

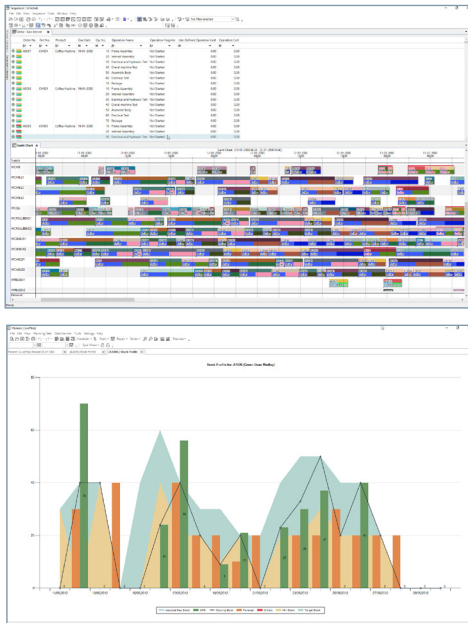


Siemens Digital Industries Software

Opcenter APS

Applications in the packaging sector

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The printing and packaging sector faces complex constraints, resulting in an environment that is particularly challenging for the planners.

Among the challenges facing print and packaging companies are:

- Variation in priority changes and demand – Difficulties in synchronization between the processes in order to offer reliable delivery date promises means that the planner needs to be in a position to respond easily and quickly to the changing demand
- Long setup times – The requirement to minimize changeovers is weighed against due date. Grouping work by multiple attributes to avoid lengthy machine downtime for reconfiguring is essential, scheduling the finished goods first and using the required start times to inform the lower levels
- Complex requirements – Complex relationships often exist between end products and materials, which is an important scheduling factor as they can control the amount of setup time
- Complexity of production process – A mixture of make-to-stock and make-to-order demands can result in complex planning and scheduling requirements, causing a business challenge in balancing resource utilization
- Production planning time – Manual scheduling is cumbersome and slow, resulting in time-consuming schedule reprogramming while maintaining optimal production. Sometimes the lack of standard processes to generate the detailed production schedule with clear rules for production means that consistent optimization is difficult
- Cost pressures and reliable delivery dates – The balance of lowering costs with maintaining reliable delivery dates can be a trade-off



The Opcenter APS product range of Advanced Planning and Scheduling software is ideally suited to meet these demands.

Opcenter Scheduling

Opcenter Scheduling is a finite capacity scheduling tool based on a detailed model of the plant. It takes into account the actual availability of resources and other constraints, such as tooling and materials, to produce a feasible schedule. From this starting point, the software can be used to increase throughput, decrease WIP and inventory and increase resource utilization.

Challenges addressed by Opcenter Scheduling

Extensive changeover times – The ability to group work by multiple attributes in order to avoid lengthy machine downtime for reconfiguring is essential, from raw materials to finished items. The need to minimize changeovers can be weighed against due dates, enabling scheduling of finished goods first and using those required start times to inform the lower levels. Opcenter Scheduling can help prioritize to avoid certain types of print color changes, and work can be grouped into campaigns and sequenced to reduce due-date overruns.

Variation in raw materials and complex priority requirements – Opcenter Scheduling products consider the availability of materials when creating the production schedule. In addition, it is possible to define rules within the software that controls the way materials are consumed. This means that

regardless of whether there are sudden changes in material availability or complex rules about the usage of different grade materials, it can be modeled in Opcenter APS to ensure that the production schedule is a reflection of your needs. The process of reassigning materials, and creating a new schedule to reflect the changes, can be carried out in minutes.

Strong costs pressure – In the current competitive environment, it is essential to streamline your production process to minimize overhead costs. Opcenter Scheduling can help achieve these goals by using complex scheduling algorithms and giving the planner the visibility to identify and react to issues, such as breakdowns or order priority changes. Whatever the scheduling pain points are, be they costly changeover times, high inventory or poor due date compliance, Opcenter Scheduling can be set up to minimize them.

Complexity of the production process – Opcenter Scheduling software can model complex manufacturing processes and, due to its flexibility, be set up to produce a schedule based on the reality of your production environment. It doesn't matter if the complexity is in the process routes of products or the constraints on the manufacturing process, Opcenter Scheduling has the functionality to deal with it.

Opcenter Planning

Opcenter Planning is a strategic decision support tool, which combines forecast and long-term orders with target stock levels and bucketed

resource capacities to ensure that future demand is met. It does this by creating a master production schedule detailing when each item should be produced in order to satisfy the demand. The software can take into account constraints such as material requirements and can load balanced production requirements across multiple planning resources.

Challenges addressed by Opcenter Planning

Variation in demand – The raw data that the Opcenter Planning system uses to create the master production schedule includes long-term orders and forecasts. This means that in environments with variable demand, this information is there from the start of the process. Once the system has calculated required production, the planner can easily visualize and interact with the results to see how the varying demand should be reflected in plans for production capacity.

Complexity of Production Process – Opcenter Planning software can support generating production information at multiple levels of the Bill of Materials and can work for both make-to-stock and make-to-order environments. This means it is possible to plan production for complex mixed-mode processes.

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Americas +1 314 264 8499
 Europe +44 (0) 1276 413200
 Asia-Pacific +852 2230 3333