MATERIAL HANDLING

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.

If there is one area where simulation is well applicable, it is automated material handling systems. Simulation has proven its value in this field numerous times.

TRADEOFFS WITHIN THE MARKET

The underlying question within this market is often the estimation of the Return of Investment (ROI) for the automated handling systems. It generally concerns a tradeoff between preserving a manual operation and investing in automation of the handling. Other considerations may be the comparison between several options for automating the material handling.

The tradeoffs regard of course financial consequences – investment costs versus reduction of FTE's – but also logistical aspects, such as the required flexibility in routings, peak capacities, availability and reliability.

MATERIAL HANDLING SIMULATION

Simulation systems or applications for those goals are constructed with elements representing different types of conveyor systems, DCV systems, overhead cranes, sorters, robots, AGV's and many other ready to use modeling blocks. The characteristics and control rules are then customized to make them representative for the handling equipment in the actual or proposed situation.

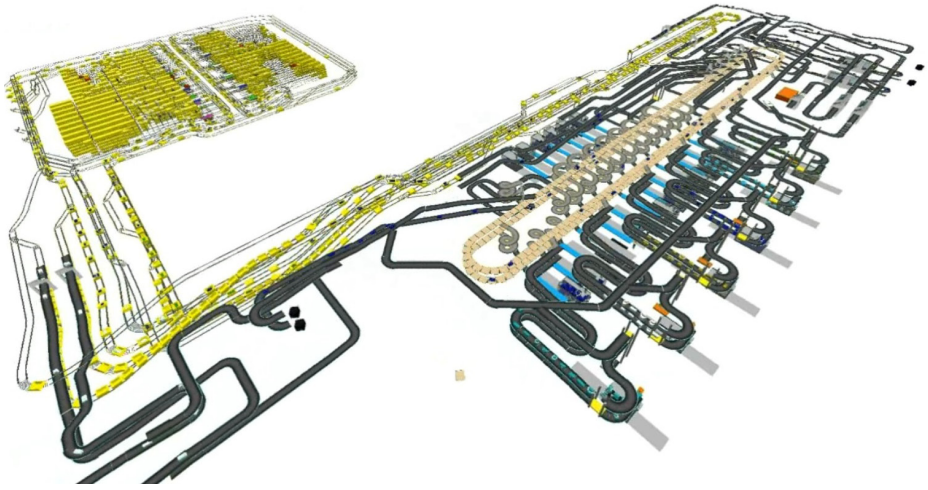
The performance indicators measured in models of automated material handling systems include achievable throughputs, lead times over the various trajectories and the results of queuing effects in the system. Furthermore, an important result of models can be the determination of the degree of system redundancy.

Enterprise Dynamics® is applied for modeling automated handling systems in industrial environments, in distribution centers and in airport baggage systems. Besides, several manufacturers of automated material handling systems use the software as a service to prove the system functionality to their customers.

EXPERIENCE INCONTROL

The experience of projects within the different field of applications and knowledge of the INCONTROL developers and engineers are used for the ongoing development of the software. Together with the expertise and network of INCONTROL, Enterprise Dynamics® offers the flexibility for successful simulation projects in every market.

With decades of automated material handling systems experience and knowledge, Enterprise Dynamics® has proven to be the best solution for various important themes within this market.



Model of baggage handling system at Amsterdam Schiphol Airport.