

SAP Modules	SAP Capability	Value Drivers	What's new in SAP S/4HANA
Outsourced Manufacturing	Manage outsourced manufacturing, subcontracting and external operations through own or 3rd party components. Deliver components to the vendor, provide component inventory visibility at subcontractor, and settle component consumption at goods receipt.	<ul style="list-style-type: none"> Reduce total manufacturing cost <ul style="list-style-type: none"> by outsourcing noncore activities within your business network Improve on-time delivery performance by providing an electronic data interchange infrastructure Reduce manufacturing direct labor cost by leveraging just-in-time subcontractors based on realtime information within your business network 	<ul style="list-style-type: none"> Simplified sourcing procedures The processing of sourcing procedures has been optimized and simplified with SAP S/4HANA. Analytical dashboards New and enhanced analytical dashboards are available to better control this process within SAP S/4HANA. New subcontracting cockpit New subcontracting cockpit in procurement available to prioritize outsourcing of production scenarios.
Production Execution	Move quality products faster through production execution. Streamline production schedules based on real-time data. Monitor released production and process orders efficiently.	<ul style="list-style-type: none"> Improve on-time delivery performance by integrating pick, pack, and ship processes with production execution Reduce manufacturing cycle time by integrating production with inventory management and production finalization tasks such as quality inspection in real time Reduce total manufacturing cost by streamlining all pre- and post-production process steps, down- and wait-times are reduced 	<ul style="list-style-type: none"> Reference designators for visual instances of components For serialized products, you can now use reference designators to define a meaningful name for visual instances of components to better track and trace the physical location of visual instances of components. Material requirements planning (MRP with demand-driven MRP and cockpit) and dashboards Production planning and demand scheduling (PPDS) integrated into SAP S/4HANA. New demand-driven material requirements planning (MRP). New dashboards for manufacturing process tracking are available. New functions for process manufacturing A new make-to-stock production is available for process manufacturing. Notably with co- and by-products, silo materials and more.
Production Control	Take control of production to support high-quality, efficient manufacturing. Coordinate manufacturing with engineering, sales, purchasing, and production.	<ul style="list-style-type: none"> Reduce manufacturing cycle time by ensuring optimal resource assignments Improve on-time delivery performance by flexibly adjusting capacity planning to demand Reduce revenue loss due to fulfillment issues by using real-time information to control your production and thus reduce buffer times 	<ul style="list-style-type: none"> Dashboards for manufacturing process New dashboards for manufacturing process tracking are now available with SAP S/4HANA. Material requirements planning cockpit; embedded production planning and scheduling A fully new material requirements planning (MRP) cockpit is available, along with production planning and demand scheduling (PPDS) integrated into SAP S/4HANA, which was previously in a separate system. Demand driven material requirements planning (MRP), new production engineering and operations This functionality includes a new demand-driven material requirements planning (MRP) and new production engineering and operations.
Material Requirements Planning	Use sophisticated material requirements planning balances to optimize services and cost reduction. Gain visibility across the supply chain to monitor stock-outs and automatically create procurement proposals.	<ul style="list-style-type: none"> Reduce revenue loss due to stock-outs by monitoring inventory and automating the creation of procurement proposals Improve on-time delivery performance by leveraging MRP logic to ensure that materials are in stock and manufacturing is scheduled on time to meet delivery and order commitments Reduce days in inventory by considering all inventory data, lead times, and procurement timing in MRP calculations 	<ul style="list-style-type: none"> New material requirements planning cockpit The whole material requirements planning cockpit has been renewed and redesigned. SAP Fiori app for exception-based processing Support for exception-based processing by means of new SAP Fiori apps that show the issues to be resolved by the respective roles in the role-based work environment for production operators, production supervisors, production planners, and production engineers Optimized performance Performance optimization of material requirements planning (MRP) functionality by using the SAP HANA database
Capacity Planning	Help ensure the feasibility of production plans with integrated production scheduling. Gain a real-time view of inventory, capacity, and material flow.	<ul style="list-style-type: none"> Reduce days in inventory by integrating scheduling and execution to gain a consistent, real-time view of inventory and product data Reduce manufacturing cycle time by instantly adapting production schedules to current plant conditions Improve on-time delivery performance by responding quickly to new demands and adapting to plant conditions 	<ul style="list-style-type: none"> New visualization The visualization of the production plan is enriched with further important details, indicators and edit functionalities Enhancement on planning Ability to adjust the production plan due to production backlog (overdue orders) and more flexible search options with additional filters across the apps New demand driven MRP Internal Sales Representative (Subscription Order Management)
Demand-Driven Replenishment	Promote material flow with strategically-placed buffers, reducing inventory and improving service. Manage variability by strategically locating and sizing stock buffers to decouple the supply chain into segments.	<ul style="list-style-type: none"> Reduce revenue loss due to stock-outs by replenishing inventory based on customer demand and reducing shortages across the supply chain Reduce revenue loss due to stock-outs by replenishing inventory based on customer demand and reducing shortages across the supply chain Improve on-time delivery performance by replenishing buffers based on consumption logic and make clear replenishment priorities to production and procurement 	<ul style="list-style-type: none"> New demand-driven material requirements planning (MRP) embedded in SAP S/4HANA Use demand-driven replenishment to flexibly prebuffer components based on incoming and predictive demand. Strategic inventory planning through demand-driven material requirements planning Demand-driven material requirements planning (MRP) is fully embedded in existing material requirements planning (MRP) run logic.
Kanban Manufacturing	Drive lean Kanban execution that reduces operating costs. Establish a continuous Kaizen improvement approach; use Kanban processing in lean replenishment for external and internal material flows	<ul style="list-style-type: none"> Reduce total manufacturing cost by supporting lean execution principles based on standardized pull processes and tight integration of lean IT execution Reduce manufacturing cycle time by helping to ensure optimal resource commitments and continuous process improvements Reduce inventory carrying cost by determining production supply according to the actual customer demands 	<ul style="list-style-type: none"> Out-of-the-box Kanban process The out-of-the-box Kanban process is supported with simplified user experience. Non-automotive customers This functionality becomes newly available also for nonautomotive customers with SAP S/4HANA. New replenishment strategy A new replenishment strategy is available for stock transfer, using Kanban. Having this replenishment strategy in place, warehouse tasks to replenish a Kanban container are automatically created when you set the Kanban container to empty.
Constraint-Based Production Planning	Shorten lead times at low cost with constraint-based production planning using SAP S/4HANA by linking advanced planning processes to manufacturing execution. Instantly react to changes on the plant floor using one system.	<ul style="list-style-type: none"> Reduce days in inventory by integrating scheduling and execution to gain a consistent, real-time view of inventory and product data Reduce revenue loss due to stock-outs by improving flexibility through fast and responsive production planning closely linked to manufacturing execution Reduce manufacturing cycle time by transitioning from infinite to finite planning and instantly identifying production bottlenecks 	<ul style="list-style-type: none"> Embedded production planning and demand scheduling With SAP S/4HANA the production planning and demand scheduling (PPDS) functionality, which was outside the ERP system in APO-PPDS is now embedded. Predictive material requirements planning Simulate potential capacity & planning issues, before they arise and fix it, before material requirements planning creates the orders.
Manufacturing Analytics	Leverage out-of-the-box analytics for key manufacturing figures, amounts, and product specifications. Close the loop between global enterprise strategy and execution at local plants.	<ul style="list-style-type: none"> Reduce revenue loss due to stock-outs by using real-time alerts based on production bottlenecks, such as time or component delays, to reduce shortfalls Reduce total manufacturing cost by leveraging out-of-the-box analytics to create your own reports Increase revenue growth with better product personalization by leveraging out-of-the-box analytics for key manufacturing figures, amounts, and product specifications 	<ul style="list-style-type: none"> Dashboards for manufacturing process New dashboards for better monitoring of the manufacturing process tracking have been made available. New material requirements planning cockpit, production planning, demand scheduling and predictive material requirements planning A new material requirements planning (MRP) cockpit is available in SAP S/4HANA with a fully embedded production planning and demand scheduling (PPDS) and not in a separate system. Demand driven material requirements planning, new production engineering and operations This has been fully reengineered and improved and can now be used to optimize these processes.

Product Structure	Accelerate time to market with efficient production BOM management. Improve transfer of design intent to distributed manufacturing sites. Synchronize master data and product structures continuously.	<ul style="list-style-type: none"> ▣ Reduce engineering change cost ▣ by leveraging enhancements in product structure management ▣ Reduce engineering change cost ▣ by leveraging enhancements in product structure management 	<ul style="list-style-type: none"> ▣ Migration of classic bills of materials (BOMs) and routings for unitized materials ▣ This feature enables you to migrate your classic bills of materials (BOMs) and routings for unitized materials into unitized version-controlled BOMs and routings used in SAP S/4HANA Manufacturing for production engineering and operations (PEO). ▣ Analytics ▣ Analytics capacities have been optimized and simplified. ▣ Structured handover between bills of material ▣ This functionality includes a structured handover from engineering bill of material to manufacturing bill of material. Change manufacturing bill of material for production and mass change manufacturing bill of material for productions are now available.
Production Processes	Accelerate time to market with recipe/routing management. Enable production planning by specifying details about work centers where operations are carried out and listing required production resources and tools.	<ul style="list-style-type: none"> ▣ Reduce time to market for new products ▣ by using granular recipe/routing information to accelerate hand-over ▣ Reduce engineering change cost ▣ by using enhancements in product structure management ▣ Optimize research and development expense ▣ by using enhancements in product structure management 	<ul style="list-style-type: none"> ▣ Simplified user interface ▣ A simplified user interface allows easier access and better usage of the recipe. ▣ Analytics ▣ The analytics abilities have been simplified and it is easier to access them. ▣ Improved processes and visualization ▣ Structured engineering processes are available and 3D visualization is possible.
Quality Improvement	Enable quality improvement through more visible key performance indicators. Improve your processes and products by gaining better insights into your quality-related data and thereby reach your corporate quality goals.	<ul style="list-style-type: none"> ▣ Reduce total manufacturing cost ▣ by improving quality monitoring and control across the manufacturing function ▣ Improve customer satisfaction ▣ by reducing quality issues and increasing responsiveness ▣ Reduce risk of quality non-compliance ▣ by increasing operational transparency 	<ul style="list-style-type: none"> ▣ Improved processes ▣ The quality improvement related processes have been optimized and enhanced. SAP Fiori analytical apps for quality management is now available. ▣ Improved user interface (UI) ▣ The usability has been enhanced and improved using modern UI-technology. ▣ Machine learning and nonconformance management ▣ New machine learning scenario to propose defect codes while creating a defect notification in the system. Nonconformance management is now available.
Quality Inspection	Increase efficiency through rigorous quality management execution. Prepare, execute, and monitor different types of quality inspections, for example, in purchasing, production, or sales scenarios	<ul style="list-style-type: none"> ▣ Reduce manufacturing cycle time ▣ by seamlessly integrating quality monitoring and tracking in the manufacturing cycle ▣ Reduce rework cost ▣ by streamlining quality processes - whether in the lab or on the shop floor - to become more standardized and efficient ▣ Reduce warranty cost ▣ by using cost-effective, integrated quality inspection procedures to improve output quality 	<ul style="list-style-type: none"> ▣ Improved processes ▣ The quality inspection related processes have been optimized and enhanced. ▣ Improved user interface (UI) ▣ The usability has been enhanced and improved using modern UI-technology. ▣ New enhancements: Machine learning propose perfect codes in QM and more ▣ New machine learning scenario to propose defect codes while creating a defect notification in the system. Nonconformance management and SAP Fiori analytical apps for quality management are now available.
Quality Planning	Support sophisticated quality planning from the start. Ensure the quality of your products, processes, and services right from the start.	<ul style="list-style-type: none"> ▣ Reduce total manufacturing cost ▣ by embedding quality engineering in the product design process ▣ Improve customer satisfaction ▣ by reducing quality issues and increasing responsiveness ▣ Reduce rework cost ▣ by improving quality processes and information 	<ul style="list-style-type: none"> ▣ Improved processes ▣ The quality planning related processes have been optimized and enhanced. ▣ Improved user interface (UI) ▣ The usability has been enhanced and improved using modern UI-technology. ▣ Machine learning propose defect codes in quality management ▣ New machine learning scenario to propose defect codes while creating a defect notification in the system.
Repetitive Manufacturing	Adjust your repetitive manufacturing production schedules flexibly. Support both configurable and nonconfigurable products with control in repetitive, make-to-stock, or make-to-order environments.	<ul style="list-style-type: none"> ▣ Reduce manufacturing cycle time ▣ by automating data capture and integration into associated business processes ▣ Improve demand forecast accuracy ▣ by flexibly adjusting production to market demand ▣ Reduce inventory carrying cost ▣ by providing increased visibility of exact line-side stock 	<ul style="list-style-type: none"> ▣ Incoming and outgoing payments ▣ With SAP S/4HANA, a new variant configuration has been made available for make-to-order production and simulation. ▣ Dashboards for manufacturing ▣ The dashboards for manufacturing have been enhanced to allow process tracking. ▣ New material requirements planning cockpit with embedded production planning and demand scheduling ▣ The material requirements planning cockpit has been completely redesigned. Production planning and demand scheduling has been embedded in SAP S/4HANA.
Work Permit and Isolations Management	Controlling maintenance work through clear safety instructions and permits	<ul style="list-style-type: none"> ▣ Reduce asset maintenance cost ▣ by enabling streamlined work order planning and execution, including effective safety measures ▣ Reduce asset maintenance cost ▣ by enabling streamlined work order planning and execution, including effective safety measures ▣ Reduce un-planned downtime or outages ▣ by controlling maintenance work through permits and lock-out / tag-out procedures 	<ul style="list-style-type: none"> ▣ SAP Fiori-based user experience ▣ The SAP Fiori-based user experience has been enhanced across all process steps. ▣ Improved handling for user processing ▣ Improved handling (notably a more streamlined flow with fewer clicks) for user processing of safety certificates has been made available. ▣ New app for dedicated mobile work clearance management ▣ There is a dedicated mobile work clearance management app available for lock-out/tag-out procedures.
Extended Production Engineering	Simplify, enrich, and extend digital collaboration between product design and manufacturing engineering. Facilitate digital collaboration of manufacturing master data, design structures handovers and process planning.	<ul style="list-style-type: none"> ▣ Reduce time to market for new products ▣ by creating dramatic efficiencies that accelerate innovation and expedite production operations ▣ Reduce total manufacturing cost ▣ by seamlessly integrating design, process planning, and manufacturing change management collaboration capabilities ▣ Reduce rework cost ▣ by validating production processing through system checks and visual, engineering model-assembly simulation 	<ul style="list-style-type: none"> ▣ Additional production engineering and operations (PEO) features in the SAP 3D Visual Enterprise Manufacturing Planner ▣ You can now use a range of new PEO-specific features in the SAP 3D Visual Enterprise Manufacturing Planner. ▣ Simplified user interface and analytics ▣ The user interface has been simplified and streamlined. Analytics capacities have been optimized and simplified. ▣ Structured handover between bills of material ▣ New functionality which allows a structured handover from development bill of material (BOM) to manufacturing bill of material (BOM).
Extended Production Operations	Manage shop-floor operations with real-time insight, monitoring, data collection, and analytics. Optimize monitoring with automatic issue detection, root-cause analysis, and decision support.	<ul style="list-style-type: none"> ▣ Reduce manufacturing cycle time ▣ by prioritizing operations based on product and material availability and reducing idle time ▣ Reduce days in inventory ▣ by improving the flow of raw materials and consuming materials at an operational level ▣ Reduce total logistics cost ▣ by proactive resolution of issues 	<ul style="list-style-type: none"> ▣ Core data services views for shop floor control ▣ Several CDS (Core Data Services) views to manage data for shop floor control have now been released. ▣ Production engineering & operations and new embedded scenario ▣ Production engineering & operations (PEO) is fully embedded in SAP S/4HANA for enhanced functionalities like three-dimensional (3D) models, embedded instructions, signoff procedures and change logs. The new embedded scenario can cover complex manufacturing scenarios. ▣ New functionality in production processes ▣ The production operations have been enhanced with a new functionality which allows a structured handover from development BOM to manufacturing BOM.

Extended Production Scheduling	Deliver on time, every time, by integrating planning, scheduling, and execution, considering finite capacity, sequencing, setup, and material availability	<ul style="list-style-type: none"> ☑ Reduce days in inventory ☑ by integrating planning, scheduling, and execution to gain a real-time view of inventory, capacity, and material flow ☑ Reduce manufacturing cycle time ☑ by creating feasible production schedules by considering finite capacity, sequencing, setup, and material availability 	<ul style="list-style-type: none"> ☑ Plan & schedule with reference to capacity constraints ☑ Create feasible production schedules to meet specific production planning and sequencing needs ☑ Leverage simplified data structure ☑ Process data related to material, transportation- and production capacities in a non-redundant, real-time, performance-friendly way ☑ Improve heuristical planning models with the help of optimizing algorithms
Predictive Material and Resource Planning	Simulate production to evaluate material and capacity requirements .	<ul style="list-style-type: none"> ☑ Reduce revenue loss due to stock-outs ☑ by evaluating capacity, production, purchasing, and internal material flow in production plants on a detailed level ☑ Reduce manufacturing cycle time ☑ by resolving capacity and material gaps in a plant before they occur ☑ Improve demand forecast accuracy ☑ by supporting mid- and long-term demand scenario simulation 	<ul style="list-style-type: none"> ☑ Solve capacity constraints ☑ Predict and simulate capacity constraints based of the current MRP result, and solve material gaps before they occur. ☑ New user experience ☑ Native SAP Fiori Experience throughout the whole process.