Identify Critical Assets and Optimize Maintenance Strategies to Improve Reliability
Redefining asset management in the digital world

CEOs worldwide strive to grow revenues while balancing risk and customer satisfaction. They can choose to compete in a core or niche market, or on price, quality, or uniqueness of product. Or by innovating new products and services to attract and keep customers. At the same time, they invest heavily in designing, buying, operating, and managing equipment and other assets.

Organizations must maximize return on assets, for example, by ensuring asset uptime to meet demand and control cost. Successful asset management – following the latest guidelines of ISO 55001 – maximizes returns consistently by optimizing cost, risk, and performance so you can execute strategies and fulfill customer orders on time with expected quality.

However, assets age, wear down, and break. New safety risks emerge, capital costs rise, and unexpected failures occur despite strict maintenance schedules.

But change has come with powerful innovations assisted by the Internet of things (IoT), predictive analytics, augmented reality, pervasive mobility, and global business networks. More data is being created daily and it can be used to transform asset management practices and support the creation of new business models and processes.

Imagine having streaming data from sensors, machines, and other assets and then analyzing it to gain real-time transparency and decision support.
Finding a balance between performance, cost, and risk

A company looking to improve its asset management strategy wants to achieve value by finding a balance between the performance of each asset, the cost of that performance, and the exposure to the risk it brings. The risk includes unplanned downtime and failures and must be met with the right levels of spend and effort to keep everything working without overmaintaining.

Most companies use fixed-interval, preventive maintenance strategies for lowering the risk of failure. Or, if the asset is not critical or there is redundancy, they will run the asset until it fails. Often, operating data from assets is used to determine the condition of an asset and schedule maintenance before a potential failure. Running maintenance at fixed intervals can lead to over-maintaining.

Managers can’t tell how much a reduction in budget would affect the risk of failure or how to improve maintenance efforts to increase reliability and availability of the asset system.

SAP Asset Strategy and Performance Management – which is part of the SAP Intelligent Asset Management solution portfolio – will support them in this analysis.

Finding a balance between performance, cost, and risk

Risk and criticality assessment

Determine your optimum maintenance strategy

Creating value through integration
Risk and criticality assessment

SAP Asset Strategy and Performance Management is an advanced application designed to help asset owners, managers, plant managers, and reliability engineers measure and improve the performance of their assets and optimize their maintenance strategies.

Typically, organizations will start by performing a risk and criticality assessment of selected assets. You can rate probability and consequence of failure in various categories using predefined matrices or define your own. The solution supports your work by giving you an analysis of historical failure and the fiscal impact (if recorded), performing a ‘bad actor analysis’.

This exercise helps identify assets that need a change of maintenance strategy. SAP Asset Strategy and Performance Management provides tools like reliability-centered maintenance (RCM) and failure modes and effects analysis (FMEA) to support this approach.

For assets with a lower criticality, you might decide on a run-to-failure approach or just follow the manufacturer’s recommended maintenance strategy which can be provided through SAP Asset Intelligence Network.

The first thing you need is a clear and accurate risk and criticality assessment analysis of your assets.
Determine your optimum maintenance strategy

Once the risk and criticality assessment is performed and, where you have medium-critical assets, we recommend a structured review of your existing maintenance plans and task lists. To help you, comparisons can also be made enterprise wide for all assets of the same type, and new maintenance intervals can be calculated based on historic failure data.

Assets above your criticality threshold can undergo an RCM or FMEA assessment. Failure modes can be described and assigned a probability, and the severity of the impact can be used to prioritize them. You can also rate the detectability of the failure.

With all of this information at hand, you can calculate risk levels and determine alternative maintenance strategies. Your strategy can include condition-based or predictive maintenance, making the most of the SAP Intelligent Asset Management suite of solutions. For example, you can share your RCM or FMEA assessments with other business partners using SAP Asset Intelligence Network.

You can also set up checklists to carry out inspection tasks.

SAP Asset Strategy and Performance Management also provides a framework (asset central foundation) to model individual equipment, groups, systems, functions, failure modes, et cetera.

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To optimize maintenance and service processes, SAP Asset Strategy and Performance Management integrates with SAP Intelligent Asset Management solutions, supporting end-to-end IoT based asset management scenarios, from insights to action.

The out-of-the-box integration with SAP Enterprise Asset Management means you can fully integrate master and operational data with your business information systems.

You can also seamlessly integrate the asset criticality assessment results and recommended preventive and correct maintenance strategies.

Authorized business partners can access critical alerts, engineering insights and sensor data through SAP Asset Intelligence Network to provide maintenance services on behalf of asset manufacturers or operators. In any business model for maintenance and service, integrating business and operational data can improve asset performance and reduce maintenance, service, and warranty costs.

SAP Asset Strategy and Performance Management is fully flexible, customizable, and scalable to your business.

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Gain more from your asset management

SAP Asset Strategy and Performance Management provides you with more reliable information, more accurate predictions, and more models to plan your asset maintenance strategies.

If your goal is to reduce your maintenance spend while lowering risk and raising output, we’ll help you do that. Or if you want to optimize performance against a fixed budget and risk level, we’ll help you do that too.

This can reduce the uncertainty about your asset systems and help you achieve assurance as per ISO 55001.

You can perform an asset risk and criticality assessment, follow an RCM or FMEA approach. SAP Asset Strategy and Performance Management improves efficiency by integrating technical information, asset history, maintenance strategies, financial data, and real-word information.

Other benefits include:
- Increased asset availability
- Increased mean time between failures (MTBF) and greater reliability
- Better utilization of assets
- Better planned and controlled spend
- Reduced work backlog
- More efficient preventive and predictive maintenance plans
- Reduction in spare parts inventory
- Adoption of a proactive and targeted maintenance strategies
Summary
SAP Asset Strategy and Performance Management is an application designed to help asset owners, managers, plant managers, and reliability engineers measure and improve the performance of their assets and optimize their maintenance strategies. It provides more control and helps make planning easier and more accurate.

Objectives
• Identify critical assets
• Improve and optimize asset management strategies
• Achieve value for your organization
• Find the balance between performance, cost, and risk
• Predict how reductions in budget affect asset performance

Solution
• Starts with a technical review of your assets
• Rates probability and consequence of failure
• Uses predefined or custom matrices to assess risk and criticality or freely definable questionnaires
• Defines strategies for low, medium, and high criticality
• Accommodates condition-based and predictive maintenance

Benefits
• Simplifies and clarifies your maintenance strategies
• Helps you get more from your assets
• Makes your spend go further
• Improves efficiencies
• Boosts productivity

Learn more
To find out more, call your SAP representative or visit us online at www.sap.com/aspm.