Asset Management
Managing Physical Assets Sustainably

With tough economic conditions and uncertain markets, companies must maximize their returns on assets. To be globally competitive, they must achieve operational and maintenance excellence. And while focusing on sustainable operations, companies must manage risks to performance goals, worker safety, and the environment.

Corporations spend billions to design, purchase, operate, and decommission physical assets. In many industries, managing assets and optimally using these investments is mission-critical – and is under the constant scrutiny of top management, shareholders, and regulators.

As a result, traditional asset management activities are evolving into a comprehensive, standards-driven management approach that impacts all facets of an organization.

Guidelines such as BSI’s Publicly Available Specification 55 help companies apply structured, good practice–based disciplines to their asset management capabilities. These disciplines are designed to help ensure optimized production, asset uptime, reliability, and overall asset performance.
Maximize Return on Assets, Manage Risk

For efficient and sustainable asset management, companies must streamline processes, making them transparent and integrating them with all other business areas. Companies optimize assets by maintaining efficient asset use throughout the lifecycle, supporting fast decisions and minimal disruptions.

To optimize asset management, enterprises must introduce appropriate good practices, as described in BSI’s Publicly Available Specification 55, which is currently evolving into an ISO standard.

Companies need to align their business goals with their asset strategies by supporting integrated asset management processes that collaborate across all related activities such as finance, operations, HR, risk, and compliance.

Enterprises must improve overall equipment effectiveness via asset intelligence and a holistic view of performance, risks, and expenditures throughout an asset’s lifecycle – thus optimizing asset use.

And they need to manage asset-related risks by employing continuous and proactive operational risk management to support instant decisions and minimize disruptions.
Achieving Superior Asset Performance

Efficiently and sustainably manage the entire asset lifecycle, get real-time visibility into asset performance, improve asset usage, and cut costs – even while enhancing environment, health, and safety (EHS) performance.

To achieve superior asset performance, companies must do the following:

**Optimize** return on assets, with end-to-end software support for asset portfolio management, capital project management, and asset information management

**Build** a single, real-time view of asset and enterprise resource planning data – the necessary first step toward improved asset utilization, business planning, and maintenance execution

**Integrate**, automate, and unify all asset-related data, business processes, and reporting to enable holistic asset operations and maintenance

**Operate** in a cleaner, safer way – and still perform optimally – by aligning stakeholder objectives across the enterprise and supporting integrated operational risk management

**Optimize** real estate management to gain insight into where to cut costs and streamline processes that enhance customer service levels

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1.7x

Higher return on assets reported by the top 25% organizations than the average organization

Source: SAP Performance Benchmarking
SAP Innovations

Breakthrough technology plus asset-related data equals unprecedented opportunity. Best-run companies will make faster decisions, improve efficiency, gain more visibility into asset operations, and create flexible asset management networks.

Database and technology solutions, including the SAP HANA platform, provide the ability to make fast decisions based on accurate data and well-prepared maintenance scheduling.

Mobile solutions empower maintenance technicians to work more safely, productively, and independently in the field, whether installing new equipment or maintaining, inspecting, and repairing existing assets.

Analytics solutions provide visibility into the operation of physical assets, allowing users to take proactive steps to avoid interruptions and downtime, and effectively forecast and plan asset utilization.

Cloud-based solutions allow for fast, low-risk deployment to create flexible asset management networks for service procurement and spare-parts management.
Companies optimize assets by maintaining their efficient use throughout the lifecycle, implementing fast decisions and minimizing disruptions.

**Optimize Portfolios**
It is now more important than ever to make informed asset-related decisions that keep your return on assets high.

**Solve Issues Quickly**
Organizations can increase uptime and react quicker to process upsets with better visibility into their operations and asset performance.

**Boost Use and Performance**
Forward-thinking companies integrate, automate, and unify all asset-related data, business processes, and analytics to enable holistic operations and maintenance.

**Manage and Mitigate Risk**
Companies must identify potential risks and establish controls to reduce the likelihood and severity of adverse events.

**Maximize Returns**
In a global, highly competitive economy, companies must align real estate operations with corporate goals.
During tough economic times, it is vitally important to make informed decisions that maintain a high return on assets (ROA). With integrated portfolio, project, and asset information management, you can assess opportunities, prioritize projects, optimize execution, and assess operational readiness.

With the right tools and insights, you can plan, build, and commission assets. Despite the fluctuating market conditions and risks, you can set the right priorities and manage the complex interactions among the many players involved in capital projects. And you can prevent budget overruns; delayed start-ups; inefficient data handovers by contractors; and inefficient maintenance, repair, and operations management once assets have been commissioned.

Armed with integrated business planning, portfolio prioritization and governance, and capital project management plus asset information management, visibility, and control, you can optimize ROA for your asset-intensive operation.

Higher asset productivity where asset lifecycle is optimized through long-term financial planning, utilization, upgrade, and replacement plans

Source: SAP Performance Benchmarking
Solve Issues Quickly

Organizations can increase uptime, narrow process variability, control maintenance costs, react more quickly to process upsets, and satisfy customers more consistently when they have greater visibility into their operations and asset performance.

If the executives on the top floor had greater visibility into events and processes on the shop floor, what could you gain?

What if a vice president of manufacturing could take in, at a glance, the real-time status of plant-floor operations in multiple locations?

What if that executive could drill into operational details at a particular plant to see real-time information about production rates and yields, asset utilization, asset health and safety metrics, and energy consumption and emission?

Or, when seeing an exceptional situation, drill further, gaining insight into the actual performance of individual machines in a facility thousands of miles away?

With insights like these, your organization would have the ability to manage operations more effectively, improve asset utilization and plant performance, achieve higher product consistency and quality, lower costs and increase profits, deliver goods on time more reliably, and satisfy your customers more consistently.
Asset uptime is vital when production is the lifeblood of your business. Forward-thinking companies integrate, automate, and unify all asset-related data, business processes, and analytics to enable holistic operations and maintenance.

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 readily access everything required to complete their work.

Best-run companies enable holistic asset operations and maintenance management by integrating, automating, and unifying all maintenance-related data, processes, and reporting.

They increase uptime by establishing and enforcing proactive maintenance. They reduce costs by facilitating supplier collaboration, enforcing contracts with suppliers, and minimizing repairs and replacements. And they improve maintenance efficiency and effectiveness by documenting plans, best practices, task lists, and bills of material.

16% Higher ROA by integrating maintenance system with inventory management, MRO purchasing, reliability engineering, finance, and other enterprise function

Source: SAP Performance Benchmarking
On the path to sustainable growth, operational risks can make even best-run companies stumble. Companies must identify potential risks and establish controls to reduce the likelihood and severity of adverse events. If incidents occur, companies must be prepared, learn, and improve.

Best-run organizations stay informed and learn from a broad experience base to anticipate and avoid threats and risks. They rely on effective operational risk management systems to ensure business continuity.

In industries that operate in inherently dangerous environments – such as oil and gas, chemicals, and mining – safe operations is a major goal supported by operational risk management best practices.

Through these practices, organizations perform thorough risk assessments, design operational controls, and communicate safe work practices. They can test and monitor operational controls, capture incidents, and learn from incidents to influence change.

To support these processes, companies must achieve effective automation, integration of people and data, and performance-oriented analytics for understanding trends, patterns, and opportunities for improvement.

**Manage and Mitigate Risk**

Lower recordable accident frequency with the establishment and monitoring of strong safety measures for people and assets

Source: SAP Performance Benchmarking
Maximize Returns

To maximize returns on the property portfolio, companies need a consolidated view of their entire real estate portfolio and insight into how and where they can cut costs, streamline processes, and enhance customer service.

Integrated real estate lifecycle management gives you greater insight into your property portfolio at each phase of the lifecycle and increases the value of your assets.

By monitoring all construction, modernization, maintenance, and repair projects, you can significantly reduce project risk.

By fully supporting the lease-out process, you can increase the revenue from income leases and reduce vacancies.

By optimizing expense leases, you can save on the costs of those leases.

By improving the performance of income leases, you can increase revenue.

Integrated real estate lifecycle management can also help you use corporate workspace more effectively, handle all lease processes according to financial accounting standards, and make it easier to create an audit trail for energy consumption.

40%

Higher operating margin for organizations which follow an enterprise-wide performance management discipline (North America and EMEA based)

Source: SAP Performance Benchmarking
Asset Management Value Map

SAP solutions address key requirements for asset optimization.

**SAP Solutions**
- Portfolio and Commissioning
- Visibility and Performance
- Operations and Maintenance
- Operational Risk Management
- Real Estate Management

**Optimize Assets**
- Asset Portfolio and Commissioning
  - Asset Portfolio Management
  - Capital Project Management
  - Prepare and Deploy Asset Information
  - Monitor and Maintain Asset Information
- Asset Visibility and Performance
  - Asset Performance Measurement
  - Asset Improvement Programs
  - Optimize Maintenance and Plant Operations
- Asset Operations and Maintenance
  - Asset Planning and Scheduling
  - Operations and Maintenance
  - Service Procurement
  - Spare-Parts Management
  - Mobile Asset Management
- Operational Risk Management
  - Incident Management
  - Environment, Health, and Safety Risk Assessment
  - Management of Change
  - Maintenance Worker Safety Management
  - Work Permit Management
- Real Estate Lifecycle Management
  - Investment and Construction
  - Sales and Marketing
  - Lease and Space Management
  - Maintenance and Repair
Optimize the asset portfolio.

Approve, direct, and administer the maintenance capital budget for an optimized asset investment portfolio by prioritizing and selecting the right projects. Execute and monitor scope, costs, and timelines. Capture asset data and continuously assess the quality of information throughout the asset lifecycle.

- Alignment of capital spending with corporate strategies and evaluation of the risks of alternatives.
- Detailed development of project plan and budget and monitoring and reporting of financial status of project plan and budget, along with monitoring and reporting of financial and project status.
- Collaboration with engineering procurement contractors and original equipment manufacturers for electronic data hand-overs of asset and maintenance information throughout the new build or overhaul process.
- Assessment, validation, and continuous monitoring of the quality of asset master data; confirmation of the integrity, quality, and management of changes to the master data for all assets and subasset systems; and data archiving (based on regulatory requirements) or deletion, as required.

Source: SAP Performance Benchmarking
Asset Visibility and Performance

**Improve visibility into operations and asset performance.**

Gain greater visibility into – and control over – manufacturing operations by integrating plant-floor systems with core enterprise applications.

- **Asset Performance Measurement**
  - Delivery of up-to-date data on asset performance.

- **Asset Improvement Programs**
  - Visibility and implementation of strategy to improve asset availability and reduce maintenance costs.

- **Optimize Maintenance and Plant Operations**
  - Strategic analysis of asset performance to drive strategies for optimal use.

29%

Lower service and maintenance cost where all facilities track and analyze standardized asset management key performance indicators

Source: SAP Performance Benchmarking
Asset Operations and Maintenance

Maximize uptime at lowest cost.
Enable holistic asset operations and maintenance management by integrating, automating, and unifying all maintenance-related data, processes, and reporting.

28% Higher wrench time by automation of monitoring, notifications, and resolution of maintenance work orders
Source: SAP Performance Benchmarking

SAP Solutions
Portfolio and Commissioning
Visibility and Performance
Operations and Maintenance
Operational Risk Management
Real Estate Management

Asset Planning and Scheduling
Planned and scheduled maintenance task planning, cost control, and budgeting.

Operations and Maintenance
Optimal equipment reliability and maximized mobile app usage, repair reduction, and worker safety.

Service Procurement
Standardized, automated, and collaborative service procurement.

Spare-Parts Management
Automated tracking and analysis of parts inventory monitoring, replenishment, and forecasting data.

Mobile Asset Management
Mobilization of maintenance processes to improve technician productivity, asset uptime, and safety.
Operational Risk Management

Reduce risks to ensure safety and business continuity.

Organizations can manage risk by performing thorough risk assessments, designing effective controls, and communicating safe work practices. Testing these controls, capturing incidents, and learning from them can enable change and support continuous improvement.

Incident Management
Communication of safety issues and support for subject-matter experts to respond, investigate, analyze, correct, prevent, and report incidents.

EHS Risk Assessment
Facilitation of comprehensive assessment of all EHS risks. Implement, manage, and communicate control.

Management of Change
Safer plant changes through automation and the use of templates, effective rules, and involvement of people. Risk mitigation caused by changes to equipment, substances, operating conditions, and procedures.

Maintenance Worker Safety Management
Integration of EHS information into plant maintenance tasks, and automatic generation of work-order safety plans.

Work Permit Management
Control of hazardous situations – such as high-voltage work, hot work, and confined-space entries – by using rigorous permit and energy isolation processes.

67%
Reduction in lost-time accident frequency for organizations performing in the top 25% as compared to average performers

Source: SAP Performance Benchmarking
Real Estate Lifecycle Management

Make better use of your real estate portfolio.

Enable integrated real estate lifecycle management – from investment planning to lease and space management, maintenance, and repair.

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36%

Higher operating margin for organizations using IT to enable strategic and competitive advantages

Source: SAP Performance Benchmarking

**SAP Solutions**

- **Investment and Construction**
  - Better investment planning and construction project management with integrated functionality.

- **Sales and Marketing**
  - Reduced vacancy rates and faster time to lease with better preparation of marketing campaigns.

- **Lease and Space Management**
  - Thorough lease and space management with costs, revenue, utilization, and critical dates monitoring.

- **Maintenance and Repair**
  - Lower operational and energy costs, better facility management with streamlined, automated processes.
SAP Innovations

Breakthrough technologies plus asset-related data equal unprecedented opportunity. Best-run companies will make faster decisions, improve efficiency, gain more visibility into asset operations, and create flexible asset management networks.

SAP Business Suite Powered by the SAP HANA Platform
Make fast decisions based on accurate data and well-prepared maintenance scheduling.

Mobile
Improve safety, productivity, and independence in the field, whether installing new equipment or maintaining, inspecting, and repairing existing assets.

Analytics
Gain visibility into the operation of physical assets, take proactive steps to avoid interruptions and downtime, and effectively forecast and plan asset utilization.

Cloud
Enhance flexible asset management networks for service procurement and spare-parts management.

65% Of enterprises believe that cloud will amplify other technology “megatrends” such as enterprise mobility and Big Data
Source: SAP Performance Benchmarking
SAP Business Suite Powered by SAP HANA

Enable companies to make fast decisions based on accurate data and well-prepared maintenance scheduling.

**Enhanced Maintenance Scheduling**

Schedule all existing maintenance plans within a specific time frame. SAP Business Suite software now uses the potential of the SAP HANA platform to automatically perform a preselection of maintenance plans that are due.

This helps ensure that the software system processes only the maintenance plans that are due and delivers the result with a much faster response time and in a user-friendly transaction.

It also increases asset utilization, reduces unplanned asset downtime, and helps ensure up-to-date scheduling information in maintenance operations.

It is now possible to schedule maintenance several times a day. This results in up-to-date scheduling information in maintenance operations and leads to improved safety in the use of the assets, such as aircraft safety.
Empower maintenance technicians to work more safely, productively, and independently in the field, whether installing new equipment or maintaining, inspecting, and repairing existing assets.

**Mobile Work Order Management**
Companies can now manage work orders and notifications anytime, anywhere, on a wide variety of mobile devices. Access to all relevant information increases safety and productivity in the plant and in the field, reduces unplanned downtime and maintenance backlogs, and extends and improves asset life and reliability.

**Mobile Rounds Management**
Users can conduct inspections, take measurement readings, and create maintenance notifications on the spot as necessary to prevent production interruptions and delays.

**Mobile Platform**
Organizations can support mobile devices through a proven, scalable platform that includes built-in software support for enterprise-class security. This platform makes it easier to deploy, support, and manage multiple mobile devices and apps, allowing the enterprise to future-proof its mobile strategy.

Higher employee productivity where mobile access is provided to employees across all levels

Source: SAP Performance Benchmarking
Analytics

Sustainable and optimized use of assets can have a large impact on operational performance. Best-run companies gain visibility into construction, operations, and maintenance of their assets to avoid interruptions and downtime, effectively forecast, and increase asset utilization.

Asset Portfolio Management
Investment in a physical asset is a critical strategic process that requires due diligence, given the diversity and large amount of data involved. It needs experts from various parts of the organization to analyze operational data for visibility into the probable technical and operational risks versus the financial benefits of such an investment. Such analyses help to prioritize portfolio items and projects to effectively use available resources and improved return on assets.

Asset Performance Measurement
As assets are operated, it is essential to monitor their condition and their utilization in real time to mitigate any risk to their effective use. Integrated analytical applications can provide holistic visibility into the performance of an asset and enable the benchmarking of key indices to drive the optimized use of assets with insightful intelligence.

Operations and Maintenance
Statistical analysis of historical information can provide a highly accurate prediction of possible future performance of the asset. This helps in preparing proactive plans to operate and maintain the asset.
Cloud

Fast and flexible deployment of both critical and complementary solutions is the essential aspect of on-demand computing. Best-run companies deploy cloud solutions to create flexible asset management networks for service procurement and spare-parts management.

Service Procurement
Releasing the maintenance order triggers the Ariba cloud-based procurement solution to create service requests with the use of supplier relationship management or enterprise resource planning materials management applications. Ariba Network is an end-to-end business process collaboration solution with supplier catalog integration, purchase order, and invoice management functionalities. Ariba is an SAP company.

Spare-Parts Management
Spare-parts requests as part of maintenance orders can also be processed with Ariba Network to help ensure efficient spare-parts management by automating the process in the cloud.

85% Of respondents believe the cloud can have a major positive impact on their organization
Source: SAP Performance Benchmarking
American Eurocopter Corporation manufactures, sells, supports, and provides training solutions for Eurocopter rotary-wing aircraft.

To secure government contracts, American Eurocopter had to track government-furnished equipment and material throughout its lifecycle, receive and place assets in inventory, track maintenance and services performed, and depreciate the items.

**Key Benefits**

- Enhanced visibility into asset management lifecycle
- Increased business opportunities by complying with government regulations
- Reduced data entry time 80%
- Decreased paperwork 78%
- Increased automation of asset management 58%
- Improved inventory accuracy 50%

“As we continue to grow our business with the Department of Defense, the SAP Enterprise Asset Management solution helps us comply with strict regulations while improving our ability to track assets.”

Doug Hamilton, Senior Director, MIS, American Eurocopter Corporation
EDF Energy provides electricity and gas to 5.5 million residential and commercial customers in the United Kingdom.

When the company built a new power station in West Burton, United Kingdom, it needed a single integrated system for monitoring and reporting on assets. The SAP Enterprise Asset Management (SAP EAM) solution supports predictive maintenance, monitoring, reporting, and other cost-effective strategies.

**Key Benefits**

- Integration of key functionalities, reducing need of multiple systems for maintenance management, document management, and incident or near-hit reporting
- Clear stewardship of asset data with effective monitoring and review
- Faster month-end reporting with a five-day savings

“The SAP Enterprise Asset Management solution provides the rich functionality we need for staying on top of system monitoring and reporting requirements so we can spend more time better serving our customers.”

Darren Ramshaw, Maintenance Manager, EDF Energy
NOVA Chemicals develops and manufactures chemicals, plastic resins, and end products that make everyday life safer, healthier, and easier.

To improve maintenance scheduling and operations at 11 manufacturing facilities, the company deployed advanced plant maintenance functionality of the SAP Enterprise Asset Management solution.

Key Benefits

- Reduce time spent on reactive, emergency work by 47%
- Increase time spent on proactive, preventative maintenance by 61%
- Coordinate and integrate maintenance scheduling
- Improve maintenance scheduling compliance by 22%
- Increase communication between maintenance and operations and decrease unplanned equipment outages

“SAP Enterprise Asset Management provides a holistic view of the overall maintenance schedule and pre-execution work. And it gives all of our business users the details they need to make better decisions.”

Ron Chow, Maintenance and Reliability Leader, NOVA Chemicals Corporation
Why SAP?

SAP Enterprise Asset Management empowers companies to obtain real-time visibility into asset performance, manage the asset lifecycle efficiently, and apply powerful analytics to optimize asset usage and cut costs.

Tightly Integrated Solutions
SAP offers the most comprehensive portfolio of solutions for asset management to support the whole lifecycle of physical assets in terms of performance, risk, and expenditures.

Leveraging Key Breakthrough Innovations
The SAP solution portfolio is based on an innovative technology foundation, which combines solutions for database and technology, enterprise mobility, and analytics to enable efficient and sustainable management of physical assets.

Proven Time to Value in Large-Scale Implementations
The world’s leading companies across all industries continue to rely on SAP to enable them to maximize return on assets, improve equipment effectiveness, and manage risk.
Find Out More About How Your Organization Can Become Best-Run

Benchmark Your Performance
Position your organization for dominance in this new economy with the business performance benchmarking program from SAP – available free to SAP customers and select prospects. The SAP benchmarking program has helped more than 3,000 organizations assess their strengths, uncover areas for improvement, and identify best practices and IT strategies that generate clear, tangible value – not someday, but today.

Go Live in Weeks
Here's the fastest way to run your business better: our rapid-deployment solutions. In one package, you get everything you need to be up and running quickly – including preconfigured software and implementation services – in just weeks. With a defined scope and predictable costs, there are no surprises.

Join Your Community of Practices
Every day, SAP Community Network (SCN) changes the way that thousands of SAP users work. It lets members help one another solve problems, learn, and invent new ways to get things done – faster. Find out how to connect with people, content, and resources.
For more information, visit us online at www54.sap.com/pc/bp/eam/software/overview.html.
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