

Opcenter Scheduling SMT

Providing realistic work-order scheduling based on factory capacity and configuration

Benefits

- Facilitates intelligent SMT line grouping to optimize productivity by minimizing machine setup when manufacturing multiple products
- Provides full flow coverage, including SMT, test, manual and assembly/box build
- Uses what-if simulation to enable immediate response to line-down scenarios
- Delivers long-term planning, capacity forecasting and assistance in new equipment investments, to help mitigate risk
- Provides actual versus scheduled real-time performance analysis for a rapid response to bottlenecks
- Includes realistic SMT production scheduling based on actual factory capacity

Summary

Opcenter™ Scheduling SMT software is a planning and scheduling tool for the electronics manufacturing industry that seamlessly connects the planner to the shop floor. Opcenter Scheduling SMT supports factory planners as they generate production schedules while adhering to a dynamic manufacturing environment and taking into account

frequent, real-time changes that occur in the manufacturing stage, especially in high mix, low volume production or when introducing a new product.

Opcenter Scheduling SMT, which is part of Xcelerator, the comprehensive and integrated portfolio of software and services from Siemens Digital Industries Software, combines data from three sources: (1) machine, line configurations and resource availability from the shop floor, (2) work orders, schedules and work hours from the enterprise resource planning (ERP) system and (3) material availability and location from the supply chain. The combination of the three enables accurate short-term scheduling while creating a production plan that includes groups per line, static feeder settings,

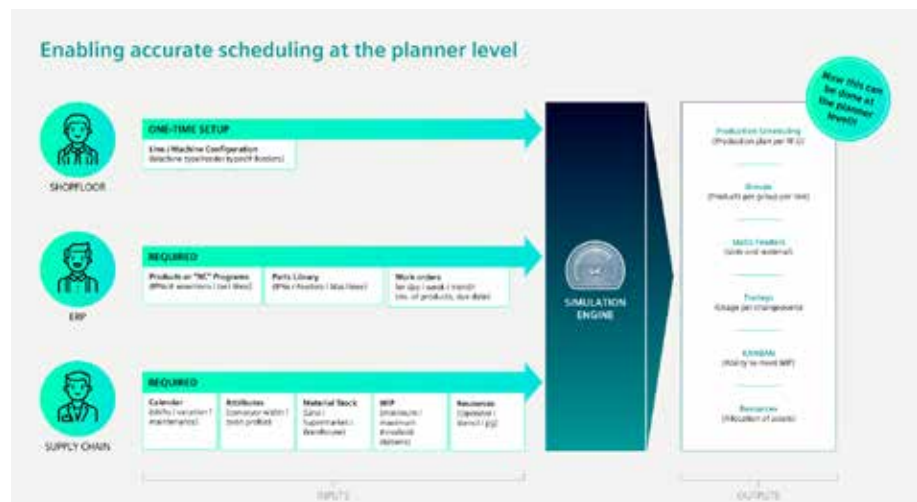


Figure 1: The Opcenter Scheduling SMT solution combines data from three sources: (1) machine, line configurations and resource availability from the shop floor, (2) work orders, schedules and work hours forecasting from the ERP system and (3) material availability and location from the supply chain.

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trolley usage, kanban/work-in-process (WIP) and resource allocation. Combining intuitive constraint definition with tight SAP integration makes Opcenter Scheduling SMT an efficient, easy-to-use, decision-supporting tool that dramatically improves manufacturing efficiency and supports compliance. Opcenter Scheduling SMT can be integrated with Opcenter Advanced Planning and Scheduling (APS). When integrated, it can read work order and calendar

information from Opcenter APS and update the schedule.

Intuitive, easy-to-use production scheduling

Set up your constraints using a simple yet comprehensive model that allows you to quickly set up all surface mount technology (SMT) and manual stations in your factory as a basis for conducting simulation. You can easily control optimization parameters, such as due dates, production time and

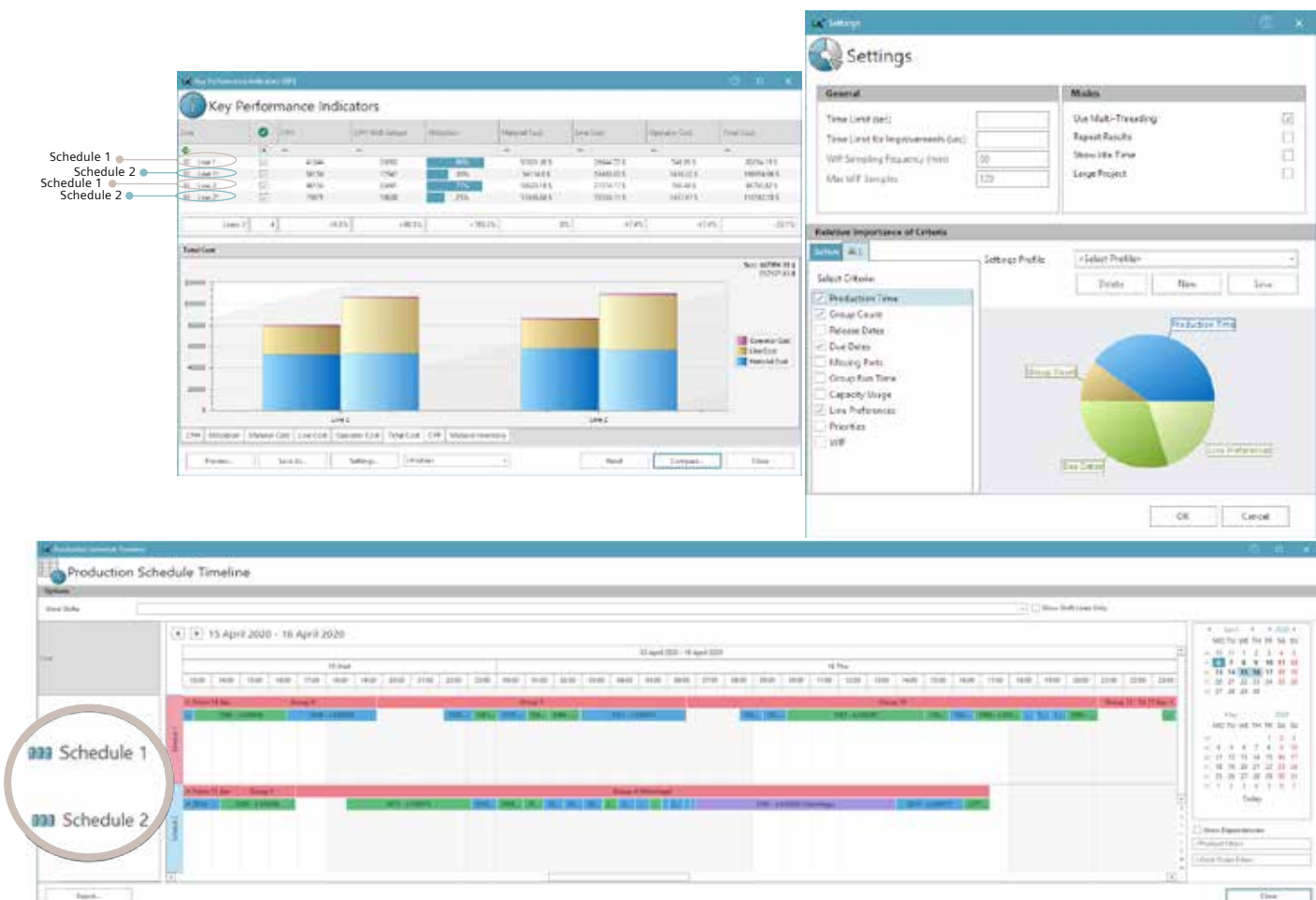


Figure 2: You can easily control optimization parameters such as due dates, production time and changeovers and then compare scenarios.



Figure 3: Easily generate the optimal product groups using Opcenter Scheduling SMT to maximize efficiency.

change-overs, and then compare different scenarios. You can then choose the schedule that best fits your needs.

Effective tool to help meet deadlines and avoid downtime

React to changes quickly using actual versus scheduled performance tracking, allowing you to detect potential bottlenecks and avoid downtime. You can also import shift schedules or add additional lines to see how such changes affect your ability to meet deadlines. You can update schedules, for example, adding shifts or controlling the number of active lines to analyze their impact on due-date violations. Your schedule can then be shared with

the factory by exporting a calendar file for monitoring and visibility.

What-if scenarios to optimize schedules

You can easily make on-the-fly optimizations based on different scenarios (for example, adding unscheduled work orders, missing resources such as feeders or late material arrival) to support the planner's decision-making process. Additional what-if scenarios can be made based on scheduled material arrival and material location data, which can be imported via integration with SAP and Valor™ Material Management software.

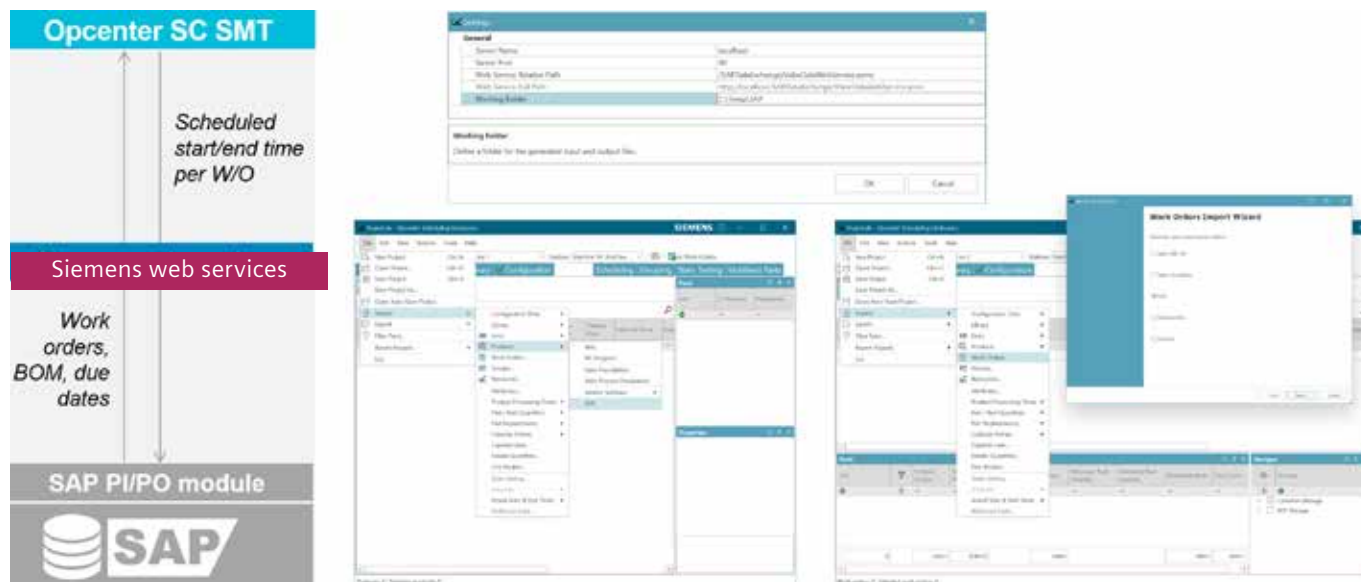


Figure 4: When integrated with SAP, Opcenter Scheduling SMT saves the time and effort typically required to develop a custom interface.

Multi-line work order and product grouping

Opcenter Scheduling SMT can be used to generate the optimal product groups (family setups or clusters), taking into consideration machine capacity, feeder availability, work-order priority and component range.

Quick to get started

Opcenter Scheduling SMT offers built-in connectivity to a range of SMT production solutions and to Valor™ Process Preparation software. This gets you started quickly and allows simple daily workflows.

Seamless integration with SAP

Unlike generic manufacturing-scheduling solutions, Opcenter Scheduling SMT enables you to save the time and effort typically required to coordinate between SAP and your scheduling process. You can extract work orders, required delivery dates, release data and material

stock levels from SAP ERP by simply configuring the location and parameters of your SAP Process Integration (PI) module.

You can also update the part reel quantities from SAP by selecting what to import and from where. Required quantity levels for each part in the work order can be displayed, along with inventory levels and the quantity remaining after the work orders are executed.

Optimized work-in-process (WIP) system requirements

To avoid an excessive amount of WIP and subassemblies in different stages of manufacturing, Opcenter Scheduling SMT can be used to generate an optimal SMT production schedule that meets specified quantities in predefined stages.

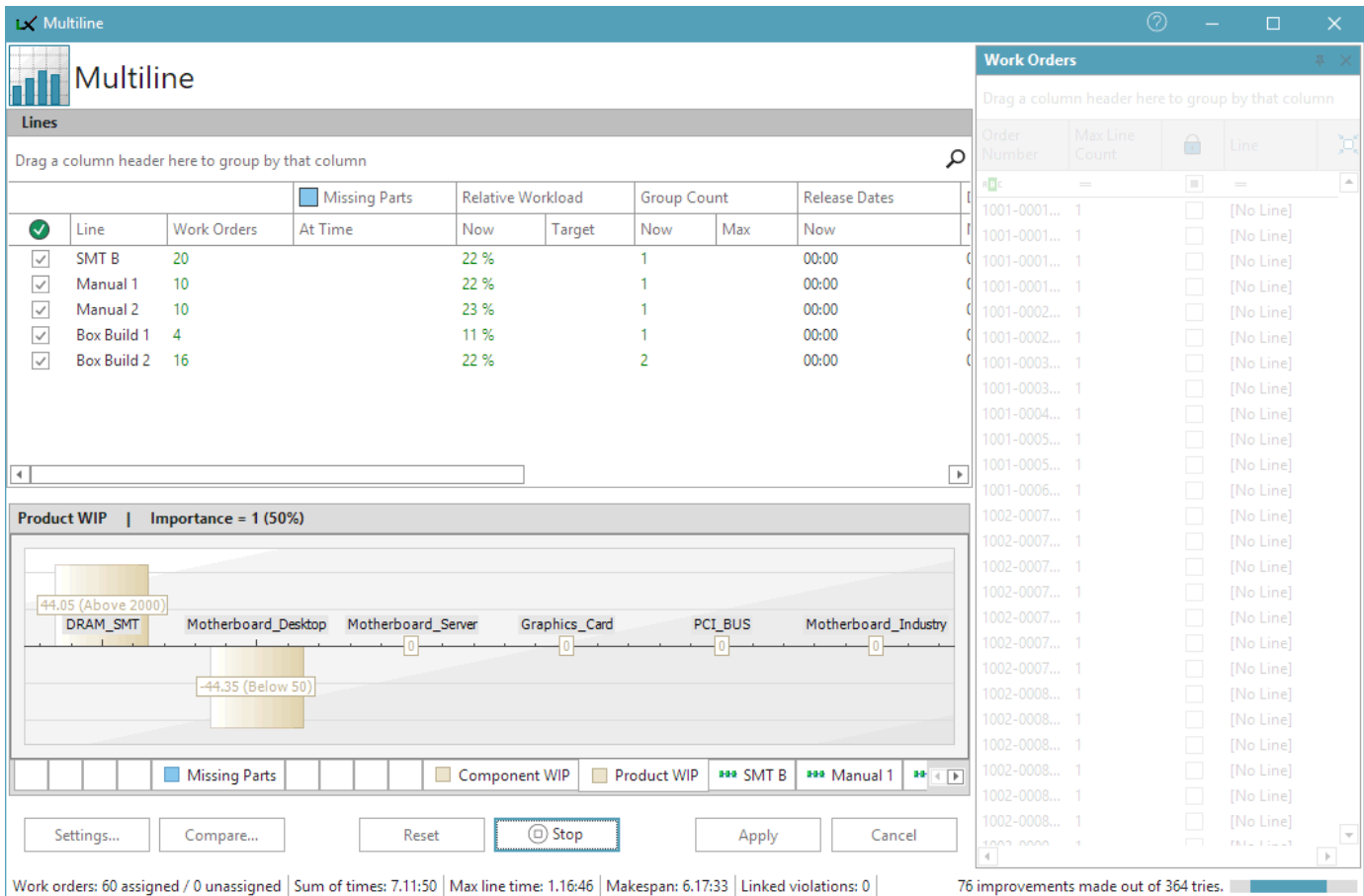


Figure 5: Excessive amounts of WIP and subassemblies in different stages of manufacturing can be avoided by generating an optimal schedule and meeting specified quantities in predefined stages.

The easy configuration includes an option to assign a minimum and maximum WIP quantity for each standard component and subassembly throughout the production process. You can also lower costs by defining excessive storage costs and determining the cost penalty of falling short or exceeding the defined WIP quantity.

WIP optimization in Opcenter
Scheduling SMT is performed using the intelligent multiple-line interface, which displays both the components and subassemblies, whether the total quantity is outside the defined threshold or not.

System Requirements

- Seventh generation Intel Core i5 processor
- 16GB random access memory (RAM)
- Double the amount of RAM for virtual memory (paging file size)
- 50GB disk space
- Windows 10

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