Application

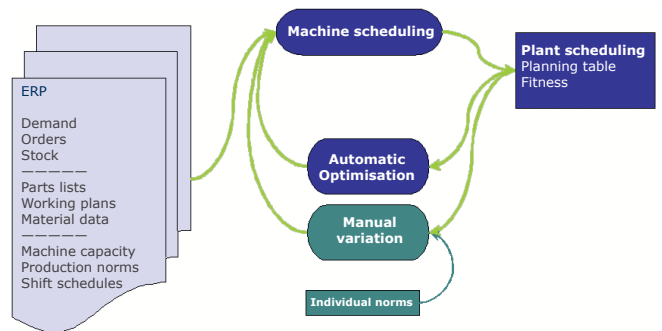# psPlan - Planning of machine scheduling

Planning of machine scheduling for single- and multilevel processes

By planning of machine scheduling you can achieve the optimisation of the machine capacity via minimisation of set-up times and avoiding of idlings and delays regarding the machines. In addition to the lot size of the manufactured product and the planned sequence of production, the compliance with order deadlines is essential for the success of the planning of machine scheduling.
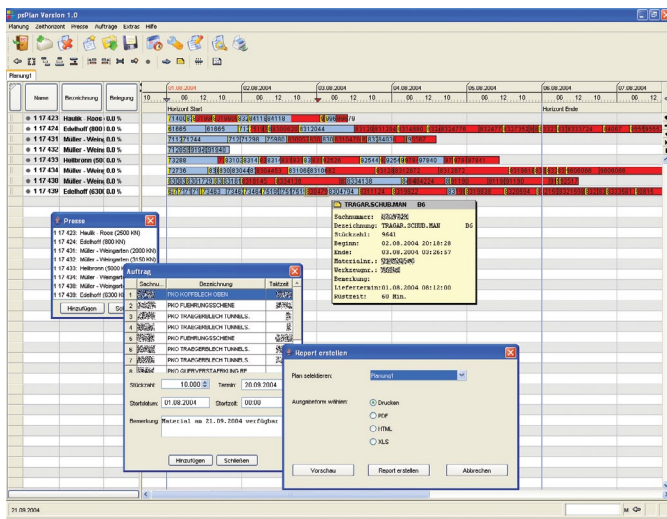
psPlan provides the opportunity to define the planned sequence of production (single- or multilevel) easily with an interactive planning table (Gantt diagram) via Drag & Drop.

The temporal effects (setup time, idlings, compliance with order deadlines) are highlighted in colours in the diagram. Hence you get a transparent planning by only a few clicks.

With the help of the optional optimisation component, the system generates a proposal for the best machine scheduling automatically by using the meta-heuristic taboo-search. Of course you can adapt this proposal manually if required.

Schematic diagram of the machine scheduling

The illustration shows the example of a machine scheduling for the press plant of an automotive supplier: orders which can be finished in time are marked blue; scheduling conflicts are marked red and changeover times are marked yellow.

The Input Data

The correlating data base contains:

- the machine pool,
- information about all code numbers (orders),
- the triggered orders (production orders),
- as well as the orders which have to be scheduled (planned orders).

psPlan is able to access on different types of data bases (e.g. MS-Access, Oracle or MySQL). Of course the master data of another data source can be transferred or imported. Furthermore it is possible to create all master data with the input masks of psPlan. In addition psPlan can be coupled with PPS-systems directly.

Because of the direct access to the order data you are able to take corrective action at the planning, e.g. by changing the number of units which have to be produced per order (lot size), in order to avoid possible idlings at the machines. Among the graphical view in form of a Gantt diagram statistical characteristics like the effective machine capacity, idling and conversion times, the production quantities as well as the meeting of deadlines can be retrieved. The plan of machine scheduling can be generated in form of a report, in which different output formats are selectable (printout, PDF, HTML or Excel).

Aims and benefits

- Increasing of machine capacity through a simple and transparent planning of machine scheduling
- Graphical interactive operation
- Automatical generation of a proposal regarding the machine scheduling based on optimisation procedures
- Considerable temporal relief of the scheduler
- Shorter reaction times in case of rescheduling

Fields of application

- Planning of machine and plant scheduling at single- and multiple-level assembly processes, e.g. press plants, foundries, chemical fabrication

The SimPlan group

We consider ourselves to be a cross-sector full-range supplier with regard to simulation, accompanying you with extensive know-how, experience and modern methods in the optimisation of business processes.

Our services range from process analysis and consulting through material flow and logistics simulation, simulation-based detailed production planning to support with the commissioning of control software.

Furthermore we are a neutral distributor of simulation software and we will lend you our support with the selection, training and implementation in your company.

Why SimPlan?

- Objective and independent analysis
- Detailed knowledge of logistics and production processes with over 25 years project experience
  - ➢ Development and use of standards
  - ➢ More than 350 person-years experience in the field of simulation
- Sufficient capacities for prompt respond to your questions
- Close cooperation and project integration with high on-site part
- Development of innovative solutions for the efficient handling of questions

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