

# Valor MSS Material Management Just-in-Time Logistical Materials Flow to Production



Valor MSS Material Management aggregates pull signals based on actual materials consumed, machine cycle times, and the completion status of the current and future work orders in real time, ensuring materials get to the right machine at the right time, avoiding material starvation. This optimizes the material flow from the warehouse to the factory floor.

## Overview

Material management inside the factory occurs in different places and levels, requiring different types of support to efficiently keep track of your inventory. The Valor® MSS Material Management solution addresses this need, providing just-in-time (JIT) technology to manage a consistent material flow to the production lines based on the actual demand. It offers four stages of material management, aimed to provide you with a flexible solution to address your specific production needs, helping you significantly reduce inventory, and ensure a smooth manufacturing flow.

Eliminate buffer stocks and guesswork by using a tight machine integration and precise inventory management. With Valor Material Management, the actual number of parts remaining on every carrier is constantly accurate and up-to-date by taking into account actual parts used in process through consumption and waste. The advanced JIT technology anticipates order completion, feeder exhaust points, upcoming changeovers, and supports operational constraints, eliminating bottlenecks, and unexpected delays.

## Major Benefits

- Enables a smooth and continuous flow of materials between warehouse and shop floor
- Optimizes changeover time, reduces need for material counting
- Optimizes material usage for higher material turnover
- Removes excess material WIP from the shop floor
- Improves quality with MSD and AVL management
- Maintains inventory accuracy
- Enables accurate MRP ordering and planning

## Tight Integration to the Shop Floor with Material Management

The Valor MSS Material Management module uses MSS machine connections to gathers real-time performance information (e.g., program name, placements, dropped parts/waste, cycle time, wait time, and low-level warning data) for each material position. This information allows the material management solution to have an accurate view of the inventory down to the single-carrier level, and all data is stored in the Valor MSS database and used by various parts of the material management software. The solution applies for all material consuming stations in the factory, including SMT, THT/odd-form placement, manual assembly, and system assembly as well as process points such as screenprinter, dispenser, and coating.

Advanced verification ensures that all the correct materials (and tools) are set up before assembly, improving your efficiency and quality. It also provides you with maximal flexibility by supporting functions such as alternate parts, AVL, free feeder positioning, dynamic alternate positions, blocked material, safe splicing, etc. Valor Material Management also supports customer-defined material attributes (e.g., LED class, material consignment, etc.), along with dynamic BOM verification for LED light classes. It also supports barcode identification and smart feeders and splicing sensors, enhancing your productivity during the verification process.

Valor Material Management provides an automatic warning on PDA, along with a machine screen and dashboard when materials are running low to help you stay updated at all times.

Additionally, Valor Material Management includes MSD management, with auto-alarms for any materials in any environment. Moisture-sensitive materials are identified at the material registration, and machine operations can be forced to stop if any materials expire. MSD management includes dry-store and oven-baking processes.

## Improve Line and Operator Efficiency with Advanced Material Management

By eliminating downtime caused by delivery of the wrong parts or by waiting for materials to arrive, the Valor Material Management Advanced option improves manufacturing asset utilization. JIT material delivery helps minimize WIP by keeping only the required materials on the shop floor. It automatically generates pick lists at the warehouse, based on the actual machine consumption and upcoming work orders. It presages the exhaust point of every material position and then aggregates each machine included in the supported region of the factory. Lines are easily divided into sections of the factory and can be supported by one master stockroom or separate stockrooms.

You can configure material section rules including FIFO, part used/remaining quantity, MSD status, vendor, package, shape consistency, and compatible feeder. This allows you to select materials according to your cost constraints or any other requirements, making sure you are effective as possible.

Additionally, common materials can be forwarded for a quick changeover either for a new work order or a grouping of work orders. The "guided" changeover intuitively takes the operator through each feeder position on the machine or trolley, taking into account material that may already be in the machine from a previous job. This eliminates guesswork for machine operator and material handlers, while line operators are no longer required to focus on tracking exhaust points on specific feeders.

The screenshot shows the 'Material Manage | Component Verifier' window. At the top, it prompts the user to 'Please Enter/Scan Reel Information'. Below this, there are input fields for 'Reel ID' (00008907), 'Quantity' (10000), and 'Part Number' (512517-002). A table lists pick list items with columns for Pick List, Time, Group, Validated, Part No, MC Name, Station, Slot, Amount, and Reel ID. The table contains several rows of material data, including part numbers like 512362-203 and 512821-130.

Pick List	Time	Group	Validated	Part No	MC Name	Station	Slot	Amount	Reel ID
CPL022220	25-02-2009	Line 22		512362-203	Line 22	2	7	10000	
CPL022220	25-02-2009	Line 21		512821-130	Line 22	1	37	5000	
CPL022220	25-02-2009	Line 4		523126-003	Line 22	1	45	3000	
				512517-002	Line 22	2	9	10000	00008907
				512807-014	Line 22	2	13	5000	00008905
				512819-100	Line 22	2	16	10000	00008906

Verify each new pick list to ensure the correct part numbers and quantity for needed materials on a specific machine in advance to avoid errors, bottlenecks, and line stops.

This block contains three screenshots. The top one shows the 'Material Manage | Config & Test' window with tabs for 'Group Setup', 'Reel Picking Setup', and 'Additional Settings'. The middle one shows the 'Material Manage | Attribute Configuration' dialog for 'Group 1', with options for 'Must Select At Least One Attribute' and 'Only Allow Single Attribute Select'. The bottom one shows a pick list for 'CPL022220007' with columns for MC Name, Station, Slot, Amount, Reel No, and Need Time.

MC Name	Station	Slot	Amount	Reel No	Need Time	
304	F	5	8000	1	14:11	
304	F	5	10000	1	15:36	
304	F	11	10000	1	15:27	
303	F	11	10000	1	13:02	
302	F	11	10000	1	12:55	
302	F	8	10000	1	14:59	
302	F	12	10000	1	14:20	
303	F	8	10000	1	15:02	
305	F	2	2000	1	12:25	
305	F	18	2000	1	14:41	
31182-002	305	F	5	3300	1	14:28
31188-001	305	F	5	10000	1	14:40
31190-001	305	F	11	7000	1	14:58
31192-001	305	F	12	7000	1	14:15
30207-008	305	F	16	3000	1	13:40

Intuitive configuration dialogs allow setting up groups to evaluate the "cost" of the pick list. Material selection is made with cost rules in mind, along with attribute such as FIFO, MSD storage, or previous allocations.

## Reduce Inventory with Warehouse Management

Manage all points of storage, including warehouse, storage towers, high-runners, etc. to reduce inventory and increase your efficiency.

An automatic tracking of consumption and waste of material from each carrier provides information on the count of material remaining on every carrier and its precise location, based on configuration rules (e.g., cost, size, shape, type, customer, tax status, VMI status, etc.) Information on initial registration of new carriers into inventory bins, kitting, and splicing operations by feeder location on the machine or trolley, checking in or out of dry storage or bake, and return-to-stock transactions as needed are all tracked and included. This helps significantly reduce shop-floor WIP and stockroom inventory because it eliminates the need for huge material kits and buffer-stock.

The warehouse-management level also adds an error-proof barcoding mechanism, synchronized with ERP, which can use customer labeling. Additionally, mobile terminals guide material operators on storage and retrieval operations, creating a more organized work. If needed, you can also connect warehouse management to material automatic storage and retrieval systems, such as Kardex and Mydata. The need for manual material counting is eliminated and inventory is reduced, saving you time and money. Kanban rules for material replenishment can also be set up for those storage areas and Valor Material Management will trigger requests for the main warehouse.

## Empower ERP Investment with the Material Management Information Highway

Valor Material Management allows you to accurately track material on the shop floor in real time like no other ERP/MRP systems. It complements ERP functions by providing real-time data on consumption, waste, and transactions into the ERP system, greatly increasing the accuracy of the information driving ERP functions and adding value to the ERP system.

Information Highway streams real-time data from the shop floor and warehouse to the ERP system, including material consumption and waste, inventory levels, traceability data, product completion, process routing, quality, and performance. It also improves the supply-chain management capabilities and eliminates the need for back flush and manual counting.



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