# Managing Inventory

## with SYSPRO

**SYSPRO**™

Simplifying your Success

# Managing Inventory with SYSPRO

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# Why is Inventory so Important?

Inventory management must be an executive issue. This critical business function is too important to be the sole responsibility of the warehouse manager.

Management across various industries is becoming more aware of inventory issues for several reasons:

- As companies grow, the variety and quantities of inventory grow and need to be managed
- In manufacturing companies, as much as 50% of capital is in inventory
- The major cost component of many products has shifted to materials
- The link between effective inventory management and cash flow is now recognized

Although inventory is listed as an asset on the balance sheet, it creates liabilities by incurring storage costs and tying up cash and working capital.

Inventory comprises the items that an enterprise needs to maintain production, provide customer service and support activities such as maintenance and repair.

Inventory exists due to the uncertainty surrounding demand or supply; inventory acts as the safety buffer.

Inventory is an expensive asset which needs to be carefully managed and controlled. Complex decisions have to be made about how much and which items a company should hold overall and at each stocking location. Additionally, the company needs to know when to replenish, how much and where.



## Inventory Management

The role of inventory management is to co-ordinate the actions and requirements of a business so that stocks are maintained at the right place, at the right time, and in the right quantities to satisfy the demands of customers or of a production process.

# Is a System Needed to Manage Inventory?

A spreadsheet can manage inventory sufficiently when there is just one warehouse holding a limited number of inventory items with a small storage area and a few customer orders. For larger, complex environments, a more sophisticated type of software is required to help move from 'managing by exception' to 'managing by information'.

Effective inventory management should be a priority for every manufacturing or distribution business. These businesses need a unified view of inventory, which requires real-time data at each stocking location – in transit, at the finished goods warehouse, on the factory floor, expected components and raw material from suppliers, and outstanding orders from customers. This detailed real-time data is essential for effective customer service and profitable management.

## Benefits of an ERP system for inventory management

Using an ERP system to manage inventory will assist with a number of goals:
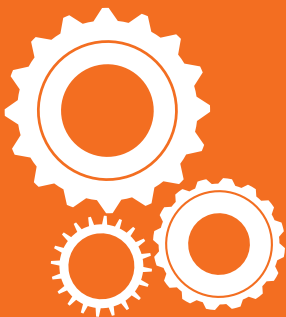
- Achieve optimum levels of inventory at the correct locations
- Address issues of inventory losses and obsolescence
- Reduce the problem of excessive inventory
- Prevent interruptions to production through stock shortages
- Increase visibility of information about inventory
- Improve procurement and replenishment processes
- Enable inventory to be managed at a more granular level
- Assist with regular, efficient stock takes
- Provide additional attributes to handle stock better – lead time, supply/demand variability, velocity

For inventory management to be properly achieved, the organization not only needs an ERP system, but also a level of functional and process maturity to ensure the system can be used effectively.

# Functions of Inventory Management

Businesses know they can improve profitability and working capital through better inventory management, but many are not sure where to start or where savings can be found. They face an ongoing balancing act as they try to:

- Carry enough inventory to respond quickly to customer demand and minimize transportation costs
- Minimize investment in inventory to reduce warehousing and storage costs

With an inventory management system, improvements can be achieved in the following functions:

1. Control stock:
   - Quantity
   - Accuracy
   - Quality
   - Identification
2. Support regulatory compliance for:
   - Product traceability using lots or serial numbers
   - Product handling with associated handling notes
3. Optimize the order and replenishment process
4. Optimize customer service levels by having the right stock at the right location
5. Regulate movement and distribution requirements
6. Manage inventory valuations and costs
7. Provide for inspection rules and points
8. Monitor sales and production trends to plan and forecast inventory requirements

## Inventory Classification

Inventory is normally classified according to how it is used in the business value chain:
- Raw materials
- Components
- Work-in-Progress (WIP)
- Finished goods
- Maintenance, repair, operations (MRO)
- Pipeline – inventory in the transportation network

# SYSPRO's
# Inventory Management Functionality



**SYSPRO INVENTORY MANAGEMENT**

Left side (top to bottom):
- Product Configurator
- Inventory Optimization, Forecasting and Families and Groupings
- Sales Analysis
- Lot Traceability
- Sales Orders, Counter Sales, Blanket Sales Order and Trade Promotions
- Purchase Orders (p/o) and Landed Cost Tracking (LCT)

Arrow labels (left): Stock code, quantity, warehouse; Sales Inventory Movements; Stock code and product glass; Transaction for Items flagged as traceable; Stock code and product class; Outstanding p/o quantity and due date; Stock code, warehouse tariff code for LCT

Right side (top to bottom):
- Return Merchandise Authorization
- Bill of Materials and Engineering Change Control (ECC)
- Quotations
- Requirements Planning
- Work in Progess
- Factory Scheduling
- General Ledger

Arrow labels (right): Stock code, quantity, warehouse; Stock code, part category, revision or release number for ECC; Stock code, quantity, warehouse; Stock code, quantity, warehouse; Issue stock to and from jobs; Receipt stock to and from Jobs; Stock code, quantity, warehouse; Inventory and GRN transactions

## Inventory control

### Inventory information

Inventory recording in SYSPRO is usually done at the 'Stock Keeping Unit in a Location (SKU-Loc)'; however, inventory can also be classified into product classes and groups for integration into the General Ledger, Sales Analysis and Reporting as well as for defining sales promotions. SYSPRO Inventory Families and Groupings provides the tools to arrange 'collections' of stock keeping units (SKUs) into hierarchies and groups of similar items, classified in a way that is meaningful to your business for forecasting and optimizing purposes.

SYSPRO understands that it is extremely important to manage and have visibility of the entire inventory management chain; items should arrive in good condition, be allocated to the right location, tracked as they move through the warehouse, and dispatched to the right destination. At any stage the inventory query function can provide a view of quantities in stock, ordered, inspection, in transit between warehouses, allocated to sales or work orders.

To monitor stock, SYSPRO provides various queries, reporting options, dashboards and desktop gadgets.

### Warehouse allocation

Stock must be allocated to at least one warehouse, but quantities may be allocated to multiple warehouses and movements between warehouses can be initiated and tracked. As warehouses will probably be in different locations where the costs might be different, SYSPRO allows for different costing methods and costs per warehouse.

### Bin allocation

Stock can optionally be assigned to a bin for easy location when picking or packing. SYSPRO allows stock to be receipted to multiple bins with a free format bin numbering within a warehouse. At any stage there is visibility into the quantity of stock at each bin location.

### Receipting

SYSPRO offers a two-step receipting process, allowing users to optionally receipt items into inspection and, after the items have been checked, to accept them into inventory. Items which fail quality checks can be scrapped, returned to suppliers (purchased items) or reworked to meet proper specification.

## Inventory control continued...

### Stock Taking method

With SYSPRO, standard inventory stock takes can be done, or cycle counts performed, on a selected range of inventory items, using for example:

- Unit of measure
- Supplier code
- Product class
- ABC class
- Bin location

This function takes a snapshot of the selected inventory at the current time (i.e., the costs and quantities for the selected stock items are saved). After counting, any additional quantity counted for an item can be added to the quantity previously counted for that item. Alternatively, the additional quantity counted can replace any previously counted quantity for an item. If any transactions have been performed against the stock item since the stock take was initiated, the quantities of the transactions will be taken into consideration when generating variances between original quantity and counted quantity.

SYSPRO also supports stock count data that is captured via a third-party application.

### Support for different units of measure

SYSPRO provides different units of measure (UOM) for inventory. The standard unit is the stocking unit of measure, but other UOMs are as follows:

- Inventory unit of measure - for stocked items
- Cost unit of measure - used for the inventory cost of the item
- Alternate unit of measure - an alternative unit of measure for the sale or purchase quantity
- Other unit of measure - an additional unit of measure for sales ordering

# Support for Product Traceability

## Serial and lot traceability

SYSPRO's lot traceability and serial tracking functionality enables an item to be tracked through the manufacturing process, from receiving (purchasing raw material) through manufacturing, assembly, inspection, and stocking to the final dispatch stages. This lets the manufacturer keep track of the item being manufactured for compliance and quality assurance purposes, or to view what materials were used in the production process. Goods are received at the stores, inspected and accepted into stock. These stock items then have lot or serial numbers attached to them. When the goods are issued to a job, the lot/serial number is recorded. Once the item has been utilized within the manufacturing process, it is receipted into stock and assigned its own unique lot/serial number, which is recorded. These stock items are then sold to the customer, still with the lot/serial number attached. If the item is a non-stocked item, they also have lot/serial numbers attached to them. In the event of a recall, the user can view what finished item/lots the lot went into and who bought the items. The item can be traced from supplier through the manufacturing process and to customers which have received the non-conformance material.

# Order and Replenishment

## Releasing or depleting stock from a warehouse

Depending on the type of business, different inventory depletion methods are available. These include:

- Sales order entry, point-of-sale and back order release
- Issuing of stock to Work-in-Progress
- Backflushing - by receipting a finished good into stock, the components are automatically depleted
- Kanban to achieve having the items available Just In Time (JIT)
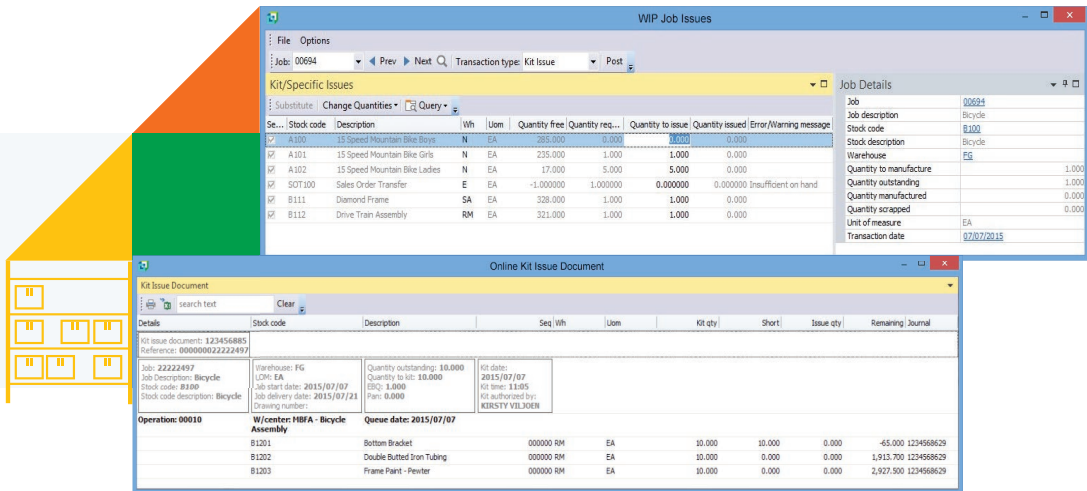


## Replenishment

Inventory managers must determine the rules by which inventory will be replenished, so that the right inventory items are ordered, in the right quantity, at the right time, to the right destination. Maintaining an appropriate level of inventory is critical for both customer service and profitability. Too much stock, or obsolete stock, increases business costs. Not enough stock, or the wrong stock, means that customer demands will not be met.

SYSPRO provides many of the standard processes and rules for inventory replenishment, including:

- Lead times for:
  - Bought items - this is the number of days it takes for a supplier to deliver an item from the date the order was placed
  - Made items - this is the number of days taken to manufacture the stock
- Buying and batching rules - buying rules refer to bought items, and batching rules to made items, but they can be used interchangeably. Among the rules available in SYSPRO are:
  - Lot for lot
  - Economic batch quantity
  - Fixed time period
  - Order point
  - Minimum/maximum order quantity

Standard order policies can be set for the entire business, or different policies can be applied by warehouse.

## Support for different lead times

Stock items can have different lead times depending on whether they are bought or made. SYSPRO supports both in addition to other lead time options, such as transfer lead times (the time taken to transfer goods from one warehouse to another), dock-to-stock (the days a stock item is required to be in stock at the source warehouse prior to transfer), manufacturing lead time (the number of days it takes to manufacture a made-in-stock item, assuming that all the raw materials are available).



## Approved and alternate suppliers

To maintain quality of stock, guarantee certainty of delivery, or as a means of getting preferential pricing, businesses may appoint approved suppliers. When an item is requisitioned, procurement rules should ensure that the order goes to an approved supplier. In the event that the supplier cannot deliver as required, there should be an alternate supplier who can be contacted. SYSPRO's Purchasing modules allow these kinds of rules to be set and specific suppliers to be listed as approved or alternate for the stock items.

# Movement and Distribution

## Managing warehouse transfers

Having the right amount of stock at the right time is not helpful if it is in the wrong place. With SYSPRO, inventory managers can use the Supply Chain Transfer (SCT) functionality to transfer stock between warehouses. SCT allows lead times and warehouse buying rules to be specified. Transfer costs can also be included in the calculated cost of the product at the end destination.

## Reserving stock

Stock can be reserved for sales orders or jobs as reserved lots or specific serial numbers for component items.

## Available-to-promise

The available-to-promise (ATP) functionality in SYSPRO enables a sales person to make delivery promises to customers in terms of quantity and date based on available stock, planned production or purchase order receipts.

# Valuation and Costing

## Costing methods

Proper valuation of inventory is important and necessary for financial reporting. Different inventory valuation or costing methods are used to calculate the cost of goods sold and of ending inventory. A single costing method can be applied to all warehouses within a company, or various costing methods can be used within the company by assigning different costing methods to each warehouse.

The methods available in SYSPRO are:

- **Average**
  Whenever stock is received into a warehouse, the average cost is recalculated based on the current quantity and cost on hand, as well as the new quantity and cost received.
- **Standard**
  Companies create a standard cost to ensure that the total actual cost variance accumulated between the change periods does not exceed the total standard cost that has been estimated for the periods.
- **Actual**
  Typically used for lot-traceable or serialized products, where the cost at which the goods are received will be the same used for the cost of sale when sold.
- **Activity-based costing**
  The total cost of an item will not only include the physical cost but also the cost of all purchasing and/or selling of manufacturing activities.
- **Last cost**
  Often used for replacement cost such as

insurance provision.

- **FIFO (First In First Out)**
  This is calculated from oldest to latest receipt cost and quantity in stock and is always issued at oldest cost. FIFO costing ensures the oldest receipted item is issued or sold at the oldest cost.
- **LIFO (Last In First Out)**
  This is calculated from newest to oldest receipt cost and quantity in stock and is always issued at newest receipt cost (not legal in some countries). LIFO costing ensures that the latest receipted item is issued or sold at the most recent cost.
- **Landed Cost Tracking (LCT)**
  This calculates expected costs based on predefined calculations of all landed costs of an imported product, inclusive of duties and exchange rates, and provides detail reporting on actual variances between expected and actual costs. LCT allows for cost apportionment rules across multiple products in a shipment.

## Pricing of inventory

### Pricing methods
Pricing is one of the important strategic decisions that a business must make, as selling goods at the correct price is important for profitability and sustainability. However, there will also be a need to occasionally move stock by providing a discounted price through a promotion. In addition, customers will occasionally want to negotiate a special price for a period of time or specified quantity. Sales people should also be given an opportunity to negotiate and add a discount as needed, within certain rules.

SYSPRO provides extensive manual and automated pricing functionality for sales transactions as well as the capability to include contract and discount pricing terms. The pricing methods available in SYSPRO are:

- **Manual pricing**
  Price and price unit of measure are requested and manually captured for each line on a sales order or quotation.
- **Simple pricing**
  Automated pricing where multiple price codes can be defined against a stock item, but only a single price or discount code is allocated per customer. It enables different customers to be charged a different price for the same item.
- **Extended pricing**
  Automated pricing where up to 26 price or discount codes can be allocated to a customer. It enables customers to be allocated a price category per groups of stock items.
- **Contract pricing**
  This enables a contract to be set up with a customer or buying groups to provide items at a certain price for a specified time period.

- **Discounting**
  A variety of discounts can be defined and automatically applied when entering the sales order, or a salesperson can manually enter a discount.
- **Trade promotions**
  For businesses that use special pricing, quantity discounts and other promotional activities to increase demand, SYSPRO offers the Trade Promotion Management (TPM) module. This module provides the functionality to include deductions and allowances, complex discount structures, as well as loyalty-based pricing on stock items.

# Planning and Forecasting

## Inventory forecasting

Inventory planning can be accomplished by analyzing sales history to forecast future demand using SYSPRO Inventory Forecasting. For manufacturers and distributors, the output of Inventory Forecasting can be used as the input to Material Requirements Planning (MRP) using SYSPRO's Requirements Planning module. This will result in materials being purchased or made so there will be supply in the correct location according to the projected demand.

Inventory Forecasting provides the capability to create and maintain forecasts at the Stock Keeping Unit in a Location (SKU-Loc) level.

SYSPRO Inventory Families and Groupings allows the user to create and maintain forecasts at levels above SKU-Loc. For example, a forecast for a single product could be produced at company level, regional level and warehouse level. The user can define how the higher level forecasts are set up.
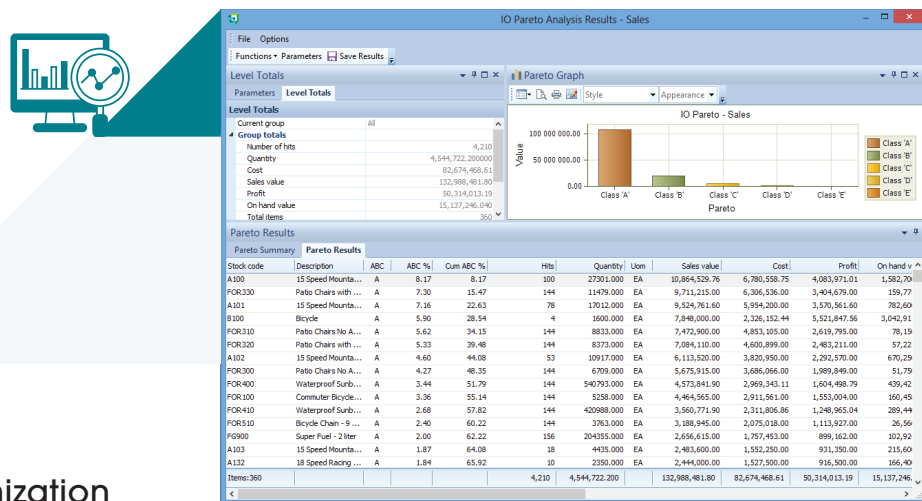


## Inventory optimization

SYSPRO Inventory Optimization takes a holistic view of inventory levels and provides the methodology, tools and processes to ensure there is the right balancing of inventory within the supply chain to achieve desired customer service levels while minimizing total supply chain cost.

Optimization seeks to find a balance of the different types of inventory:
- Basic stock – the exact quantity of an item required to satisfy a demand forecast
- Seasonal stock – a quantity build-up in anticipation of predictable increases in demand that occur at certain times in the year
- Safety stock – a quantity in addition to basic inventory that serves as a buffer against uncertainty

Inventory Optimization includes the capability to identify slow or erratic demand stock codes.
The process steps for optimizing inventory are:
1. Understand the importance and behavior of each stock in each location
2. Get the best possible estimate of demand (a sales forecast)
3. Decide on the appropriate stock levels and target service levels to meet the demand
4. Replenish timeously to stay within the targeted stock and service levels

## Inventory optimization cont...

The tools in SYSPRO's Inventory Optimization module include:
- A comprehensive Pareto analysis tool to rank stock codes in one of five dimensions (sales value, cost of sales, gross profit, quantity or hits/transactions) at any of six levels (stock code at company level, warehouse, product class, supplier, planner or buyer)
- An integrated stock classification capability to segment stock codes according to any one of six views or a combination of:
  - The business view
  - The behavior and importance of the stock code in a location
  - The market view identifying where the item is in the product lifestyle
  - The availability status of the item, whether it has immediate availability (ex-stock) or delayed availability (make- or buy-to-order)
  - The forecast status – whether the item is to be forecast or not in a particular location
- The methods to create a forecast, all utilizing a range of algorithms as well a competition method for SYSPRO to select the best algorithm
- Powerful stock policy and modeling tools to set time-phased target stock and service levels

The Inventory Optimization module allows stock policies to be set using a targeted service level. This can be done using one of three methods:
1. A normal distribution used for stock codes with regular demand
2. A Poisson distribution based on hits/transactions for slow or erratic demand stock codes
3. A Poisson distribution based on demand, also for slow or erratic demand stock codes

Inventory Forecasting and Inventory Families and Groupings have three powerful algorithms that deal with level, trend and seasonality. Use can also be made of the Competition Method by which SYSPRO can select a seasonal algorithm for stock codes that require it.
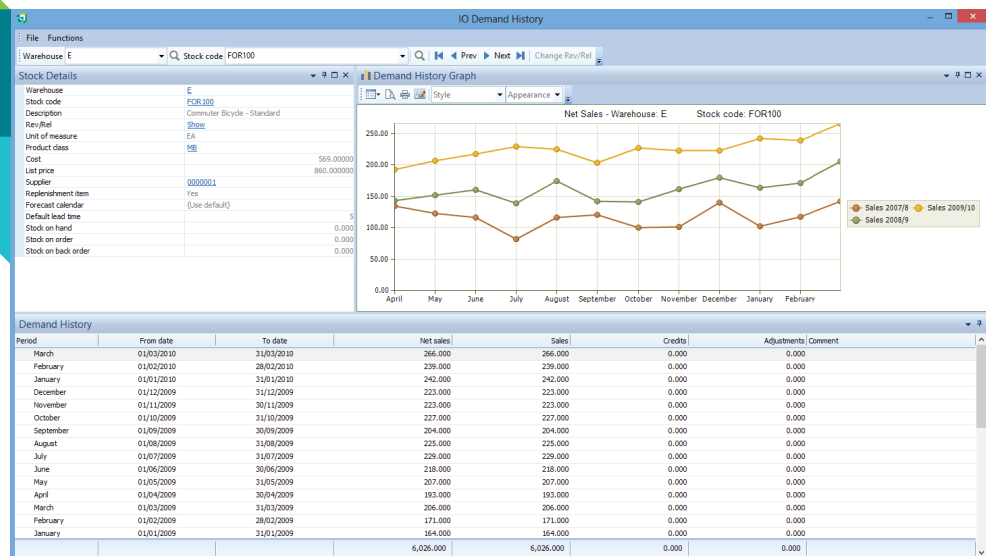
SYSPRO provides comprehensive inventory management tools to ensure there is visibility of inventory across the supply chain to meet the demands of the business, thereby eliminating over-stocking and the tying up of capital.

# About SYSPRO

SYSPRO is an internationally-recognized, leading provider of enterprise business solutions. Formed in 1978, SYSPRO was one of the first software vendors to develop an Enterprise Resource Planning (ERP) solution. Today, SYSPRO is a global company, represented on six continents and by more than 1600 channel and support partners. Fifteen thousand licensed companies across a broad spectrum of industries in over 60 countries trust SYSPRO as the platform on which to manage their business processes.

Customer focus is a core component of SYSPRO's corporate culture and one of the key reasons for SYSPRO's strong leadership position in the enterprise application market. By focusing on people and building lasting relationships with customers and partners, SYSPRO consistently excels at guiding customers through all aspects of their adoption and ongoing usage. The aim is to deliver world-class solutions that give customers the control, insight and agility they need for a competitive advantage in a global economy. As such, SYSPRO provides a unique combination of robust, scalable technologies that ensure minimal risk and a high return on investment.

SYSPRO continually develops remarkable software that simplifies operational effectiveness and keeps customers in control of their businesses. Our vision is focused on meeting customer needs today and in the future.

**SYSPRO provides a unique combination of robust, scalable solutions that ensure minimal risk and a high return on investment.**

# SYSPRO™
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