

FOUR STEPS TO ESTABLISH A PdM STRATEGY



identify the most critical assets

The goal of an **asset-driven** predictive maintenance strategy is to maximize asset value through increased **reliability**.

The process starts with the **objective** identification of **critical assets**.



1. Open the **Criticality Analysis** Excel spreadsheet. Enter each asset on a separate row.
2. Next, for each asset, assign a value to each of the 11 factors. (Click the red triangle in the cell of each column header to access the embedded comments and scoring values.)
3. For comparison among departments, have each team complete the spreadsheet independently, then meet to discuss.
4. Use the Raw Value Score to create an initial prioritization of assets. The final criticality value should result from dialog among stakeholders.



analyze the risk assessment results

With the critical assets prioritized, the next step is to analyze the **risk assessment** results for each asset's **functional failures**.

Each asset is analyzed **individually**.



1. Select the asset; access the **FMEA and EMP Tool** Excel spreadsheet and open **FMEA** tab.
2. Next, for each subsystem function of that asset, list all the functional failures that might occur, and proceed across each row to complete the additional columns. (Click the red triangle in the cell of each column header to access the embedded comments and scoring values.)
3. Complete the **AS IS RPN** section with scores for **Severity**, **Occurrence**, and **Detectability**. Multiple the 3 values to calculate the **RPN**.
4. To raise engagement, be sure to gain consensus on the scores before proceeding to the **CORRECT** step.



correct
the risk with a
maintenance
plan

Develop **Recommended Improvements/Actions** are listed for each **functional failure** for the asset.

We then repeat the **Risk Priority Number (RPN)** calculation and implement the best **corrective action**.



1. Continue working with the **FMEA and EMP Tool** Excel spreadsheet for the selected asset, remaining on the **FMEA** tab.
2. Generate recommended improvements or actions with frequency and responsibility information. (Click the red triangle in the cell of each column header to access the embedded comments and scoring values.)
3. Complete the **TO BE RPN** section with scores for **Severity**, **Occurrence**, and **Detectability**. Multiple the 3 values to calculate the new **RPN**.
4. Build the **Equipment Maintenance Plan (EMP)** tab using the data from the **FMEA** recommended actions. Remember, this should be a cross-functional conversation, so work to gain consensus on the scores and priority before proceeding to the **MEASURE** step.



measure
the results
of the **EMP**

Select **metrics** that will provide valid **feedback** about the **predictive maintenance activities** in the EMP.

Remember, data only become useful when they are properly interpreted and used to drive **decisions** about future practices.



1. Most organizations have a **Computerized Maintenance Management System (CMMS)** that can track findings and generate reports. If not, use whatever application is available that can automate the reporting.
2. Be sure to collect **baseline data** that can be used against future data to evaluate the PdM activities.
3. Set performance goals with achievable but challenging targets.
4. Track the data on a regular basis, watching for trends. Meet as a cross-functional team to adopt any course corrections, or to identify other areas where the same practices can bring additional value.