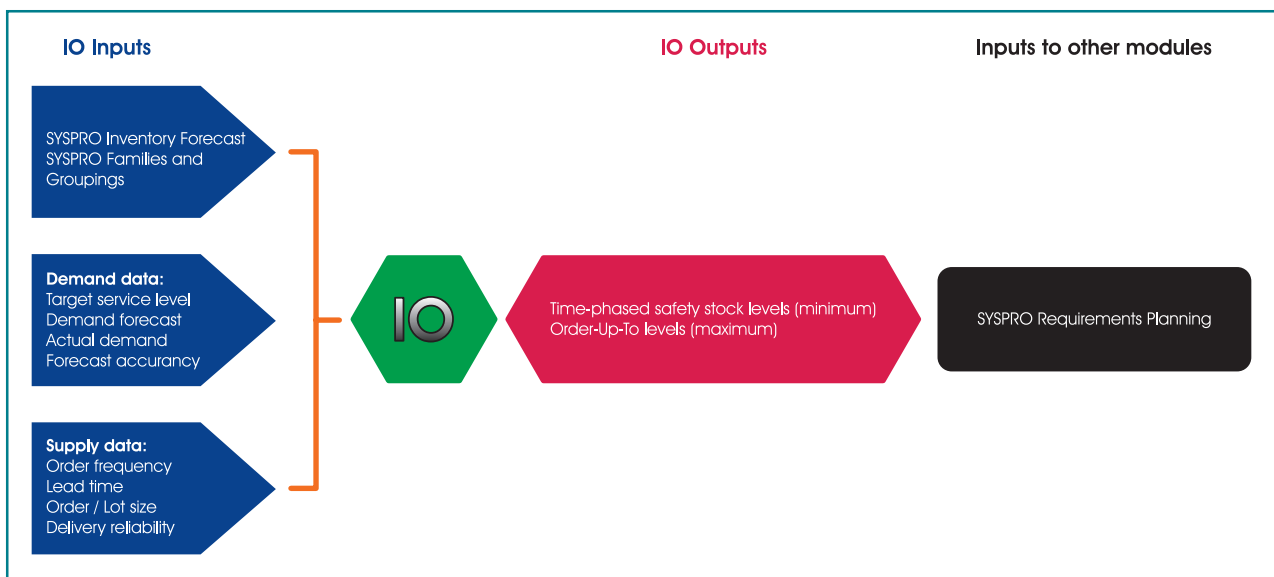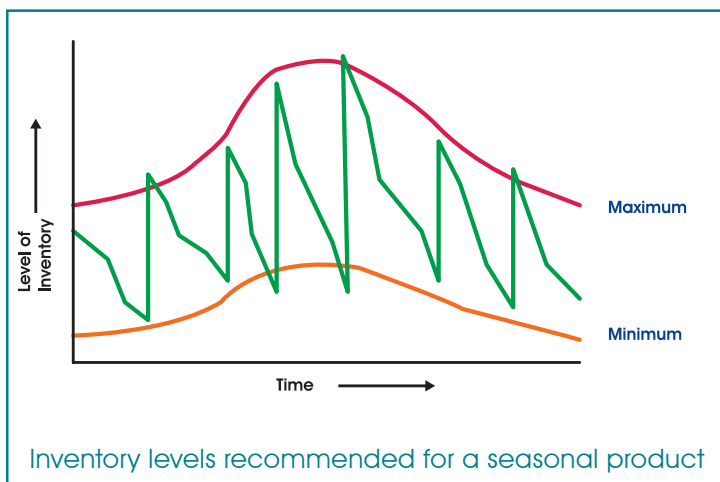# Inventory Optimization

SYSPRO's Inventory Optimization (IO), together with Inventory Forecasting, Families and Groupings and Requirements Planning, provides the tools and the processes to ensure there is sufficient stock in the right place, at the right time.

Inventory is one of the biggest assets within most companies yet it does not always receive an appropriate amount of management attention. There are good and bad reasons to hold inventory, so organizations need to understand what is contributing to their inventory and why. The role of inventory in the performance of a supply chain should also be understood for effective management.

SYSPRO Inventory Optimization takes a holistic approach to balancing the supply chain by providing visibility and understanding of the different parameters that create and shape inventory. The IO module allows users to create policies that determine how changing these parameters impacts on target inventory levels. This enables the best mix of services to the customer at the optimum cost of inventory to achieve that service. Seasonal and trend factors can also be incorporated.

IO Inputs

SYSPRO Inventory Forecast
SYSPRO Families and Groupings

Demand data:
Target service level
Demand forecast
Actual demand
Forecast accurancy

Supply data:
Order frequency
Lead time
Order / Lot size
Delivery reliability

IO

IO Outputs

Time-phased safety stock levels (minimum)
Order-Up-To levels (maximum)

Inputs to other modules

SYSPRO Requirements Planning

The objective of IO is to drive inventory between minimum and maximum.

Inventory levels recommended for a seasonal product

The Facts

The Benefits of Inventory Optimization

- Allows modeling of different 'what-if' policy scenarios to arrive at the best mix of service and inventory investment
- Provides clarity and objective measures of when stock is 'right' (supply and demand are in balance)
- Provides optimization at the SKU-Loc (stock keeping unit – location) level which can be aggregated up to higher levels
- Forecasts at regional or territory level by consolidating warehouses for logistical or supply chain purposes
- Improves stock turns and service levels
- Reduces waste in the supply chain
- Highlights where the problems are – stock-outs, over- or under-stocking
- Improve ability to manage demand

Inventory Optimization Features

- Use of selection sets common with Inventory Forecasting
- A powerful forecast accuracy review
- View and edit all the inputs to target stock (setup, policies, forecast, historic demand, forecast accuracy) in one interface, the IO stock model
- Define fixed or risk based policies to determine the target stock at SKU-Loc level

- Fixed policies can define minimum stock level as a quantity or days cover
- Risk policies use Poisson or normal distribution for target service level
- The maximum stock level can be defined from the order frequency
- Create of draft stock levels at the SKU-Loc level
- Approval of stock levels into live for use in Requirements Planning
- Review excess stock (as defined by the SKU-Loc policy setting) and create SCTs (supply chain transfers) to re-distribute excess

Integration with SYSPRO

- Integrates with the following modules:
  - Inventory
  - Inventory Forecasting
  - Inventory Families and Groupings
  - Sales Orders
  - Requirements Planning

Audit trails and reporting

- Comprehensive audit trail of changes (add, change and delete audit)
- Comparative reports, reviews and on-line queries