# COMPUTER-AIDED OPTIMIZATION

A navigation system routes the optimal route to your destination in seconds. Chess computers and search engines show the power of modern intelligent software. We also use these methods for your various planning tasks. No matter whether traffic or material flow, production planning or room occupancy – we supply suitable computer solutions. In this way, we relieve employees of tedious planning work and create space for efficient consulting.

The efficient use of resources (materials, facilities, personnel) increasingly requires the use of intelligent computer-aided optimisation processes. You can compare several million alternatives within seconds, do not overlook any boundary conditions and select the best one. Such software tools are an efficient and indispensable tool for the planner to safely and flexibly optimize and monitor machine allocation, production program, material requirements and personnel requirements. Typical fields of application are:

→ Production planning, machine allocation, duty rosters

→ material flow management

→ Traffic flow systems, logistics

→ Use of space and space

→ Resource optimization

→ Process optimisation

→ Environmental engineering

→ Demand forecast, simulation

The company Systemforschung is able to show you potentials in the field of computer-aided optimization. We accompany you from your problem definition and the consideration/evaluation of all process steps of the quantitative planning up to the finished software.

## THE BENEFIT FOR YOUR COMPANY

Navigation systems, chess programs or search engines illustrate the rapid technical revolution currently taking place in combinatorial optimization methods. In a matter of seconds, such artificial intelligence systems reliably make decisions for which employees would need much longer. The optimal use of scarce resources such as personnel, material, space or money presents planners with major challenges. As a rule, there are a large number of alternative planning options, all of which must be assessed for their feasibility and efficiency. Computer-aided methods of artificial intelligence have clear advantages here:

→ They master the fast handling of large amounts of data.

→ They reliably take all boundary conditions into account.

→ You quickly and reliably check millions of alternatives and select the optimum one from them.

→ They calculate meaningful and competing key figures on costs, yield, capacity utilization, resource consumption, adherence to schedules or quality and provide the planner with a sound basis for decision-making.

→ They identify bottlenecks in good time and thus enable targeted prevention.

→ They enable rapid plan changes that constantly arise due to delivery delays, illness, production delays, plant availability or new orders.

→ They relieve planners of time-consuming hard work so that they can take care of essential and strategic tasks, such as decisions between competing optimization goals, customer consulting, personnel management, investment decisions.

Each optimization task requires its own specific solution methods. Therefore, the selection of optimization methods and their combination requires a lot of experience and a deep understanding of the processes to be optimized.

## TO THE APPLICATION EXAMPLE ›

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