Optimizing Maintenance, Repair, and Overhaul for Asset-Intensive Enterprises
Streamlined and integrated maintenance processes

Asset-intensive organizations depend on complex assets to power operations, innovation, and growth. By connecting and enabling maintenance processes and optimizing critical asset utilization, organizations like yours can improve efficiency and productivity and support success in the competitive and dynamic digital economy.

While infrastructure and capital assets are important in many enterprises, they are crucial to the core capabilities of asset-intensive organizations in industries such as aerospace and defense, travel and transportation, manufacturing, and utilities. Low asset utilization rates, excess parts inventory, compliance requirements, and process disconnects can all raise costs and hamper productivity. But they don’t have to.

Getting the most out of complex assets and components means controlling operating and support costs, reducing the need for time-consuming and expensive manual intervention, and optimizing productivity. By integrating maintenance, repair, and overhaul (MRO) processes with world-class ERP software, your company can increase cost transparency and control, improve performance measurement and reporting, and enable more-efficient and faster business processes.
Comprehensive maintenance, repair, and overhaul

Enter the SAP® Enterprise Asset Management (SAP EAM) solution, add-on for MRO by HCL for SAP S/4HANA®. The add-on is designed specifically to manage and streamline the complex maintenance processes of asset-intensive organizations. It features an intuitive interface and enables an extensive range of industry- and role-based experiences, with sophisticated inspector, induction, maintenance requirement, and task list functionality. The add-on extends and integrates with SAP S/4HANA, enabling processes such as maintenance planning and execution, quote creation, periodic estimates, event work scoping, and uploading of technical documentation and publications.

Natively integrate industry MRO processes with your SAP S/4HANA software and run maintenance operations on a unified enterprise platform.

Comprehensive maintenance, repair, and overhaul

Documentation and requirements management

Maintenance task definition and conformity checks

Demand planning and work scoping

Work breakdown structure, repair orders, and work elimination

Work-in-progress, parts-install, time, and defect management

Event induction and quotation, material planning and sourcing
Documentation and requirements management

The add-on for MRO enables you to upload and integrate technical documentation and third-party publications. By making timely information readily available, you can empower technicians and optimize processes including inventory management, parts provisioning, configuration management, compliance, and maintenance planning and execution. You can search content, order parts, view documents, generate job cards, and create and update document information records.

Manage the full lifecycle of maintenance requirements – including instructions, recommendations, service bulletins, modifications, and directives from regulatory bodies and customers – with maintenance workbench functionality. You can induct bulletins and directives received, review and release modifications, create executable task lists, and identify applicable technical objects. Create new nodes introduced by original equipment manufacturers as well as new structure gaps and postmodification variants for master parts lists. You can also create links among orders for modifications, include customer embodiment rules, create master plans for modifications, and report on status.

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Maintenance task definition and conformity checks

Define maintenance tasks, maintain component repair lists, and create reusable operations for standard hierarchical task lists, as well as master task lists including all operations that can be performed with specific parts or groups of parts. Because task lists are hierarchical, changes made in the master task list are automatically reflected in individual requirement task lists.

Perform component conformity checks for better, more informed decision-making by certified personnel and inspectors. Checks can be triggered during sentencing of parts, release to service, disassembly, and installation, and authorized shop-floor personnel can sentence parts as valid for installation.

**Standardize processes** with individual task lists for maintenance requirements that include the necessary steps, and sequence and eliminate duplicates.
Demand planning and work scoping

Improve mid- and long-term planning with planning task lists and maintenance demand generator functionality. You can create orders for maintenance events incorporating capacity requirements, and the add-on can automatically generate planning task lists based on executable lists included in maintenance notifications and trigger the creation of planned orders.

Gain visibility into capacity requirements and availability for short- and long-term planning with graphical, user-friendly planning functionality.

Get up-to-date graphical views of available capacity, production, and maintenance requirements for factories, production lines, and service facilities. Define work scope for planned events, package work for maintenance slots, and add tasks to work orders. The add-on uses asset details based on induction notifications or sales orders to automatically search for applicable work items including notifications, modifications, information on defects and other outstanding items, and build, repair, and suborders.

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Event induction and quotation, material planning and sourcing
The add-on facilitates financial controlling by automating the assignment of work breakdown structure (WBS) elements to maintenance orders in high-volume environments where manual assignment is not practical. WBS assignment enables cost settlement for labor, parts, tools, and other charges and lets you analyze costing across work packs and sales and work orders.

Inspection workbench functionality provides an intuitive interface for technicians working with complex assemblies and components, such as engines and aircraft. The add-on presents all required job information for work scoping for repair orders to help technicians inspect parts and determine their disposition. Parts for inspection may have been removed by technicians, or received from customers or partners for warranty or repair service.

Duplicate work operations are often created during packaging processes because many operations exist in more than one task list. With work elimination and sequencing functionality, you can eliminate redundant tasks in orders that involve complex and multitiered work, such as multiple or hierarchical task lists.
Work-in-progress, parts-install, time, and defect management

Manage progress throughout the work cycle with automatic tracking triggered by order changes and confirmations. Run reports on work at a cell or factory area, and prioritize results according to user and industry criteria such as critical days and buffer remaining. You can manage parts installation and review, and amend and confirm parts to be installed for a given work or maintenance order. Support maintenance activities with a user-friendly portal for online electronic work instruction, and get a configurable display of work orders and related information.

Enhance work-order processing with defect notification management. You can raise defects, defer work and maintenance orders, transfer work across operations, split orders, and exchange subcontracts. Collect and record labor time and attendance data, calculate elapsed event time, and split time across multiple events.

Improve labor cost visibility and control. Post time and attendance data to time-sheet applications, and confirm hours worked. You can input your labor and attendance data directly or by collecting it from devices such as bar-code or badge readers. Ensure maintenance events run smoothly by managing key information for visits. You can execute defined and custom actions and generate reports for use in sales documents, induction notifications, and revisions.

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Induct components and assets for maintenance, repair, or overhaul. You can generate sales orders and returns, input work scope, receive items, create repair orders, issue parts, raise defects, and create revisions.

Speed up quotation processes by gathering work cost information for materials and labor with bill-of-work functionality. Gain visibility into advanced material requirements planning, and enable the generation of maintenance orders with features from the planning task list and maintenance demand generator.

Perform demand sourcing by searching for parts to meet actual or planned demand across multiple conditions, owners, stock segments, and states such as “in stock” and “installed.” You can conduct internal part exchanges or swaps to meet demand, manage shortages, and drill down into supply and demand situations with material expediting reporting. Calculate stock in hand and due for receipt against required quantities to cover current and “potential future” shortages.

Improve the planning of required resources and parts, and reduce the time needed to find up-to-date service information.

Benefits

- Comprehensive maintenance, repair, and overhaul
- Documentation and requirements management
- Maintenance task definition and conformity checks
- Demand planning and work scoping
- Work breakdown structure, repair orders, and work elimination
- Work-in-progress, parts-install, time, and defect management
Unified processes and optimized asset availability

By connecting and streamlining maintenance and enterprise processes, SAP EAM, add-on for MRO by HCL for SAP S/4HANA, enables you to optimize asset use and reliability, improve process visibility, and support efficiency and productivity. With the add-on, you can increase asset availability by reducing turnaround times, unplanned downtimes, and work-order backlogs. You can limit the need for manual intervention, comply with regulatory requirements, and reduce the load on development to create custom solutions and functionality. And with a unified maintenance system landscape, you can gain invaluable business insights that foster better decision-making.

Give technicians the right parts and up-to-date service information at the point of execution to help ensure assets are maintained in compliance.
Summary
Enable maintenance planning, scheduling, and operations for complex assets with the SAP® Enterprise Asset Management solution, add-on for MRO by HCL for SAP S/4HANA®. Your asset-intensive organization can manage maintenance operations on a unified enterprise platform, increase process visibility and asset utilization, and streamline and integrate maintenance, repair, and overhaul (MRO) processes.

Objectives
• Improve enterprise asset utilization
• Reduce excess inventory for asset support
• Improve process efficiency

Solution
• Technical documentation and publications integration
• Requirements, task management, and parts conformity checks
• Demand and graphical planning and reporting
• Comprehensive functionality for work enablement and transparency
• Defect, time, and maintenance event management
• Event induction and quotation functionality
• Material planning, demand sourcing, and shortage management

Benefits
• Streamline and integrate MRO processes with enterprise solutions
• Reduce operating, inventory, and IT costs
• Improve productivity and compliance
• Gain valuable business insights

Learn more
To find out more, call your SAP representative or visit us [online](#).