ORACLE
Supply Chain
Management Cloud

Oracle Mixed-Mode Manufacturing Cloud For The CPG Industry

Mixed-mode manufacturing has become a critical functionality as Consumer Packaged Goods (CPG) manufacturers adapt to the fast-paced shifts that today's market demands. Many CPG products are produced through a mix-and pack operation and manufacturers need to use both discrete and process manufacturing to make their products. Others, in order to meet the constant changes in consumer demands are pressured to take on the role of both a discrete and process manufacturer as they look to provide customers with new competitive products. Traditional ERP systems force these companies to choose either a discrete or a process manufacturing system.

Oracle Manufacturing Cloud, a key component of Oracle Supply Chain Management Cloud is leveraging tight supply chain integration, Internet of Things (IoT), Artificial Intelligence and Machine Learning, to help companies simplify their shop floor execution, optimize real-time decisions, and control quality and cost. The solution enables manufacturers to plan and execute both discrete and process manufacturing in the same plant, the same work center, or even the same item. This mixed mode capability allows Consumer Packaged Goods manufacturers to support the best manufacturing method for each stage of production, such as using process manufacturing for bulk processing and using discrete manufacturing for final packaging.

FLEXIBILITY TO RUN YOUR BUSINESS

Oracle's Mixed Mode Manufacturing leverages Oracle's strengths in data analytics; supply chain functionality; planning, scheduling and warehouse management; and PLM to provide a compelling suite of solutions for CPG manufacturers. Out-of-the box integration with Oracle Supply Chain Planning Cloud provides manufacturers the flexibility to run your business.

Plan Supply in Heterogeneous Manufacturing Environments

You can plan in a discrete manufacturing environment regardless of whether it is make-to-stock or configure-to-order. You can plan in environments where you could fulfill orders using contract manufacturing, including outside processing of an operation and drop shipment of orders from suppliers directly to customers. You can plan for process manufacturing, where any operation may produce multiple products, co-products or by-products. Finally, you can plan for manufacturing plants that combine elements of discrete and process manufacturing.

Plan for multiple fulfillment strategies

Your business may use a variety of fulfillment strategies, based on customer-specific or order-specific situations. To implement these strategies more effectively, constraint-based planning enables you to plan for contract manufacturing, drop shipments and back-to-back orders.

Execute in the same plant, the same work center, or even the same item

What differentiates Oracle from other vendors is the fact that Oracle chose to create both discrete and process manufacturing in the same software application. Oracle Manufacturing Cloud allows manufacturers to:

- Combine discrete and process manufacturing in the same plant
- Differentiate by work method instead of item
- Determine the best manufacturing method for each stage of production, such as using process manufacturing for bulk processing and using discrete manufacturing for final packaging.
- Leverage one data model and tailor to industry needs
- Plan, execute and control production based on a wide variety of manufacturing modes

Key Features

- *Plan for process, discrete and mixed mode manufacturing*
- *Execute discrete and process manufacturing in the same facility*
- *Plan for contract manufacturing, drop shipments and back-to-back orders*
- *Define and execute recipes based on batch size*
- *Plan batch work orders*
- *Scale batch work orders based on target input, output, or batch quantity*
- *Complete and cost co-products/ by-products in a single batch work order*
- *Plan costs for co-products/by-products and batch production*
- *Efficiently execute batch production with standard costing and full lot traceability from growers to distributors*
- *Plan centrally and execute locally by efficiently producing and costing multiple co-products and by-products*

ENABLING MIXED-MODE MANUFACTURING IN THE CLOUD

Oracle's Mixed Mode Manufacturing in the cloud supports the food and beverage use cases in the consumer-packaged goods industry, where standard recipes are used in producing various batch sizes and products in a single or dual-units-of-measure mode, with a fixed conversion. You can now determine the best manufacturing method, discrete or process, for each stage of production, define and execute recipes on the basis of batch size, scale batch work orders before production based on a target input/output or batch quantity. The work order quantities are proportionately recalculated based on the ratios defined in the work definition. Complete and cost multiple co-products and by-products at any stage operation within a single work order. Costing can be done in average actual or standard cost, planned standard costs for co-products and by-products based on a percentage of total cost, or fixed cost and for batch production.

Manage Work Definitions	Plan Batch Work Orders	Create Batch Work Orders	Execute Batch Work Orders	Cost Planning and Cost Accounting	Track Genealogy & Analyze Production
Define recipes to make a batch with co-products & by-products	Plan & release supplies based on process work definitions	Create batch work orders based on a process or product & scale before production	Complete expected and unexpected co-products and by-products	Plan and account for costs of co-products and by-products	Track and trace lot genealogy and analyze production yields

BENEFITS OF MIXED MODE MANUFACTURING SYSTEMS

The top five benefits of mixed-mode manufacturing systems according to a recent Industry Week survey (*1) are:

Key benefits of changing to a mixed mode manufacturing system

- *Grow revenue*
- *Grow distribution and market share*
- *Reduce costs while ensuring quality*
- *Increase business agility and responsiveness*
- *Improve operational efficiency and maximize flexibility*

Source: IndustryWeek "How the Right Mix of Technology and Strategy Puts CPG Manufacturers on Top" Feb 2020

ORACLE CLOUD SOLUTIONS

Oracle Manufacturing Cloud is part of Oracle Cloud applications, with Supply Chain and Manufacturing seamlessly integrated with ERP, EPM and CX applications to provide customers with the widest selection of choices to meet their evolving business, IT infrastructure, and development needs. To learn more visit www.oracle.com/manufacturingcloud.

***1: Industry Week** "How the Right Mix of Technology and Strategy Puts CPG Manufacturers on Top" Feb 2020*

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