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Educational module

Inventory management Simulator

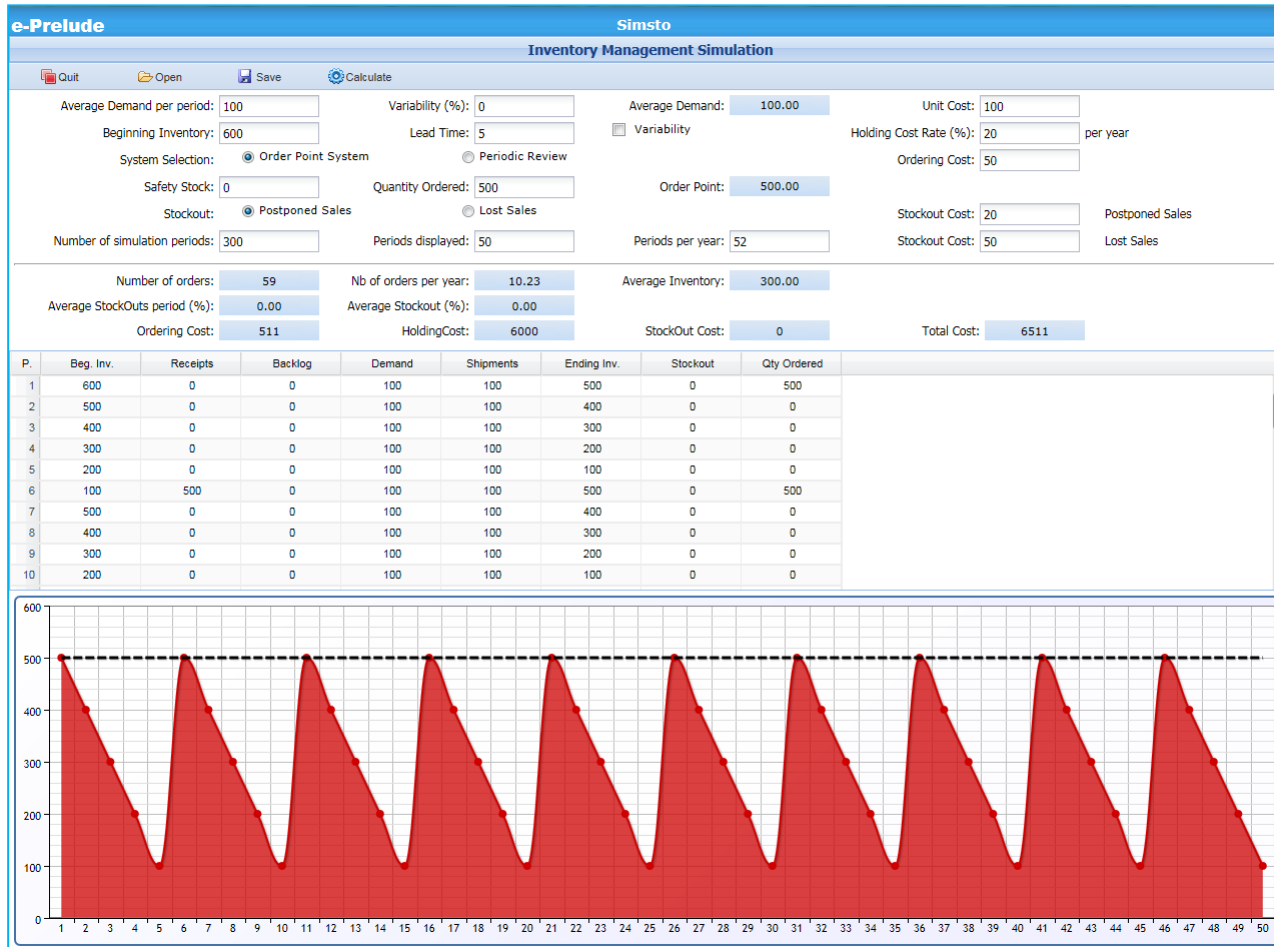
Access the Simulator

- Access to the stock simulator is only possible for instructors and if the Pedagogy module is activated for the course.
- In the Educational module (from the list of directories on the [Document Management](#) page), select the [Stock Simulator](#) subdirectory.
- In the file list, select [Simsto](#) and click on [Open](#).

Stock Simulator Principle

- The purpose of the stock simulator is to illustrate the implementation of stock management methods taught theoretically
- The system simulates the (random) demand for a material managed on stock over a large number of periods
- It applies the management rules whose parameters are specified
- It calculates performance in terms of
 - Average Inventory Level
 - Stockouts
 - Total management cost

The simulator page



Parameters

History

Graph

Parameter

- Average demand per period
- Demand variability (Standard deviation as a percentage of demand)
 - Generation of a random demand (normal probability distribution)
- Beginning inventory (to initialize the system)
- Lead Time (in number of periods)
- The fact that the lead time is random (tick the box)
 - Generation of a random lead time (Poisson probability distribution)

Inventory Management Systems

Parameters

- Reorder point system
 - Safety Stock
 - Order Quantity (fixed)
 - Order point level is calculated
- Periodic review system
 - Safety Stock
 - Revision Period (in number of periods)
 - The replenishment level is calculated
- Processing stockouts
 - Lost sales
 - Postponed sales > Stockout is added to next period demand

Costs

- Item Unit Cost
- Holding rate (as a percentage per year)
 - Applied to inventory average value
 - Fill in the field **Number of periods per year**
- Fixed Ordering cost
- Stockout cost if sales are postponed
- Stockout cost if sales are lost

Additional information

- Number of simulation periods
 - from 100 to 1000
- Number of periods displayed on the graph
 - from 30 to 100 (depending on screen width)
- Number of periods per year
 - To calculate the carrying cost per year
- Button **Calculate**
 - Starts the calculation with specified parameters
- Button **Open**
 - Opens a parameter file
- Button **Save**
 - Saves the parameters in a file whose destination is chosen
 - This file can be made available to students by copying it into the **Course Documents directory**