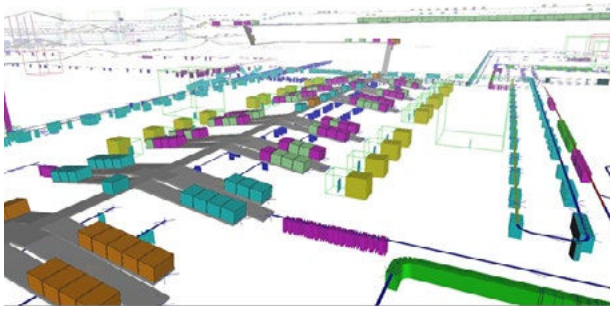
Competences

Mail order business

Increasing Challenges of the mail order business

In addition to the classic influencing factors such as seasonal business or advertising campaigns, the mail order business is increasingly shaped by the requirements of e-commerce. Delivery times of 24 to 48 hours, a high rate of returns and a large number of orders with only a few delivery note items characterise the business.

Campaigns such as Black Friday generate a high dynamic in the turnover of items and the corresponding A/B/C classification. The combination of B2C and B2B business further increases the complexity.



Example simulation model

These factors, as well as various interactions, lead to high process dynamics and harbour significant risks in the planning of such systems.

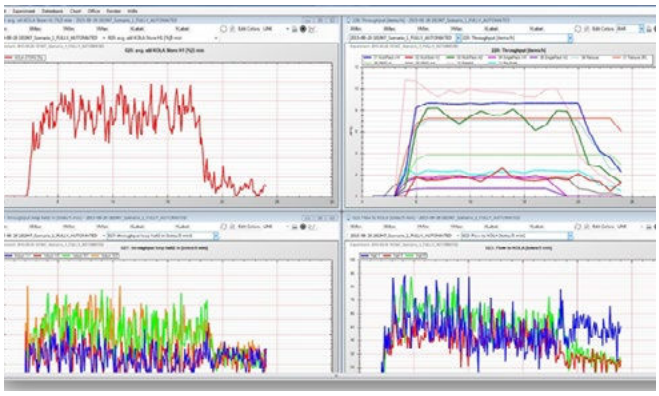
Support through the simulation

In the simulation of a distribution system, not only the technical system, i.e. conveyor and storage technology and components such as palletisers, but also the control logic of the system, i.e. warehouse management and material flow control, are mapped. In addition, manual processes such as picking or packing are simulated on the basis of realistic processing times.

In many cases, the simulation runs using real order data. This ensures that influences from seasonal business and campaigns are taken into account. In order to depict future scenarios, this data can be extrapolated using defined growth factors.

This creates a high degree of reality fidelity in the simulation. In order to examine the sensitivity of the process to individual factors such as order structures that change almost daily or the A/B/C classification, various assumptions can be made about them and examined in simulation experiments.

In this way, the simulation provides objective decision-making bases for the design and control of the system, i.e. for the required conveyor performance, storage and retrieval capacity, picking performance, throughput of the complete system and order processing times, as well as for the correct control logic on the conveyor system and in the warehouse.



Example result presentation

Use of the model for virtual commissioning

Once the planning has been completed, the logical next step is to adapt the simulation model to the current status for implementation and to add the necessary communication interfaces. This enables the model to communicate with the real control systems.

In this way, the real control system can be tested and commissioned using the simulation model. This significantly speeds up commissioning and increases the quality of the control software, as the control system can be tested on the basis of a large number of scenarios even before the real system is started.

SimPlan has successfully handled a large number of mail order projects

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SimPlan AG was founded in 1992 as a service provider for the simulation of operational processes and today, with more than 120 employees, it is one of the leading German providers of simulation services.

Why SimPlan?

We are a cross-industry full-service provider for simulation, supporting companies of all industries with extensive expertise in the analysis and optimization of their business processes

- Objective and independent analysis
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  - → Development and use of standards
  - → Permanent advancement of simulation topics through research and development
- Excellent resources to respond quickly to your issues
- Close collaboration and project integration with a high level of on-site involvement
- Development of innovative solutions for the efficient handling of problems
- Neutral distributor for simulation software
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Feel free to contact us

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