory Costs ,
- Safety Risks.



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Conclusion

- RTF maintenance is a conventional process if technology was neglected to be part of this process.
- Modern technology has become a particularly important source of knowledge to make this type of maintenance applicable.
- By using Wi-Fi sensors in monitoring, the RTF maintenance process becomes a countable procedure in predicting, reducing breakdowns & maintenance cost.

THANK YOU

FOR YOUR TIME



END