

PSIaps enhanced by Qualicision

Advanced Planning and Scheduling

The screenshot displays the PSIaps software interface. On the left, there's a navigation bar with icons for file operations like Open, Save, Print, and Help. Below it is a 'Department' tree view. The main area features a Gantt chart for April and May, showing various tasks and their dependencies. A yellow callout box points to the text '+ PSIaps'. To the right, a Qualicision KPI Viewer window is open, showing a radar chart with six metrics: Production, Setup, Inve, Delay, Raw materials, and Transport. The chart has three concentric rings representing different levels of performance. The legend indicates 'Max KPIs' (red), 'User Wish' (yellow), and 'Winner' (green).

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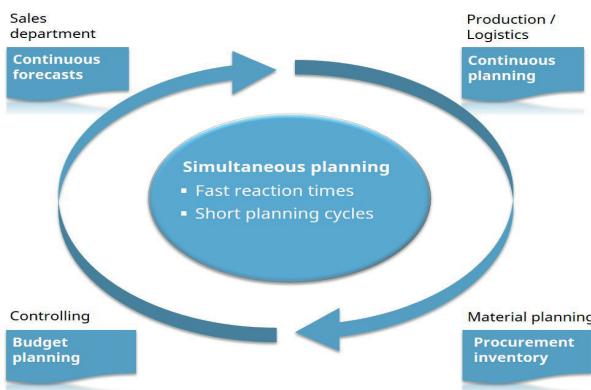
Software for Integrated Planning, Simulation and Optimization of Production Processes

- + Designed to meet the complex requirements of the process industry
 - + Full planning cycle including full stock calculations as well as lot size optimization
 - + Modelling of business processes for capacity planning and production scheduling
 - + State-of-the-art optimization based on a detailed cost model
 - + KPI-oriented ranking of different business scenarios with Qualicision
 - + User-friendly visual planning assistant for interactive planning and reporting package



Holistic and flexible production planning

PSIaps allows forward-looking planning and optimization of production and logistics processes along the entire intercompany value chain. The abbreviation aps stands for Advanced Planning and Scheduling, a name befitting the design of the module as it is intended to determine practicable production plans, especially for the complex process constellations that often occur in practice. Industry-specific optimization techniques allow planning times to be minimised, resource consumption to be reduced and the utilisation of equipment to be optimized. The approach is always holistic, taking into account all technical restrictions and business rules. To this end, the relevant value chain information is mapped from BOMs through production alternatives, setup times and shift models to a detailed cost model. All relevant cost factors, such as production costs, material costs, changeover and storage costs, transport costs or penalties for delays are taken into consideration. Modelling with PSIaps supports all multi-stage production processes. It also enables products whose production comprises many process steps to be realistically mapped and successfully optimized. Based on an integrated data model, PSIaps has interfaces to the ERP world. Modelling is a one-off process, whilst data synchronisation in day-to-day business takes place on a continuous basis. All-in-all, the solution accompanies the full planning cycle from sales and capacity planning to detailed planning and scheduling.



Production planning from strategic and operational perspective: from rough planning to detailed scheduling

Long-term and medium-term planning are an integral part of the planning tasks in the production environment of the process industry. They determine the long-term structural conditions for cleverly exploiting consolidation effects, as well as reaching decisions on inventory management and achievable service levels. The time period to which these considerations apply often covers several months or even years. PSIaps is ideal for calculating the best possible assignments of product lines to plants or local facilities, whereby site-specific sales forecasts and logistical restrictions are taken into account in the long-term. Long-term capacity requirements can also be determined, for instance by comparing seasonal shift frequencies with the anticipated inventory flow. It also enables the verification of corresponding strategies for the range of coverage. Very often it is necessary to compare these and other related issues ad-hoc in example simulations in order to make the right long-term decisions on the basis of a KPI-oriented evaluation. PSIaps also offers a range of functions for the optimization of short-term, daily or weekly production planning and production control. The evaluation of planning alternatives and the selection of a suitable strategy is done by an integrated Qualcision kernel. This concept is based on extended fuzzy logic (EFL). It enables the planner to arrive at a KPI-oriented decision whilst taking into consideration all business process related factors. It is based on a mathematical conflict analysis. The plan obtained is visualised in the form of a Gantt chart; the PSIaps Visual Planning Assistant allows interactive intervention in the planning process.