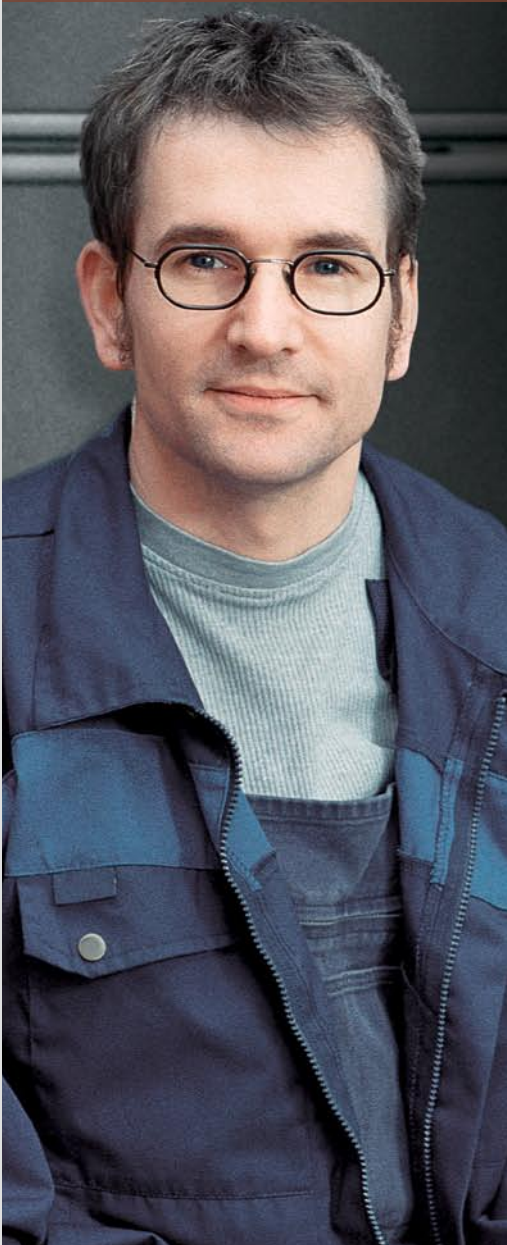


OPTIMIZED ASSET OPERATIONS AND MAINTENANCE

MAXIMIZING ASSET PERFORMANCE

You can't afford unnecessary asset downtime when production is the lifeblood of your business. SAP® solutions enable you to integrate, automate, and unify all asset-related data, business processes, and reporting to enable holistic asset operations and maintenance so you can keep assets running optimally.



If you have an asset-intensive business, then reliability is likely one of your top concerns. The business impacts of downtime can be severe, sometimes costing companies millions of dollars per year. Maximizing asset reliability and return on investment requires a proactive approach to maintenance that's managed effectively and executed by qualified professionals who can quickly and easily access everything required to complete their work.

But maximizing uptime as assets age is an increasingly elusive goal. Many organizations struggle with excessive downtime, low returns on assets, inefficient service procurement, and wasted time and resources that drive up maintenance costs. This is due to:

- **Heavy reliance on outsourcing** – It's difficult to source, manage, monitor, and control the increasing number of contractors required to keep assets running optimally.
- **Poor documentation of processes, task lists, and bills of material** – When master data isn't complete or up-to-date, then it's harder for maintenance staff to execute maintenance tasks efficiently or ensure that they have the necessary parts for maintenance activities on hand. This leads to delays in order completion and longer and more frequent downtime.
- **Retirement of skilled maintenance, repair, and overhaul staff** – Across industries, maintenance departments are experiencing "brain drain" as experienced maintenance professionals retire. As a result, you can't rely on "experience" with equipment, informal processes, and ad hoc planning to keep equipment running reliably.

Overcoming these challenges requires having the right systems and processes in place. When maintenance professionals and managers rely on maintenance manuals, spreadsheets, and fragmented data and systems, you can't gain a consolidated view of your company's assets, optimize maintenance schedules, and establish preventive and predictive maintenance processes. And as a result, you can't keep assets up and running smoothly.

The solution is to integrate, automate, and unify all asset-related data, business processes, and analytics to enable holistic asset operations and maintenance. SAP® solutions work together to deliver the visibility and control you need to minimize downtime, keep assets profitable, enforce service levels, and optimize maintenance activities – now and in the future.

Maximizing Returns on Your Investment Portfolio

With integrated solutions from SAP, now you can manage assets and maintenance as a strategic discipline that helps ensure maximum uptime at the lowest cost. The solutions, which you can implement incrementally or all at once, enable optimized asset planning and scheduling, operations and maintenance, service procurement, and spare parts management by aligning key stakeholders with corporate objectives. They work together to give you a consolidated view of your entire asset portfolio, insight into maintenance performance, and streamlined processes that maximize asset reliability while reducing operational costs.

Integration between SAP and partner applications – and the processes they support – links different departments across your business. As a result, you can align the employees and partners involved in your asset cycle – including senior management, engineers, maintenance staff, procurement professionals, and operations staff – and enable them to:

- Help ensure assets are up and running whenever they are needed
- Improve the financial return on assets
- Reduce the request-to-delivery cycle time for repair services
- Control maintenance costs
- Increase the “wrench time” of craftspeople

All SAP software that is used to enable integrated asset operations and maintenance management is highly scalable, so it can support your business processes regardless of your organization’s size or project complexity.

Collaborative, Integrated Asset Operations and Maintenance

The SAP and partner solutions enabling integrated asset operations and maintenance management deliver functionality to support asset planning and scheduling, operations and maintenance, service procurement, and spare parts management. Additional functionality can be deployed incrementally so you can realize more value, or you can deploy it together on a single platform to integrate, automate, and unify all asset-related data, maintenance processes, and reporting.

Asset Planning and Scheduling

SAP solutions enable you to implement regular preventive and condition-based maintenance, as well as engineering projects, so you can minimize downtime and control maintenance costs. The software supports key activities around business planning, budgeting, technical asset management, document management, asset performance management, shutdown management, and maintenance planning and scheduling. Now you can move to a planned maintenance culture that’s focused on preventive activities. In addition, you can:

- Use a systematic approach to define and centrally store maintenance strategies, work procedures, and task lists for all relevant equipment
- Integrate project management for planning, budgeting, scheduling, reporting, and management of maintenance projects
- Measure efficiency by comparing the number of hours planned versus actual hours spent
- Automatically generate preventive maintenance orders based on predefined deadlines or usage
- Integrate information documentation, such as spare parts lists, with task lists
- Forecast a detailed, time-phased budget using maintenance plans and task lists and leveraging visibility across the organization
- Develop appropriate, data-driven maintenance plans and document clear procedures for each relevant piece of equipment

As a result, you can plan resource hours and material requirements that are representative of actual job requirements, as well as reduce mean time to repair so equipment is up and running



again quickly. Equally important, SAP solutions help you reduce work backlogs, increase asset uptime, and control maintenance spend.

Operations and Maintenance

SAP solutions support an integrated, proactive process for optimizing asset operations and maintenance so you can minimize the occurrence of breakdowns. Business analytics and manufacturing intelligence offer unique insight into yield, quality, and condition information from various sources so you can make decisions that improve overall equipment effectiveness. For example, the software automatically calculates mean time between failures based on downtime recording. In addition, you can:

- Instantly access a complete maintenance history for all machinery
- Use a portal to view resource availability, assign and manage tasks, and access engineering and other vital information from across the enterprise
- Integrate views of production and maintenance plans to better synchronize activities
- Efficiently execute maintenance orders by giving staff predefined task lists (master data on tasks) and bills of material

- Give maintenance staff easier access to associated documents and historical information
- Implement lockout and tagout procedures so maintenance work can be executed safely
- Enable maintenance staff to use a mobile device to access information and complete orders
- Leverage flexible order settlement against various cost objects, such as fixed assets, work breakdown structures, and cost centers

As a result, you can increase equipment reliability, reduce work backlogs, maximize asset utilization, and minimize the impact of downtimes on production. You can also help ensure the safe, coordinated execution of maintenance activities by employees and contractors.

Service Procurement

Now you can enforce service levels with your contractors by standardizing and automating the complete service procure-to-pay process, from service requests (made through your enterprise resource planning software), bids, and vendor selection to service management, PO processing, and supplier collaboration and settlement. Using the integrated software, you can:

- Enable online supplier collaboration for service request specification, quoting, order confirmation, and status updates
- Monitor contractor compliance with predetermined maintenance schedules
- Integrate with SAP software's functionality for materials management (to automate service requests), supplier relationship management (to automate bidding), and supplier self-services

(for efficient Web-based bidding collaboration and service fulfillment)

- Enforce the use of established contracts with outside contractors to maximize savings

As a result, you benefit from faster supplier selection and spot bidding, as well as from a purchasing process that shortens cycle times for service delivery. Collaboration with suppliers is easier and more efficient, thanks to self-service functions and integrated workflows that span the various departments involved in service procurement.

Spare Parts Management

SAP solutions enable you to automate spare parts management, which leads to greater cost savings and helps ensure that you always have what's needed to finish repairs quickly and efficiently. Requisitions can be automatically generated based on consumption-based material requirements planning. Reorder points and reorder quantities are stored in a central material master record, and once the inventory level for a spare part falls below the reorder point threshold, a purchase requisition is placed for a defined order quantity. In addition, you can:

- Forecast model selection, reorder point, and reorder quantity calculations based on historical data
- Use master data management to identify obsolete and redundant part numbers and reduce inventory requirements
- Eliminate manual planning work by creating standard task lists and bills of material relevant to specific equipment and locations
- Refurbish or repair parts using in-house staff or subcontractors

Maximizing uptime as assets age is an increasingly elusive goal. Many organizations struggle with excessive downtime, low returns on assets, inefficient service procurement, and wasted time and resources that drive up maintenance costs.

As a result, you can save time and prevent delays and errors that occur with manual purchasing processes. Because you have complete visibility and control over inventory, you can also reduce the amount of capital tied up in spare parts holdings, find the parts you need faster, and allocate parts to specific tasks in your maintenance schedule.

Software and Services for Asset Operations and Maintenance Management

Integrated software and services from SAP and our partners can provide you with the functionality needed to enable comprehensive asset operations and maintenance management. For more information about these solutions, contact your SAP representative or visit us on the Web at www.sap.com/solutions/executiveview/manufacturing/maximize-asset-uptime/index.epx.

Summary

SAP® and partner solutions enable holistic asset operations and maintenance management by integrating, automating, and unifying all maintenance-related data, processes, and reporting. Gain the visibility and control you need to minimize downtime, keep assets profitable, enforce service levels, and optimize maintenance activities.

Business Challenges

- Excessive asset downtime
- Accelerated retirement of maintenance professionals
- Difficulty sourcing and managing outside specialists
- No process for capturing and managing master data

Key Features

- **Asset planning and scheduling** – Define maintenance strategies and task lists; integrate planning, budgeting, scheduling, reporting, and project management; measure efficiency; automatically generate preventive maintenance orders; and centralize budgeting
- **Operations and maintenance** – Maintain a complete maintenance history; develop proactive, data-driven plans; view resource availability and assign and manage tasks; synchronize production and maintenance activities; efficiently execute maintenance orders
- **Service procurement** – Enable online supplier collaboration; enforce contractor compliance; and enforce the use of established contracts with outside contractors to maximize savings
- **Spare parts management** – Automatically generate requisitions based on consumption-based material requirements planning; identify obsolete and redundant part numbers; and create standard task lists and bills of material

Business Benefits

- **Increase uptime** by establishing and enforcing proactive maintenance that keeps machines running smoothly
- **Reduce costs** by facilitating supplier collaboration, enforcing contracts with suppliers, and minimizing repairs and replacements via better maintenance
- **Improve maintenance efficiency and effectiveness** by documenting plans, best practices, task lists, and bills of material

For More Information

To learn how integrated software from SAP can help you maximize asset uptime, call your SAP representative today or visit us on the Web at

www.sap.com/solutions/executiveview/manufacturing/maximize-asset-uptime/index.epx.

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