Detailed planning of filling lines

SimScheduler

Detailed planning with SimScheduler

The initial situation

In weekly meetings, planning, sales and production determine the quantities to be produced per article on the basis of the current article stocks. This is followed by shift-related manual detailed planning by a full-time planner, who often uses MS Excel for planning support.
for planning support. The production plans created in this way are then passed on to production in paper form.
A disadvantage of the planning process described above can be seen in the high overall time expenditure that arises from working with various non-integrated systems (stocks, orders, forecasts, production restrictions, etc.) and the manual creation of the filling plan. Furthermore, it is questionable whether the filling plans created are actually optimal due to the high planning complexity and the often conflicting planning goals (high plant utilisation, low inventories, short order lead times and high adherence to schedules).

Data in SimScheduler

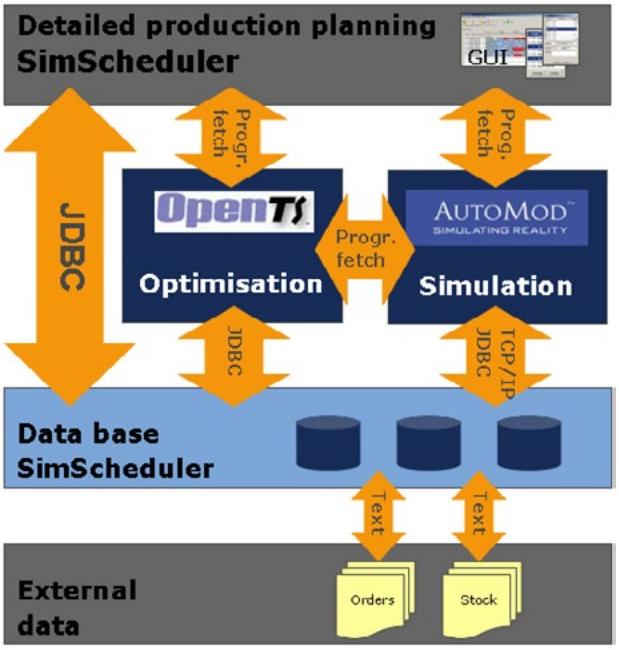
By using the APS system SimScheduler for detailed planning of bottling lines, the disadvantages mentioned above can be circumvented.

All the data required for planning is stored in the SimScheduler database:

- Article master data,
- production orders or forecasts,
- set-up times,
- production restrictions,
- production resources,
- human resources,
- stocks and
- current resource status.

External data sources are integrated with the with the help of modern data integration tools.

This means that no changes have to be made to the existing data structures for the use of the SimScheduler.

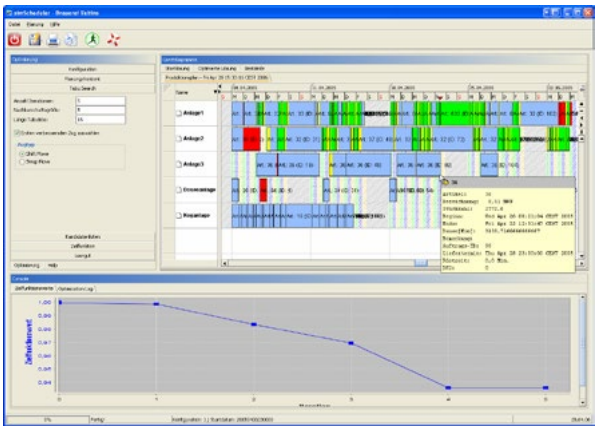


Structure and Functionality of the SimScheduler

Functionality

SimScheduler automatically generates production orders on the basis of current stocks, orders/forecasts, minimum lot sizes and minimum stocks, which are scheduled on the filling lines taking into account all production restrictions.
With the help of the optimisation component - the Tabu-Search metaheuristic is used here - the system then automatically improves the filling planning.

Performance indicators such as delays, set-up time, cycle time and stock levels are used to evaluate the filling plans. Of course, you can manually revise the filling plan proposed by SimScheduler if necessary.



Example of a filling plan in the SimScheduler

Aims and benefits

- Automatic creation of a filling plan based on a modern optimisation procedure.
- The filling plan proposed by the detailed planning tool can serve as a basis for discussion in the weekly planning meeting (no need to determine filling quantities, thus saving time)
- Significant time savings for the planner
- Integrative effect with regard to the data needed for planning
- Increase in plant utilisation due to simple and transparent allocation planning
- Shorter reaction times in case of rescheduling
- Continuous reduction of minimum stocks (capital commitment costs)
- Graphically interactive operation

Fields of application

- Filling planning in the beverage industry

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  - → Development and use of standards
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Feel free to contact us

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