



## WAREHOUSING AND DISTRIBUTION

### KEY BENEFITS

- Test a future system in an early design stage.
- Test and improve proposed modifications without disturbing the operational environment.
- Modeling and analysis of several scenarios to be prepared for the future.
- Optimization and safeguarding of investment planning for production and transport equipment.
- Estimating the influence of uncertainties and variations.
- 2D and 3D visualization.

Many warehouses are already optimized by using simulation. On an abstract level as part of a supply chain, but also in detail as single entities.

### WAREHOUSE SIMULATION

The function of warehouses are generally to store products, compose client specific orders and prepare shipments. Therefore, simulation studies focusing on optimization of operations concern for example:

- Optimizing storage locations and methods.
- Improving order picking strategies.
- Defining time windows for inbound processes, goods replenishment and outbound processes.
- Outsourcing to specialized 3PL providers.

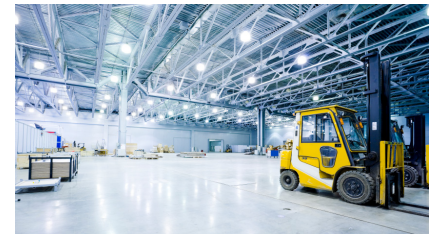
### EFFICIENT WAREHOUSE OPERATION

A recurring question is the challenge to achieve a most efficient warehouse operation. In traditional warehouse operations this comprises the deployment of staff and transport equipment, including finding the optimal mix of the different truck types. In automated warehouses, 3D-simulation models can contribute to the selection of the appropriate order picking module, conveyor and sorting system or ASRS. Of course modern technologic developments like the rise of RFID or voice picking are also relevant for efficiency and reliability.

# Using simulation software supports you in managing complex warehouse dynamics and delivering on time.

## INTEGRATION WITH WMS

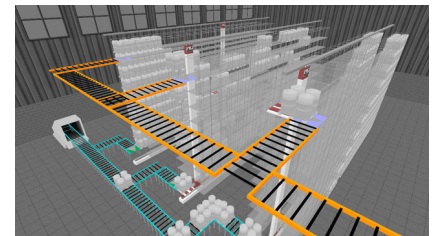
As many warehouses use a Warehouse Management System (WMS) for directing and tracking materials and for inventory management, these systems are a huge source of information. By linking this data or even integrating the software with simulation models the full data set can be used for the simulation studies.



Any process can be modeled

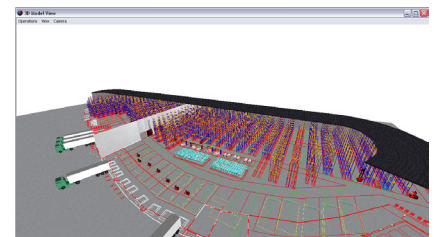
## EVALUATE CRITICAL PERFORMANCE INDICATORS

Increasingly companies decide to consider outsourcing of warehousing and distribution functions to third party logistics providers (3PL). In many cases, value-added services are part of the deal. So, these services do not only cover basic functions as storage, order composition and shipping, but also adaptations, tracking & tracing and even reverse logistics and repairs.



Optimize operations

Enterprise Dynamics® can be used as an independent and fair means to evaluate such outsourcing decisions and judge the quality and value of the services. Critical performance indicators are of course the costs, but almost as important are customer service level, lead times and reliability.



3D visualization

## EXPERIENCE INCONTROL

The last 20 years Enterprise Dynamics® was successfully implemented at warehouses all over the world. The experience and knowledge of all projects are used for the ongoing development of the software. Therefore, Enterprise Dynamics® is the most innovative solution to analyze and optimize warehouses and distribution.