

# PROCESS INDUSTRIES FOR MICROSOFT DYNAMICS™ AX

Solutions for the Life Sciences and Pharmaceuticals Industry

Life sciences and pharmaceutical companies depend on high sales margins, technological advances, and rapid product introductions for strong business growth. With Process Industries for Microsoft Dynamics AX life sciences and pharmaceuticals companies have the tools they need to help manage the constrictions of such growth, including shelf life constraints, cost pressures, competition from generic and over-the-counter drugs, and strict regulatory requirements around manufacturing and product approvals.

## Benefits:

- Expedited new product introductions
- Good Manufacturing Practices (GMP) and regulatory compliance
- Improved production planning and inventory management
- Positive return on investment (ROI)

## Improve Production Planning and Inventory Management

Model the processing and reprocessing of materials such as costly active ingredients to help minimize overruns and short-runs, as well as use shelf-life tracking to consider expiration dates during production and distribution. You can centrally manage co-products and by-products in your formulas or recipes, and always know the correct inventory status for any given item.

## Achieve a Positive ROI

Because Process Industries for Microsoft Dynamics AX is built on proven Microsoft products and technologies, your business can take advantage of existing IT investments such as Microsoft® Office System applications and the Microsoft Windows Server System™. Your company can also realize quick payback on your investment. According to a research study by Nucleus Research, Inc. conducted in 2004, 75 percent of participating Microsoft Dynamics AX (formerly Microsoft Business Solutions–Axapta®) customers achieved a positive ROI within an average of only 23 months.\*

\*Nucleus Research, Inc. *The Real ROI from Axapta*. Research Note E116, October 2004.

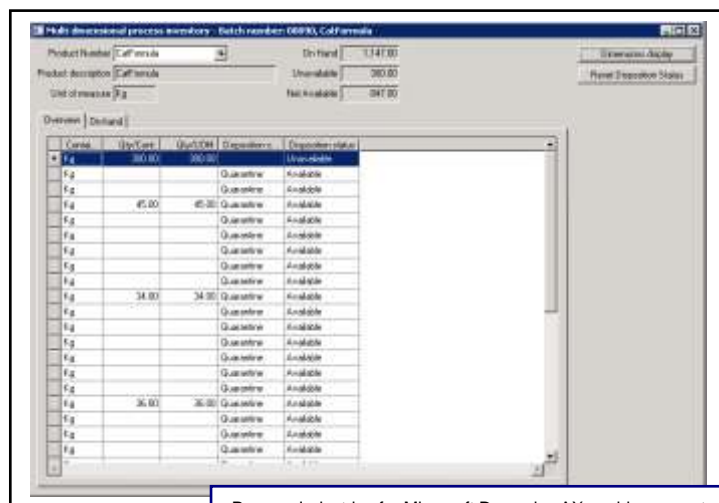
## Expedite Profitable Introductions of New Products

Gain visibility across all areas of your organization from finance to manufacturing with integrated information and workflows that speed the flow of goods, eliminate waste due to costly shelf-life expirations and returns, and optimize production operations.

Increase efficiency to meet new product introduction demands, while keeping costs at a minimum.

## Support GMP and Regulatory Compliance

Process Industries for Microsoft Dynamics AX supports GMP requirements, including electronic quarantines, quarantine release by user and material type, printed material control/obsolete components, lot control/segregation, lot tracking, and drug and hazardous material reconciliation. The solution documents standard processes and tracks and logs operations and results to support your detailed reporting requirements. Traceability, lot tracking, production statistics reporting, specification management, and change management provide the control and predictability you need to detect and address exceptions early. By tracking items from cradle to grave, your company can implement effective recall procedures with complete forward and backward traceability of any material.



Process Industries for Microsoft Dynamics AX enables users to define multiple attributes, or dimensions for ingredients and other materials. This capability gives users a straightforward way to classify, manage, and access information about materials with many critical characteristics.

## Features Overview

Input-Driven Process Specification	Accommodate an unlimited number of inputs and outputs within the process specification through a formula management system that defines all of the resources of production, including ingredients, machines, labor, utilities, and quality assurance variables.
Attribute Tracking and Dynamic Formula Adjustment	Define and maintain an unlimited number of qualitative and quantitative attributes at the product and lot levels. Adjust formulas automatically based on predefined ratios and scaling to ensure consistent quality of final products.
Centralized Quality Control and Regulatory Support	Use integrated quality control and lot traceability to link raw materials through each operation of the production process to final delivery at the customer site. Support British Medicine Control Agency (MCA) and U.S. Federal Drug Administration (FDA) reporting, plus GMP and FDA regulation 21 CFR Part 11.
Batch Optimization and Balancing	Produce against given batch sizes, so every batch can be fully consumed (immediately packed to finished goods level). Maintain products that are most likely to be needed in stock. Batch balancing also ensures the coherence and traceability of multilevel production.
Yield Planning and Tracking	Establish yield standards using formulas, and track and report actual yields against those standards to quickly identify out-of-tolerance conditions, isolate the cause, and take corrective actions.
Co-Product/By-Product Management	Support co-product and by-product tracking to help optimize decisions, including analyzing the attributes and costs of co- and by-products, comparing the costs and benefits of selling or disposing of them, and crediting their values to the appropriate finished goods.
Flexible Planning and Scheduling Tools	Adjust product mix quickly to respond to changes in demand. Estimate the impact of different sales scenarios using "what-if" simulations. Schedule multiple package types within a single production run and consider recurring or rework products when scheduling. Deploy finite or infinite capacity and materials scheduling, backward or forward scheduling, detailed scheduling by hours and minutes, or scheduling by day.
Customizable Item and Dimensionality Structure	Define multiple inventory dimensions and gain insight into the dynamics of your stocking practices, including packaging codes, variations to the main item, lot management, and inventory status. Conduct comprehensive "where-used" analysis, including alternate formula and recipe tracking.
Variable Inventory and Order Tracking	Monitor inventory using dual units of measurement to manage total weight as well as packaging units (catch weight calculations). Track order status using real-time updates on net purchasing, production and capacity requirements, and graphical symbols for each level of the formula or recipe.
Integrated Quality Control (QC) Capabilities	Know the correct inventory status for any given item, including designations for QC testing, QC and failed, and downgrade of product. Manage quarantined products throughout the QC process and track their release from quarantine.
Customized Product and Packaging Capabilities	Provide your customers with increased packaging flexibility by defining effective units of measurement. Enable customers to request multiple quality specifications per product while maintaining inventory visibility. Support highly flexible configurations and packaging types while combining similar products in production to improve machine utilization.
Detailed Production Costs Analysis	Analyze and monitor production costs and requirements for each component of a sales order using graphical representations of multilevel formulas and recipes.
Optimized Picking	Pull inventory in optimal sequence, employing "best before" management. Employ either first expired/first out (FEFO) or first in/first out (FIFO) calculations for inventory picking, reducing inventory, and eliminating waste.
Manufacturing Process Validation	Accelerate and simplify compliance with requirements from regulatory agencies such as the FDA by validating manufacturing processes with Microsoft Dynamics AX for Life Sciences.
Extensive Audit Trails	Incorporate electronic signature functionality into business processes, providing complete visibility and audit trails.

For more information about Process Industries for Microsoft Dynamics AX, visit <http://www.microsoft.com/dynamics/ax>.

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