



# Production

## Microsoft Dynamics AX

### BENEFITS:

- **Minimize lead times and satisfy customer demand with flexible scheduling options**
- **Control the utilization of your manufacturing resources for optimum performance**
- **Track production progress and easily make changes to increase production efficiency and reduce costs**
- **Production in Microsoft Dynamics AX comprises three modules: Production I, which includes basic production functionality for handling material flow; Production II, which allows you to plan and execute routes, operations and rough capacity planning; and Production III, which includes Gantt chart scheduling functionality, job management and detailed production scheduling.**

**Production in Microsoft Dynamics™ AX gives you real-time insight into your manufacturing processes to help increase both your production efficiency and profitability, while helping to reduce your overall costs.**

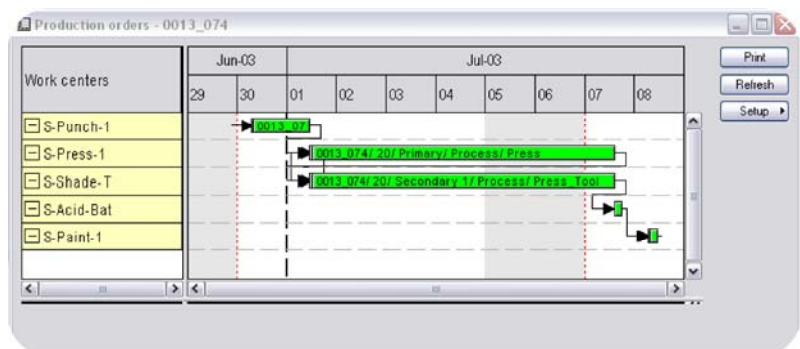
### Flexibly manage your manufacturing resources

Production in Microsoft Dynamics AX can give you the flexibility you need to achieve maximum profitability from your manufacturing resources. Production orders can be created independent of or on the basis of proposals from master scheduling, and Production in Microsoft Dynamics AX helps you manage bills of material (BOMs) efficiently. You can get a quick and reliable overview of the manufacturing resources required to meet customer demand by performing rough capacity scheduling, taking both finite or infinite capacity and materials scheduling into consideration. You also get the flexibility to schedule production processes backwards or forwards from any date.

### Optimize your production flow

You can define your manufacturing resources, including machines, employees, tools or even sub-contractors as work centers and allocate them to work center groups. Scheduling can be performed at different levels of detail: operations scheduling for work center groups and job scheduling for individual work centers. You can achieve maximum scheduling flexibility by determining whether finite or infinite capacity should be used for each work center or work center group.

Detailed capacity scheduling can determine the “best fit” between a work center and a specific operation and automatically selects the work center with the shortest lead time. Reduce time spent waiting for the availability of a work center with the option of selecting the “next best” alternative.



*Use the Gantt chart scheduling functionality to gain realtime insight into your production flow.*

## **Increase your production efficiency**

Minimize lead times by creating cross-group links between resources that can handle the same task to help ensure the most efficient scheduling. You can also reduce setup time by using properties to ensure that operations that require the same work center setup are scheduled concurrently. Advanced facilities for sequence and bottleneck scheduling are provided, which can reduce setup times and make tight, controlled plans on the bottleneck. Production in Microsoft Dynamics AX helps complete sub-contracting for full or partial production orders by utilizing material flow and planning.

## **Get real-time insight into production**

Production in Microsoft Dynamics AX gives you visibility into all the information you need to efficiently manage your production processes, including planned production orders, production start times, capacity loadings, delivery dates and materials availability. Detailed job monitoring gives you a clear overview of individual work centers' activities during the course of the day, so that you can assess production performance to schedule.

The job scheduling Gantt chart gives you a real-time, graphical overview of your production schedule so you can make tactical, day-to-day changes that optimize production flow. You can use the Gantt chart to easily schedule changes both within and between different work and machine centers by using simple drag and drop functionality, and see the consequences of your changes on the production floor in realtime.

## **Improve performance with flexible routings**

Choose the best route for an operation on any given day. You can set up and maintain different routing versions, including network routes that help you avoid bottlenecks and maximize production efficiency. You also have the flexibility to have routes assigned automatically (using date and/or quantity) by the system, or you can choose to select them manually.

Production in Microsoft Dynamics AX provides you a variety of information about the operations that make up your production routes, including an overview of the work centers used and the queue time, setup time, run time and transport time required for each operation. You can also specify the amount of scrap and calculate the time that is expected to be used at each operation.

## **Monitor production costs with ease**

Production in Microsoft Dynamics AX lets you choose flexible options for recording capacity and materials consumption. You can record consumption and costs prior to production in a forward manner using base data, or record actual consumption during production. Consumption and production costs are automatically posted into the general ledger, which cuts down on manual data entry and quickly enables you to compare actual and estimated production costs.

## FEATURES

### Module: Production I

<b>Creation of production orders</b>	<ul style="list-style-type: none"><li>• Manual creation of production orders</li><li>• Create production orders through planned production orders in Master planning</li><li>• Create production orders directly from a sales order line</li></ul>
<b>Production orders</b>	<ul style="list-style-type: none"><li>• Production groups – provide categorization for posting to the general ledger</li><li>• Production pools – allow production orders to be grouped for scheduling</li><li>• Quick overview of the status of the production order</li><li>• Tracking actual production costs against estimated</li><li>• A production order can be split into two or more orders</li></ul>
<b>Subcontracting</b>	<ul style="list-style-type: none"><li>• Purchase of services from subcontractors</li><li>• Vendor delivery note</li><li>• Vendor account and warehouse</li><li>• Link sub-contractor purchase orders to the production order</li></ul>
<b>Production Bill of Materials</b>	<ul style="list-style-type: none"><li>• Standard BOM is copied to Production order, from where it can be modified, if needed</li><li>• Supports Measurement formulas to calculate consumption</li><li>• Supports negative quantity on BOM lines to handle by-products of production</li></ul>
<b>BOM line type</b>	<p>Each item within a BOM can be controlled by a line-type. A given item can be handled as:</p> <ul style="list-style-type: none"><li>• Sub-production</li><li>• Phantom BOM</li><li>• Subcontract</li><li>• Normal item</li></ul>
<b>Scheduling</b>	<ul style="list-style-type: none"><li>• Production scheduling can be done forward or backward with different dates as starting points based on lead time of raw material</li><li>• Finite or infinite material and capacity scheduling</li></ul>
<b>Production status</b>	<p>A production order goes through the following steps:</p> <ul style="list-style-type: none"><li>• Created</li><li>• Estimated</li><li>• Scheduled</li><li>• Released</li><li>• Started</li><li>• Report as finished</li><li>• Costed</li></ul>
<b>Production status control</b>	<ul style="list-style-type: none"><li>• The production order can be rolled back and deleted if required until the costed stage</li></ul>
<b>Financial integration</b>	<ul style="list-style-type: none"><li>• On-line updating of WIP ( items in process and work centers in process ) and actual cost to the general ledger when updated in Production</li></ul>
<b>Production consumption</b>	<ul style="list-style-type: none"><li>• All consumption is reported through journals. Journals can be automatically generated and/or posted.</li><li>• Support for pre-deduct and post-deduct of item and resource consumption</li><li>• Scrap can be handled either as a constant or a variable</li></ul>
<b>Module: Production II</b>	
<b>Multiple route versions</b>	<ul style="list-style-type: none"><li>• Can allocate more than one route attached to a particular item</li><li>• Approval procedure of routes</li><li>• Default route</li><li>• Routes controlled by date and/or quantity range</li></ul>

<b>Multiple BOM versions</b>	<ul style="list-style-type: none"> <li>• Can allocate more than one BOM attached to a particular item</li> <li>• Approval procedure of BOMs</li> <li>• Default BOM</li> <li>• BOMs controlled by date and/or quantity range</li> </ul>
<b>Route complexity</b>	<ul style="list-style-type: none"> <li>• Simple route (sequential)</li> <li>• Complex route (route network)</li> <li>• Simultaneous operations in route network</li> <li>• Use of primary and secondary operation in a route</li> <li>• Multiple work centers attached to the same operation</li> <li>• Allocate a work center as a subcontractor</li> </ul>
<b>Route simplicity</b>	<ul style="list-style-type: none"> <li>• Share route information between items belonging to same item group</li> </ul>
<b>Scheduling</b>	<ul style="list-style-type: none"> <li>• Forwards and backwards from various dates</li> <li>• Finite or infinite scheduling</li> <li>• Rough cut capacity planning</li> </ul>
<b>Production release</b>	<ul style="list-style-type: none"> <li>• Status between scheduled and started</li> <li>• Control print of route card and route jobs</li> </ul>
<b>Ledger integration</b>	<ul style="list-style-type: none"> <li>• Online update of WIP (items in process and work centers in process) in the general ledger when posting transactions or cost updating the production</li> </ul>
<b>Operation components</b>	<ul style="list-style-type: none"> <li>• Queue time before operation</li> <li>• Set-up time</li> <li>• Run time</li> <li>• Transit time</li> <li>• Queue time after operation</li> <li>• Overlap quantity</li> <li>• Cost categories</li> <li>• Control multiple resources</li> <li>• Capacity load per operation</li> </ul>
<b>Scrap calculations</b>	<ul style="list-style-type: none"> <li>• Calculate expected waste per operation as a percentage</li> </ul>
<b>Shop floor print outs</b>	<ul style="list-style-type: none"> <li>• Route card</li> <li>• Job card</li> <li>• Print job list per work center</li> </ul>
<b>Cost tracking</b>	<ul style="list-style-type: none"> <li>• Detailed tracking of cost related to resources and throughput</li> <li>• Include work center costs in production cost estimation</li> <li>• Ability to use automatic work center consumption when starting or finishing productions</li> </ul>
<b>Module: Production III</b>	
<b>Gantt chart</b>	<ul style="list-style-type: none"> <li>• Graphical presentation of a production schedule</li> <li>• Enables rescheduling by dragging and dropping</li> </ul>
<b>Task group</b>	<ul style="list-style-type: none"> <li>• Use of alternative work centers for an operation in case of scheduling overloads</li> <li>• Basic rules for which alternative work centers can be used</li> </ul>
<b>Bottleneck scheduling</b>	<ul style="list-style-type: none"> <li>• Rescheduling can be centered on a known bottleneck</li> </ul>
<b>Job monitoring</b>	<ul style="list-style-type: none"> <li>• Ability to track the setup job or the process job per operation</li> <li>• Report resource consumption based on job number</li> </ul>
<b>Scheduling properties</b>	<ul style="list-style-type: none"> <li>• Schedule operations that require the same work center setup concurrently</li> </ul>

**For more information about Microsoft Dynamics AX, visit:**  
[www.microsoft.com/dynamics/ax](http://www.microsoft.com/dynamics/ax).

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