

Production Planning & Scheduling (PPS) for SAP Business One

SAP Business One in combination with PPSOne delivers a cost-effective, compact enterprise solution for small and mid-sized manufacturing companies with anywhere from 2 to 250 employees.

Developed in partnership with SAP, PPSOne extends the standard manufacturing functionality in SAP Business One to include powerful scheduling, capacity planning and routes and operations. It supports the make-to-order market, where capacity planning, scheduling and utilization of shop floor resources are paramount, and where labour and machine costs are major profit drivers.

Thanks to its scalability and expandability, PPSOne can be easily adapted to the specific needs of your company. It is highly integrated, easy to operate and fast to implement. With SAP Business One and PPS One, your business is well equipped for the future. Tap your company's full potential by integrating all business processes and make your manufacturing company **more transparent, more controllable and more profitable.**

Make Your Business More Successful

The numbers speak for themselves:

- Up to 40% lower procurement costs
- Increase of supply readiness by over 95%
- Up to 80% inventory reduction
- Productivity increase by up to 50%
- Up to 50% reduction in lead time

A Comprehensive, Integrated System

PPSOne in conjunction with SAP Business One offers all the functionality a manufacturing company needs including:

- Purchasing
- Materials management
- Material requirements planning (MRP)
- Capacity planning
- Engineering/Design
- Job preparation
- Production
- Assembly
- Costing
- Sales
- Customer service
- Customer relationship management (CRM)
- Human resources management
- Finance
- Banking

In other words, PPS One offers ERP + CRM + PPS + MES in a single system.

Standard interfaces for CAD and production data acquisition

PPS One provides standard interfaces with common computer aided design (CAD) applications and production data acquisition (PDA) solutions.

"With the advanced production planning for SAP we have been able to significantly reduce our planning cycle times responding quickly and accurately to customer demands" - Bev Turns, Production Planner
[Sheppee International Ltd](#)



Flexibility in production

PPSOne supports a wide range of manufacturing methods:

- Single-unit and small-batch manufacturing
- Make-to-order manufacturing
- Mixed-mode manufacturing
- Assembly operations
- Job-shop production
- Variant part manufacturing
- Batch manufacturing

Master Data Management

Complete and accurate master data information is indispensable for small and mid-sized manufacturers, therefore, for the successful, optimized use of PPSOne, all necessary master data is structured in a logical fashion allowing the data to be entered and maintained efficiently.

Work Centres

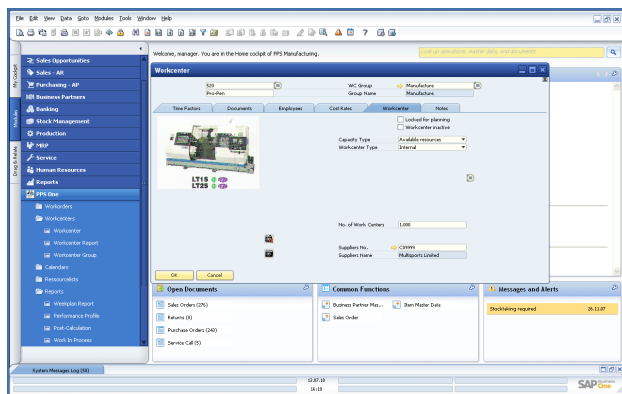
PPSOne is able to clearly define work centres. It differentiates between four different types of work centres:

- Internal or company work centres (e.g. machines, employees etc.)
- External work centres for suppliers that provide specific operations (extended workbench) externally
- Machine groups to determine the shortest possible lead time of an operation through various work centres
- Planned work centres for multi-machine operation.

For every work centre, the number of work centres, the corresponding supplier address and (optionally) an image (machine) are recorded.

Other work centre related factors

- Work centre calendar—an operational calendar can be assigned to the selected work centre.
- Work centre groups—work centres may be added to listed work centre groups. This assignment can be used as a basis for all planning and costing evaluations.
- Time factors—all key basic data for the determination of available capacity is recorded for every work centre.
- Cost rates—full and marginal cost rates to be used as a basis for costing evaluation can be provided for a work centre.
- User-defined fields—additional user-defined fields can be created and displayed for customer-specific work centre information.
- Memos—any and all information, notes and reports from revisions, repair reports and even downtime can be entered.



Machine group

When scheduling/dispatching an operation to which a machine group has been assigned, the operation is scheduled for all work centres assigned to the machine group, and lead times are calculated. The work centre with the shortest lead time will subsequently be saved with the corresponding operation.

Multi-machine operation

The complex requirements of multi-machine operation can be met easily and efficiently by assigning different internal work centres to a single planned work centre. The setup and run times (target times) of an operation within the manufacturing process are dispatched and scheduled following verification of available capacity, required internal work centres and in combination with the assigned planned work centre.

Operating calendar

Operating calendars can be automatically generated for several years in advance. Leap years are taken into account. Saturday and Sunday are defined as non-working days (default values), so that only general holidays need to be entered.

Work centre calendar

A specific operating calendar is assigned to every work centre. Specific differentiators such as level of use, revisions, etc. for any given work centre can be defined down to the day. Opening and/or assigning multiple calendar years allows production orders to be scheduled over the course of several years.

Work schedule models

Various work schedules can be precisely defined using the available daily capacity, taking into account the beginning and end of the working day as well as breaks. This not only displays the expected completion date when scheduling production orders, but also the exact time of shipping and delivery.

Weekly schedule

All work operations yet to be completed by the selected work centre can be directly viewed for any selected time frame. The corresponding link button (orange arrow) provides direct access to production orders and/or operations.

Work centre calendar: Daily information

The work centre calendar displays all factors that influence daily capacity for the selected day and work centre as well as the actual or simulated hourly workload triggered by manufacturing orders.

PPSOne Routing and BOM Management

Items to be manufactured are assigned an operation plan that defines the materials (BOM - bill of materials) and work processes required for production. This plan is the key to success as it forms the basis for costing evaluations, the manufacturing process and logistics – and that's where the power of PPSOne can help you achieve success.

Operation Plan

Any given number of different and/or alternate operation plans (versions) can be entered. This allows for maximum flexibility in BOM design and the selection of manufacturing processes.

Additional information

The operation plan header can list additional information depending on the requirements at hand:

- Drawing number
- Compartment number (e.g. for plastic injection moulding operations)
- Customer ID and name (e.g. for job order production)
- Originated by/Date of creation
- Calculated manufacturing costs

The calculated manufacturing costs per unit determined during pre-costing can also be transferred directly into SAP Business One as needed. A link button provides direct access to the master customer data for the selected customer.

Material items

You can use various criteria to search for items to be listed as material/BOM items and incorporate them into the operation plan. A link button provides direct access to master item data and the corresponding item. Information regarding amounts, allocation base, memos, documents (e.g. for QA reports) and other data can also be added to material/BOM items. For pre-costing purposes, a price per unit can be assigned specifically to material items.

Assigning material/BOM items to operations

One or more material/BOM items can be assigned to an operation. This optimizes the requirement date for material procurement (planning).

- Operation items
- Depending on the requirements, different information can be assigned to operations to define an activity or work process:
- Remarks describing activities
- Tool/Application
- Splitting
- Overlap
- Non-recurring price/price per unit (for extended work-bench)
- TR for setup time
- TE for run time
- Allocation base
- Documents

Additional routing and BOM features

- Copying operation plans
- Use of structural components
- Structural pre-costing
- Parts usage / Component exchange
- Preliminary lot size costing

PPSOne Production Order Management

User friendliness and comprehensive direct access to all necessary information and data ensures efficiency in day to day operations.

Production orders

You can search for and display all production orders according to various criteria. This allows the user to directly select, reschedule and edit an ongoing production order or query its details.

Entering and copying production orders

Existing production orders can be selected and copied in order to enter new production orders. Where needed, the actual values of an existing production order can be used as target values of the production order to be created.

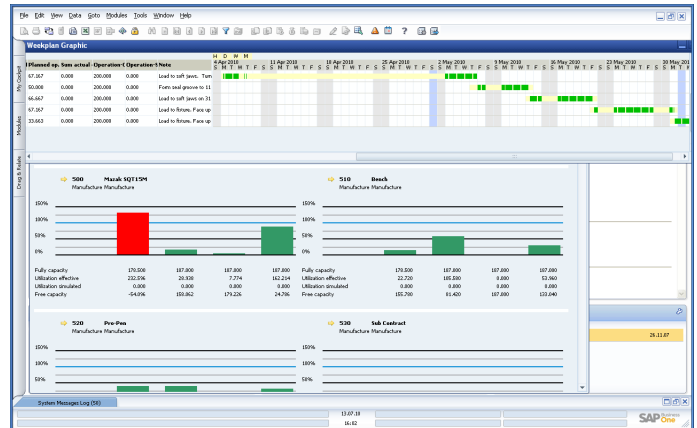
Scheduling

The following options and others are available for scheduling or entering a production order:

- Assigning a production order to a project
- Assigning a customer (by directly accessing the address management module) with desired customer date and sales price
- Production quantity
- Starting date and time, ending date and time
- Priority
- Advance/retroactive scheduling
- Simulated or actual production order
- Easy conversion of simulated to actual production orders

Dispatching / graphical control station

An overview graphic with relevant information is available for verifying and displaying the lead time of a production order and its individual work processes at specific work centres.



A link button (orange arrow) gives direct access to detailed information about the corresponding work process or the weekly schedule of the selected work centre.

Material shortage display

The detailed listing of availability for all BOM and material items down to the most basic step (costed multilevel BOM) can be issued. Additional limiting options allow you to display the desired figures precisely.

MRP/BOM items

Where necessary, missing parts, target amount and date required etc. can be altered for every individual material/BOM item.

MRP overview

The warehouse and MRP (material resource planning) figures are immediately available through direct access to the selected material item for the product. The SAP Business One item master allows the user to choose the MRP overview for the selected item. All relevant scheduling figures are listed concisely and by date. Users can directly access the corresponding customer, purchase and manufacturing orders from every MRP line by clicking a link button.

Purchase order from material shortage

Purchase orders for parts such as standard parts and raw materials can be created directly in the system. The connection between the manufacturing order and material items with created purchase orders will be directly displayed in the material shortage display. The link button grants direct access to the order.

Work processes for external production (extended workbench)

Orders for work processes carried out at a supplier's site can be created directly within the system. The link button provides direct access to the corresponding order from the production order.

Creating a production order based on material shortage

From the material shortage display, sub-manufacturing jobs can be generated and/or scheduled directly for items manufactured in-house.

Assigning material/BOM items to operations

One or more material/BOM items can be assigned to an operation. This optimizes the requirement date for material procurement (planning).

Customer order-based production orders

Production orders for items manufactured in-house can be generated directly from the customer order. All relevant information (amount, customer order number, customer etc.) are automatically entered into the production order.

MRP-based production orders

Within the MRP (material resource planning) component, production orders can be generated directly from the order recommendation report.

Issuing shop papers

A wide selection of options is available for issuing different types of shop papers.

Flexible manufacturing based on production order

Material/BOM items and work processes can be added to or edited in created or existing production orders. In addition, production amounts that differ from the production order amount can be entered in the individual work processes (work process splitting). Changed production orders can be rescheduled repeatedly.

Sequence planning

Multiple production orders can be selected and rescheduled simultaneously. In ongoing, already started production orders, dates and production quantity can be changed at any time. The order in which the selected production orders must be processed can be freely determined. Unless dispatching has been completed with the "Dispatch all" function, all rescheduled production orders can be returned to their original status at any time. Simultaneous changing and rescheduling of multiple production orders is also possible.

The planning process is supported by various visualisation graphics:

- Display of a production order with expected variances for planned changes
- Display of scheduling situation of selected production orders and variances based on effected changes

Confirmation of material/BOM items, work processes

Planned as well as unplanned acquisitions of materials can be entered into the production order without switching applications. Working hours can be confirmed manually or via an interface with a wide range of production data acquisition (PDA) systems.

Production order confirmation

All saleable finished products can be booked directly into the warehouse via full or partial delivery. In addition, various selection criteria are available for individual postings.

Costing information

Continuous or rolling product costing analysis can be viewed at any time for the selected production order. Online tracking is carried out with every confirmation message posting.

Graphical support

If dates or production amounts are changed while planning/scheduling a production order, the effects on the process can be displayed in comparison to the original/current status.

Confirmations

All material deliveries per BOM/material item and all confirmations (detailed times) per work process are stored in detail with every corresponding production order and can be accessed at any time.

Shop papers

Shop papers can be freely configured using the Report Generator supported within PPS One and customized to company specifications.

PPSOne Analyses

Every manufacturing company is different, and their requirements for analyses and reports are just as unique. Corresponding selection options and freely definable analyses (Report Generator) make it possible to extract custom reports from an overwhelming amount of available data. One-click access to key figures and performance indexes is available at any time.

Weekly schedule for work centres

The weekly schedule or control station shows the operations started/not yet completed for one or more work centres for a specific period of time according to preset selection criteria. Users can also determine whether only operations of actual production orders and/or simulated ones as well are to be displayed.

Workload overview

The workload of the work centres is displayed in a clear, easy-to-understand graph. It can also be created in absolute values – as a condensed table-form display over four time periods of the user's choosing.

Backlogged production items

All backlogged operations can be displayed according to various selection criteria. The backlog duration of specific processes/operations is given in days.

The product costing analysis

The very extensive selection options help users meet the most diverse and if necessary even extremely strict requirements for cost accounting evaluations.

Material	Description	Project	Customer	Customer Asset	Production	Actual Qty	Work Base	End Date
100	1007000000	1007	CORP Ex&S Co	0000	0000	2180.00	2180.00	2010-03-31
100	1007000000	1007	CORP Ex&S Co	0000	0000	1180.00	1180.00	2010-03-31
100	1007000000	1007	CORP Ex&S Co	0000	0000	0480.00	0480.00	2010-03-31
100	1007000000	1007	CORP Ex&S Co	0000	0000	2380.00	2380.00	2010-03-31
100	1007000000	1007	CORP Ex&S Co	0000	0000	0280.00	0280.00	2010-03-31
100	1007000000	1007	CORP Ex&S Co	0000	0000	1840.00	1840.00	2010-03-31
100	1007000000	1007	CORP Ex&S Co	0000	0000	1840.00	1840.00	2010-03-31
100	1007000000	1007	CORP Ex&S Co	0000	0000	2180.00	2180.00	2010-03-31

A few examples:

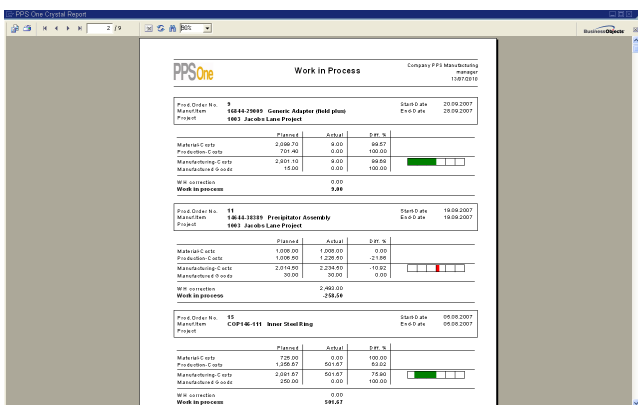
- Start date of production orders
- Completion date of production orders
- Reported completion date
- Production orders
- Routing
- Project
- Item/product
- Customer
- Sales order
- All production orders or only completed ones

The "work in progress (WIP)" label

Within selected options such as

- Project
- Production order
- Item/product line

All evaluations labelled as work in progress are listed separately according to material and production costs. Partial manufacturing order deliveries are taken into account during the evaluation and are explicitly displayed as such. The "work in progress (WIP)" label is available at any time and on any freely chosen date for specific points in time.

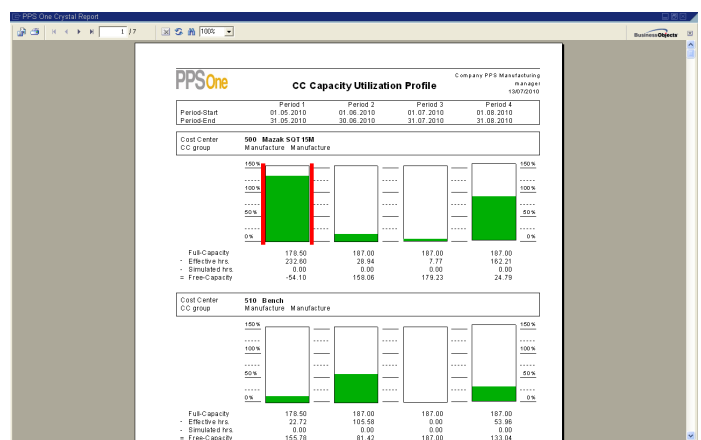


Company-specific evaluations

The Report Generator allows evaluation results to be used or processed further almost without restriction and in line with customer-specific requirements. A few examples:

- Project overview
- Both the target and actual cost comparison and all production orders for a project can be displayed.

- Open production orders
- An overview of the accumulated and target costs of current production orders yet to be processed can be issued, including order queue as based on production costs.
- In addition, the hourly and turnover totals of all work processes executed at the specific work centres can be generated.
- The comparison of target and actual material expenses and work centre expense can be evaluated across periods of time of the user's choosing according to the company's specific requirements.



Workload overview

The simultaneous display of four time periods of your choosing gives you the maximum possible overview of the capacity utilization of individual work centres (machines etc.).

Workload graph

This clearly structured, easy-to-comprehend graph makes it easier to evaluate the company's overall operational workload.

Weekly schedule/Control station

All operations still to be completed are displayed for the corresponding work centres over a selected time period.

Product costing analysis

The progressive and/or continuous product costing analysis shows the results of one or more specific production orders, projects etc.