Manufacturing

Sage ERP X3 offers a choice of production management methods—by job, order, or inventory. Technical data can be defined by price lists, cost centers, and stations as well as a production process sheet management function. Sage ERP X3 also provides for monitoring of stock quantities, a management control function with calculation of forecast and actual costs, a finite capacity production scheduling function, a planning function incorporating a production coordination program, calculation of net requirements, and an overall production management function. Various performance indicators are available, ensuring optimum industrial production quality and traceability.

Comprehensive Technical Data

Sage ERP X3 provides a common repository for sharing detailed product information across sales, purchasing, inventory, and production. Various material tracking modes are supported by associating products with unique control attributes such as lot numbers, expiration dates, and QC technical sheets.

Sage ERP X3 supports multilevel bills of material and usage controls for distinguishing prototypes, engineering bills, production BOMs, and sales kits. BOM usage is also controlled by validity dates and production quantities, which can be by unit, lot for lot, 100- or 1,000-unit batches, or fixed quantities. Work and cost centers can be associated with machine and labor cost dimensions, resources, and factory calendars.

A product can have multiple routings for manufacturing and subcontracting operations. BOMs can be associated with special routings that perform JIT material allocations when necessary. Routing operations are assigned fixed and variable setup and run times and can accommodate forward and backward scheduling. Alternate work centers and material and labor resources can be identified to handle overload situations. Technical sheets can be associated with routing operations to support manufacturing quality control.

Cost Accounting

Sage ERP X3 supports the ability to establish an annual standard cost, perform standard cost revisions, calculate multiple simulated standard costs with user-defined parameters, and develop cost budgets for planning standard costs for future periods. Costs can be attributed to materials, machines, labor, subcontracting, and overhead. Variances can be calculated on any two costs of the same type or between two costs of different types.

Planning

Multisite MPS for medium-to-long-term planning needs includes features for performing budget analyses and feasibility simulations. It also calculates net multisite requirements, generates replanning messages, and analyzes the impact of load demands. MPS makes best use of user-defined reordering parameters such as fixed period coverage, seasonality patterns, and net reorder quantities. The planning horizon is user-defined with allowances for up to five years.

Sage ERP X3 supports finite and infinite capacity requirements planning. Finite capacity planning can be done automatically by using a powerful, integrated optimization facility that helps resolve bottleneck areas according to user-defined constraints.

Material planners can use an interactive drag-and-drop scheduling tool—in GANTT format—for manual viewing, simulation, and updating of outstanding work orders and routing operations. The capacity planning capabilities in Sage ERP X3 provide an ideal tool for planners to compare loads on work centers imposed by existing and proposed work orders, taking into consideration the associated capacity of each work center and work order due dates. Through either manual or automatic replanning, companies can achieve balanced loads in either overload or underload situations. Both forward and backward scheduling strategies are supported.

Work Order Release

Sage ERP X3 provides flexible work order release management capabilities, allowing multiple items per production order and real-time material, machine, and labor allocations with reason codes. Work-in-process tracking, production status reporting, and a breakdown of actual production costs by shop traveler are also provided. Sage ERP X3 supports the ability to do rate-based scheduling with backflushing.

Decision-Making Tools

Sage ERP X3 provides material planners with an array of screens and reports in quantified form or pie charts, bar charts, and graphs to assist in making meaningful material and capacity decisions. Included are multisite MPS charts for product families, MRP schedules for products at single or multiple sites, bottle-neck work center charts, and a planner's workbench. Time-phased pegging ties requirements back to original demand sources. Sage ERP X3 calculates a variety of performance indicators including material, operation and production yield, capacity, and resource utilization rates.

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Features and Functions

Comprehensive Product Data

Product attributes and categories
Families of products for MPS **|** Multiple manufacturing modes—ATO, MTO, CTO, MTS, process **|** Multiple replenishment rules with seasonality **|** Multiple material handling controls—lots, expiration dates **|** Multiple units of measure

Bills of material
Multilevel **|** Supports variants and options **|** Validity dates **|** Mass maintenance

Technical Data Management

Factory calendars

Work and cost center management
Machine, labor, subcontracting

Routings
Multiple routing **|** Operation dates and times **|** Master routing **|** Library of standard operations

Set up rules
Subcontracted operations **|** Forward and backward scheduling **|** Plan association

Replenishment

Minimum/maximum

MRP

User-defined replenishment rules (net requirements, lots, fixed period coverage, and safety stock adjusted for seasonality)

Pegging

Intersite based on contracts and transfers between two partnering sites

Cost Accounting

Definition of cost elements

Calculation of planned costs (standard, revised standard, simulated, budgeted)

Actual production costs

Variance analysis per item

Accounting interface

Planning

MPS (multisite, planning bills of material, bills of labor, operational orientation, budget, simulation)

Calculation of material requirements
Multisite **|** Analysis of suggested requirements **|** Replanning messages

Order Release

Multi-item release

Feasibility reasons

Material and load allocations

Forward and backward scheduling

Order smoothing

Shop traveler

Production status reporting (by work order or batch)

Control without production order (rate-based scheduling)

Decision-Making Tools

MPS and MRP schedules
Analyze multiple sites by product families or products **|** View of stockouts and past due orders

Work plan
Analyze single sites and single products **|** Order grouping **|** Material planner workbench

Manufacturing analysis
Resource utilization **|** Late order analysis **|** Delayed operation analysis **|** Operational yield **|** Material yield **|** Production yield

Interactive drag-and-drop scheduling using GANTT Diagram
Load simulation **|** Finite capacity planning

Inquiries

Work-in-process by product

Work-in-process by load

Projected stock by date

Analyze loads in graphical format

Allocation details

Order replanning

Progress of production orders

Production order status reporting

Automatic Processing

Mass allocation and deallocation

Mass forward and backward scheduling

Work order release

Automatic work orders