Manufacturing Operations Management (MOM)

Implementation Guide | SYSPRO 8

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Simplifying your Success

Contents

Preface

How to use this guide

This guide is designed to cater for new SYSPRO Manufacturing Operations Management implementers.

Included in this guide are Scenarios. These scenarios provide you with an opportunity to practically apply the steps in SYSPRO Manufacturing Operations Management using a realistic scenario, which will enable you to integrate what you have learned back into your day-to-day responsibilities.

Attempt these tasks using the scenario and refer to the built in contextual help if you need more assistance.

At the end of some topics you will find assessments to help consolidate your learning.

The Outdoors Company

The OUTDOORS Company is a fictitious company created especially for training.

You will be working with **The OUTDOORS Company** (Company ID **MOM**) for this installation.

Note:

The SYSPRO Training Data is available on the InfoZone. However, you need to request a license for this training company from your territory office.

The Manufacturing Operations Management (MOM) Software is available on the InfoZone. However, you need to request a license for MOM software from your territory office.

Do not extract the data on a live system. This data is intended for a standalone training environment.

The OUTDOORS Company was established in 2001. The company's initial operations covered the manufacturing and distribution of finished cycles, helmets and garden furniture products for resale to the trade and the general public.

In recent times, it has added a specialized projects division, whereby it supplies custom designed garden furniture, including the installation of complex outdoor entertainment areas for commercial companies. This is geared to provide a total solution to the customer from design and manufacturing through to the commissioning of the products on site.

The company aims to meet stated customer service levels, produce high quality goods, and deliver on time, while making a profit.

The Executive of the company has formulated the long-term strategy and objectives of the organization covering a two year period in the future.

The Marketing department analyzed the sales history for the past two years (including current trends, factors creating demand seasonally, and what the competition is doing) and generated a forecast of sales for the future of existing and new products.

The Finance executives determined a reasonable financial plan by taking into account required return on investment, current financial and manufacturing resources, as well as allowing for future growth. The company executives have decided that a customer service level of 95% is acceptable. This means that 95 out of every 100 demands for each item must be met from stock. However, in terms of the projects division, the aim is to achieve close to 100% of demand.

The OUTDOORS Company is also expanding its business to include their suppliers and customers in optimizing their supply chain. Through the use of ERP II functionality (Extending the Enterprise), the company allows customers to order via the Internet, and the company orders from their suppliers via an automated process electronically. Prospective buyers can view the availability of models and parts via the company's corporate web page and order online. Where the projects division is concerned, a very personalized service is given.

In order to deliver the critical made-in components of the cycle assembly to the assembly floor, The OUTDOORS Company is using SYSPRO Factory Scheduling functionality to deliver on time within quality standards. This also allows for the planning and delivery of products for the projects division, whether outsourced or made in.

The Marketing executive is also developing a closer customer relationship with their loyal clients. This is enabled by a 360° view of their clients through Contact Management.

The company is divided into three divisions: Manufacturing, Distribution and Projects.

Operating Environment

Some facts about The OUTDOORS Company's operating environment:

- Our local currency is $ and our date is set to the format: month/day/year.
- Our financial year runs from March to February.
- The following Accounts Payable branches are used:
    - 00 - Payables Head Office
    - 01 - Payables Manufacturing
    - 10 - Payables North
    - 20 - Payables South
    - 30 - Payables East
- The following Accounts Receivable branches are used:
    - 10 - Receivables North
    - 20 - Receivables South
    - 30 - Receivables East
- The following banks are used:

Note:

Foreign currency rates are for training purposes only and may not reflect the true rates ruling at the time of this training.

- FB - First United Bank
- GB - Global Bank
- NB - National Bank - National Bank is a foreign currency bank account.

- Geographic areas include:
  - E - Eastern Region
  - N - Northern Region
  - O - Overseas
  - S - Southern Region

- Product classes and salespersons are linked to products and branches.
- The following warehouses are used:
  - Distribution
    - N - Northern Region
    - S - Southern Region
    - E - Eastern Region
    - R - Returnables
  - Manufacturing
    - FG - Finished Goods
    - FS - Floor Stock
    - RM - Raw Materials
    - SA - Sub Assembly
    - SP - Specials for Product Configuration and Customized products for Projects Division

- The OUTDOORS Company runs on average costing for the distribution and the specials warehouse and standard costing for the manufacturing warehouses.
- We are using simple pricing.
- Stock is not allowed to go into negative, except for in the floor stock warehouse.
- Distribution products include junior and adult mountain bicycles, as well as racing bicycles and bicycle accessories.
- Manufacturing products include bicycles and garden furniture, which comprises of green and white tables, chairs, and benches.

Setting up the training environment

You must complete the installation of Manufacturing Operations Management (MOM) Suite by following the **Installation Guide for Manufacturing Operations Management** provided as a separate document to this training guide.

Note: As a quick check refer to the information listed below.

You **MUST** install the following server features:

- Visual APS Server (includes APS Client)

  Build 9.16
- Manufacturing Operations Management Web Site

  Build 3.8
- SmartLYNQ Web Site

  Build 5.7

This training guide works with the builds shown above. All features can be installed on one computer for training purposes.

The MOM suite uses e.net business objects to communicate with different modules.

Note: SYSPRO 8 needs to be installed and working. For detailed information refer to the SYSPRO 8 Installation Guide.

1. Microsoft SQL Server 2016 or higher needs to be installed.
2. The MSSQLSERVER Service must be running.
3. Download the MOM Training data from the InfoZone > Links > Training Data.
4. Run the exe to C:\SYSPRO.
5. Attach the sysprodbMOM and SysproCompanyMOM
6. Add a training login and give this login datawriter and datareader rights to the above two databases.
7. The following MOM databases need to exist:
   - MOM_MOM_Data
   - MOM_MOM_Config
   - MOM_MOM_Logic
8. The thinklynqserivce login needs to have public and dataowner rights to the above three MOM databases and SysproCompanyMOM as well.
9. The following Services need to be running:
   - SYSPRO8enetCommunications
   - SYSPRO8ServiceUpgradeManager
   - SYSPRODeploymentSupportService
   - LynqMEAutocall_MOM_MOM
10. It is very important to have IIS 7.0+ with .NET Extensibility enabled.

Below are SYSPRO software requirements and parameters on how to setup the software.

SYSPRO 8 Service Upgrade Manager	
Prerequisite	
• **Microsoft .NET Framework 4.6**	
Parameter	**Description and considerations**
Enter a port number	**Default provided**: 30140 You can choose to accept the default provided, or manually change to that which you require.
Add port to firewall	For best practice, enable this option to ensure that the port number is added to your firewall.
Destination Folder	**Default provided**: C:\Program Files\SYSPRO\SYSPRO 8 Service Upgrade Manager. You can choose to accept the default provided, or manually change to that which you require.

SYSPRO 8 e.net Communications Load Balancer	
• **Microsoft .NET Framework 4.6** • **SYSPRO 8 Service Upgrade Manager** • **SYSPRO 8 Server**	
Parameter	**Description and considerations**
Do you want to upgrade the existing installation	This field is only applicable if you have SYSPRO 7 Update 1 installed. Enabling this option will result in your existing SYSPRO 7 Update 1 service being upgraded.
SYSPRO 8 Application Server Instance	**Default provided**: 0 You can choose to accept the default provided, or manually change to that which you require. When SYSPRO 8 is installed, an available BaseDir entry is created for SYSPRO 8. `The BaseDir entry can be found under: HKEY_LOCAL_MACHINE\SOFTWARE \SYSPRO\e.net solutions.` This will be used by communication services, both client-server and e.net related services, to target the SYSPRO 8 files under the specified path in the BaseDir entry
Enter a SOAP port number	**Default provided**: 31001 You can choose to accept the default provided, or manually change to that which you require.
Add SOAP port to firewall	For best practice, enable this option to ensure that the SOAP port number is added to your firewall.
Enter a REST port number	**Default provided**: 31002 You can choose to accept the default provided, or manually change to that which you require.

SYSPRO 8 e.net Communications Load Balancer	
• **Microsoft .NET Framework 4.6** • **SYSPRO 8 Service Upgrade Manager** • **SYSPRO 8 Server**	
Parameter	**Description and considerations**
Add REST port to firewall	For best practice, enable this option to ensure that the REST port number is added to your firewall
Specify the number of load balancing processes	**Default provided**: 5 You can choose to accept the default provided, or manually change to that which you require.
Basic http port required	Enable this option to define a port for the Basic HTTP protocol.
Enter a Basic port number	**Default provided**: 31003 You can choose to accept the default provided, or manually change to that which you require.
Ws http port required	Enable this option to define a port for the WS HTTP protocol.
Enter a Ws port number	**Default provided**: 31004 You can choose to accept the default provided, or manually change to that which you require.
Destination Folder	**Default provided**: `C:\Program Files\SYSPRO\SYSPRO 8 e.net Communications Load Balancer` You can choose to accept the default provided, or manually change to that which you require.

SYSPRO 8 Communications Service (requires SYSPRO 8 Upgrade Manager to be installed)	
Product	**Prerequisite**
• **Microsoft .NET Framework 4.6** • **SYSPRO 8 Service Upgrade Manager** • **SYSPRO 8 e.net Communications Load Balancer**	
Parameter	**Description and considerations**
Do you want to upgrade the existing installation	This field is only applicable if you have SYSPRO 7 Update 1 installed. Enabling this option will result in your existing SYSPRO 7 Update 1 service being upgraded.
SYSPRO 8 Application Server Instance	**Default provided**: 0 You can choose to accept the default provided, or manually change to that which you require. When SYSPRO 8 is installed, an available BaseDir entry is created for SYSPRO 8. The BaseDir entry can be found under: `HKEY_LOCAL_MACHINE\SOFTWARE \SYSPRO\e.net solutions.` This will be used by communication services, both client-server and e.net related services, to target the SYSPRO 8 files under the specified path in the BaseDir entry.

SYSPRO 8 Communications Service (requires SYSPRO 8 Upgrade Manager to be installed)	
Product	**Prerequisite**
• **Microsoft .NET Framework 4.6** • **SYSPRO 8 Service Upgrade Manager** • **SYSPRO 8 e.net Communications Load Balancer**	
Parameter	**Description and considerations**
SYSPRO 8 e.net Communications Load Balancer Endpoint	**Default provided**: net.tcp://localhost:31001/SYSPROWCFService You can choose to accept the default provided, or manually change to that which you require.
Enter a service name	**Default provided**: SYSPRO 8 Communications You can choose to accept the default provided, or manually change to that which you require.
Enter a service description	**Default provided**: Service used for client-server communication of SYSPRO You can choose to accept the default provided, or manually change to that which you require.
Enter a port number	**Default provided**: 30110 You can choose to accept the default provided, or manually change to that which you require. The recommended range is from 1024 - 49151.
Add port to firewall	For best practice, enable this option to ensure that the port number is added to your firewall.
Destination Folder	**Default provided**: `C:\Program Files\SYSPRO\SYSPRO 8 Communications Service\30110` You can choose to accept the default provided, or manually change to that which you require.

Note: Do not progress through this guide until the environment has been installed and upgraded.

Introduction

Overview

SYSPRO's Manufacturing Operations Management solution can help you revolutionize your company to gain competitive advantage in today's market. It provides complete manufacturing life cycle management from scheduling, publishing, collecting, tracking and analyzing to optimize and improve end-to-end manufacturing operations. Together with SYSPRO's ERP this Manufacturing Execution System (MES) offers a unique level of delivery, cost and quality control of manufacturing operations for job shop, batch production, production line and mixed mode environments.

The solution helps manufacturers:

- Measure performance to drive towards world class standards of operation for overall equipment effectiveness (OEE), total equipment performance (TEEP) and overall labor effectiveness (OLE)
- Increase productivity and lower costs by minimizing loss within the business
- Optimize operational efficiencies through better workflow of core manufacturing activities: schedule, publish, collect, track, analyze and improve
- Connect machines and other devices to digitize the factory (Industry 4.0)

Manufacturing Operations Management enables organizations to generate accurate schedules that consider constraints around people, machines, tooling and materials. Manufacturers are then able to ensure they make best use of their available capacity to deliver to customers faster and in most cost-effective way, with reduced production costs.

The solution can help you take control of your manufacturing operations and start to:

- Deliver to your customers faster
- Control labor and machine costs
- Reduce downtime and bottlenecks
- Measure and improve product quality
- Increase productivity and output
- Reduce cost to compete

Manufacturing Operations Management seamlessly connects with SYSPRO to offer a unique level of delivery, cost and quality control of manufacturing operations for job shop, batch production, production line and mixed mode environments. Using the latest technologies, Manufacturing Operations Management can effectively schedule, publish, collect, track, analyze and help to improve both human and machine execution of orders on the shop floor, providing faster delivery and lowering your production costs.

Process Flow

SYSPRO Manufacturing Operations Management supports your manufacturing life-cycle, providing you with a 360 view of your production.

- **Schedule**

  quickly and accurately schedule to maximize order fulfilment and resource utilization
- **Publish**

  Publish schedules and job lists with the shop floor and other departments easily
- **Collect**

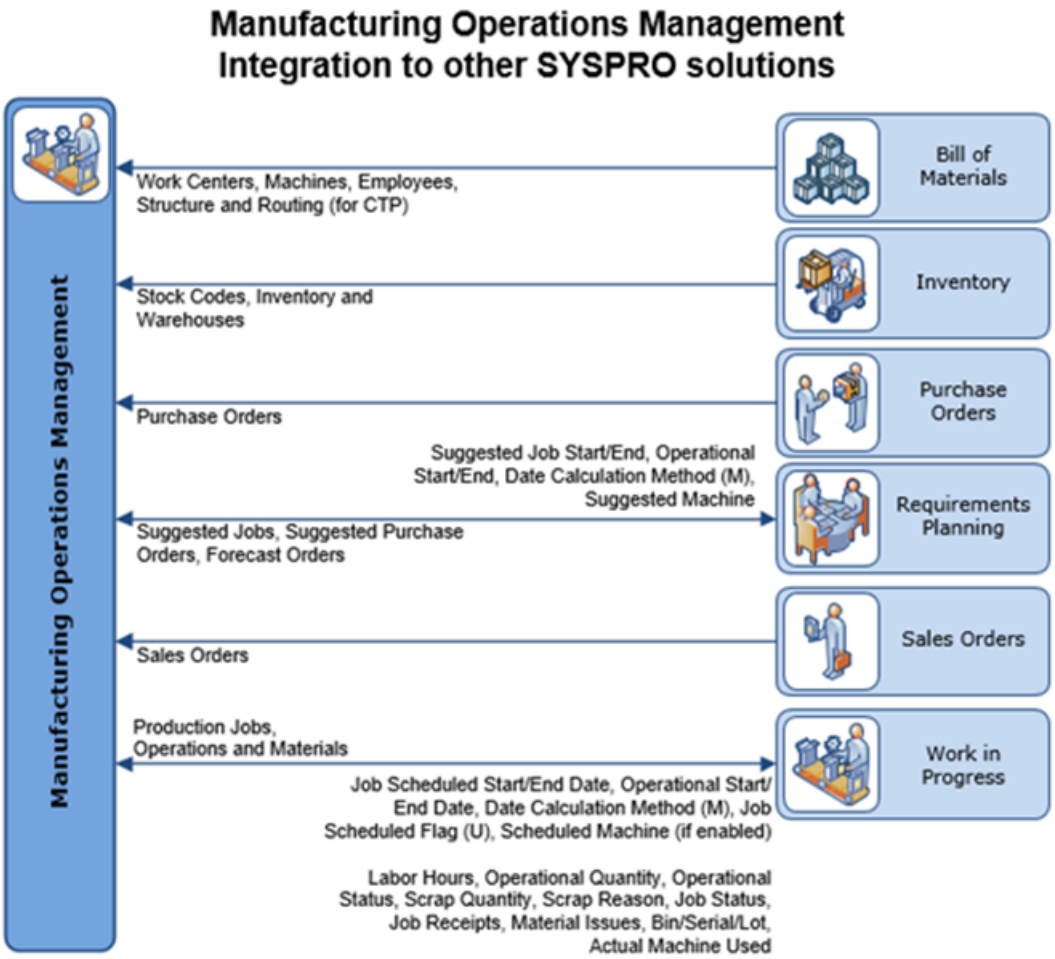
  collect data from the shop floor from humans and machines
- **Track**

  gain real time visibility of employees, equipment and jobs
- **Analyze**

  access out of the box analytics for Six Big Loss, OLE, OEE and TEEP
- **Improve**

  drive continuous improvement with alerts, issue management and online documents.

Integration with other SYSPRO Solutions



Implementation and Configuration

There are two key aspects to an implementation:

- Factory Review
- Master Data Review

Factory Review

Understanding the business requirements is key to a success implementation. The factory review forms the foundation for the master data review and MOM configuration. In order to facilitate this, we have provided a factory review document with a number of questions to be answered. There may be several iterations through this document with the initial review being at a higher level and subsequent revisions may provide more detail or action items.

Master Data Review

MOM relies on accurate data within SYSPRO to be maintained. A master data review should be performed at the start of the implementation process. The SYSPRO Training Data has been pre-prepared to ensure that sufficient data exists in SYSPRO to allow MOM to be functional with minimal master data configuration.

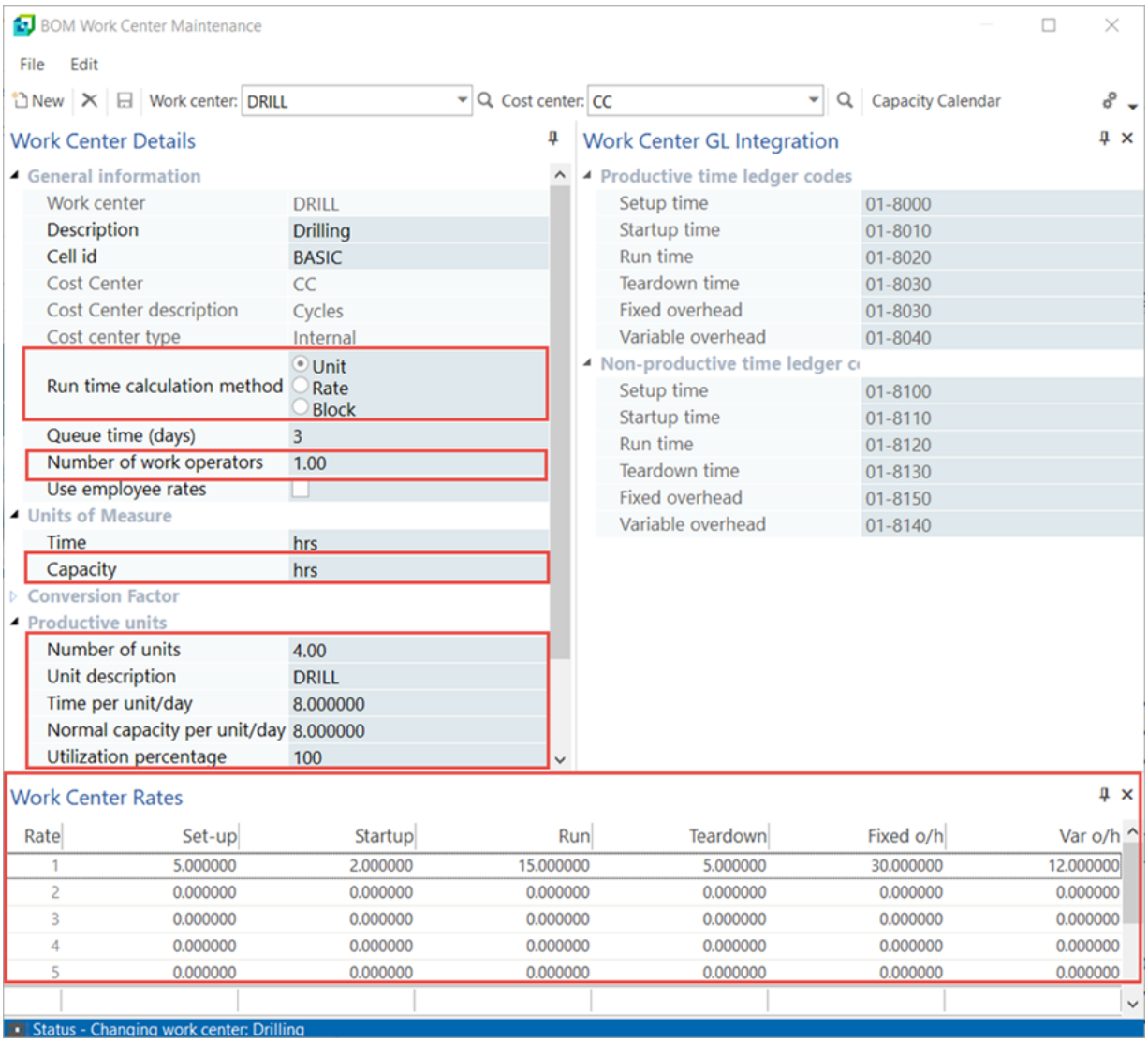
We have identified how MOM makes use of various fields and settings in SYSPRO. The following will provide guidance for reviewing:

- Work Center Maintenance
- Machine Maintenance
- Employee Maintenance
- Structure and Routing Maintenance
    - Operations and
    - Subcontract operations
- Stock Code Maintenance
- Stock Code Traceability
- Warehouse Maintenance
- Non-productive codes and
- Scrap codes

Work Center Maintenance

APICS refers to a Work Center as a group of similar resources for the purposes of Costing, Scheduling or Capacity Management.

When implementing MOM consider your work center setup carefully for scheduling!!



The following fields are used for integration purposes between SYSPRO and MOM.

Field	MOM Information
Run time calculation method: Unit; Rate; Block	When adding operations in SYSPRO against a Bill of Materials or a Job ensure that the correct loading method is selected. MOM supports all three methods. **Note:** If entering time in a routing by a batch quantity use RATE or BLOCK.
Number of work operators	The **Number of work operators** field entered against a Work Center is linked to the **Maximum Operators** field when adding an operation (routing) for the same work center. **Note:** The Maximum operators may not exceed the number available in the work center.
Capacity Unit of Measure: Capacity	**Note:** SYSPRO MOM only supports a Capacity Unity of Measure = Hrs.

Field	MOM Information
	You can still select a different Time Unit of Measure but you must make sure that the conversion (factor) is correct. The Conversion Factor is calculated automatically (Normal capacity / Time per unit). If required you can ignore the **Factor** calculated by selecting the **Manual override** field and entering the conversion factor manually.
Productive Units: • Time per unit/day • Normal capacity per unit/day • Utilization percentage	Enter the conversion here e.g. if entering time into an operation (routing) in HOURS than select the number of Hours/day. Normal capacity should always be shown in **hours** (hrs) i.e. do not exceed 24 hours.
Work Center Rates	Rates are important as they are specified against an operation (routing) - Work Center Rate Indicator 1-9, in the **Structure and Routings** program. The rate indicator against each operation is used to apply the correct costs when posting labor transactions from SYSPRO MOM to SYSPRO Work in Progress.

Machine Maintenance

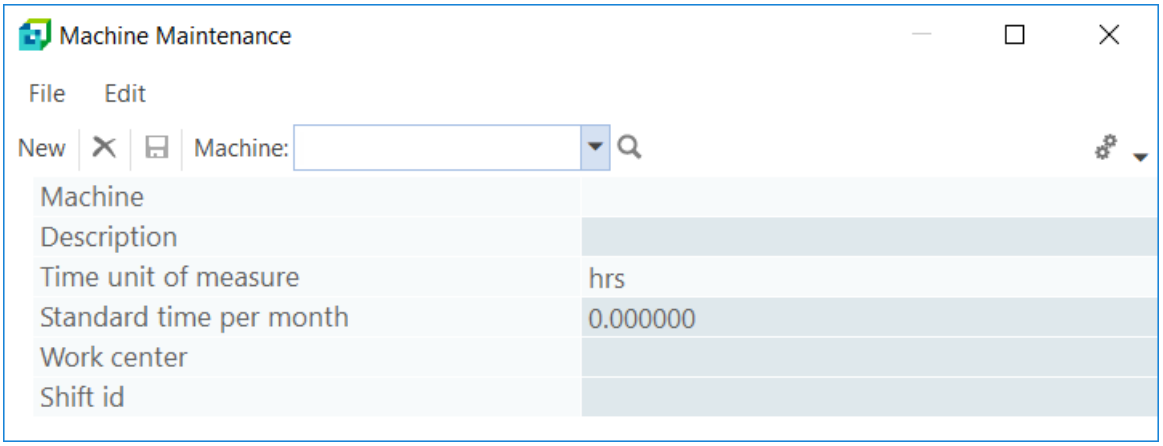
Machines are added in BOM Machine Maintenance program and are required for scheduling and must be setup to define capacity. Use the **Standard time per month** field against each machine to enter the capacity.

You need to consider the association of the machine with the work center for the purpose of Scheduling and Capacity Management (not only costing) i.e. grouping of similar machines (resources) in Visual APS.

You are able to group machines different in MOM using the mapping functionality in Visual APS. When importing subcontract machines (resources) set Infinite Capacity to ON and Resource Type to Not Defined.

In Visual APS you will setup shifts for each machine to define finite capacity.

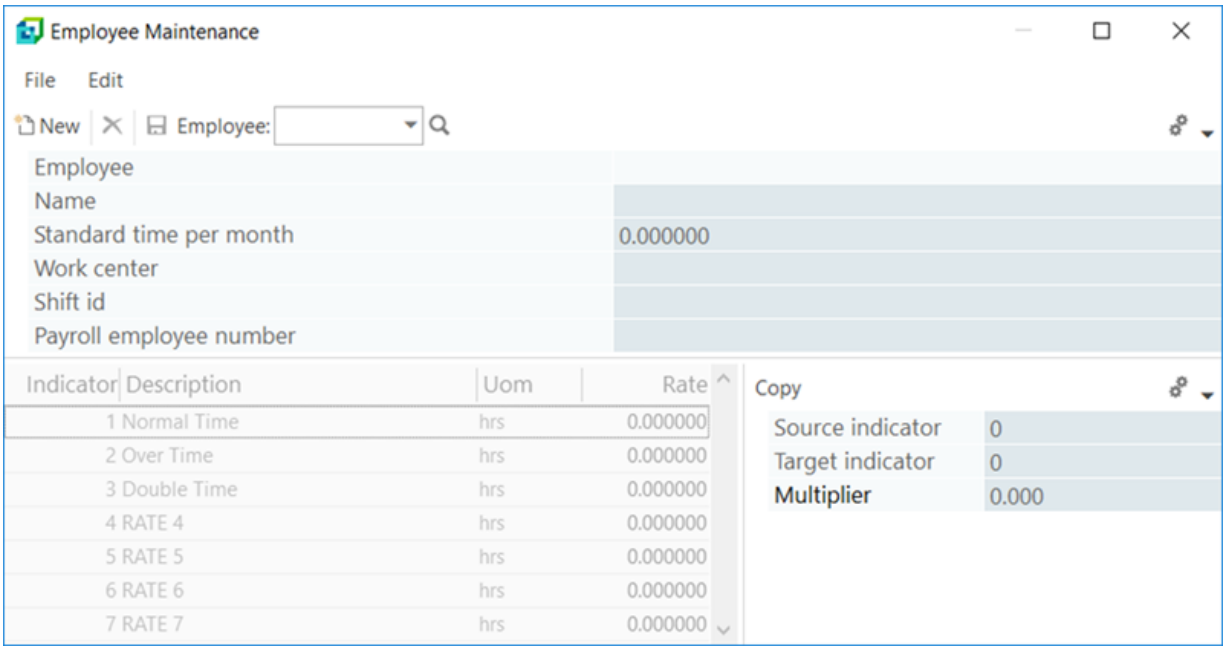
Note: Subcontract machines (resources) should have a 24/7 shift applied.



Employee Maintenance

Employee records can either be maintained in BOM Employee Maintenance or MOM.

Note: You must have at least one valid Employee record to successfully post transactions.

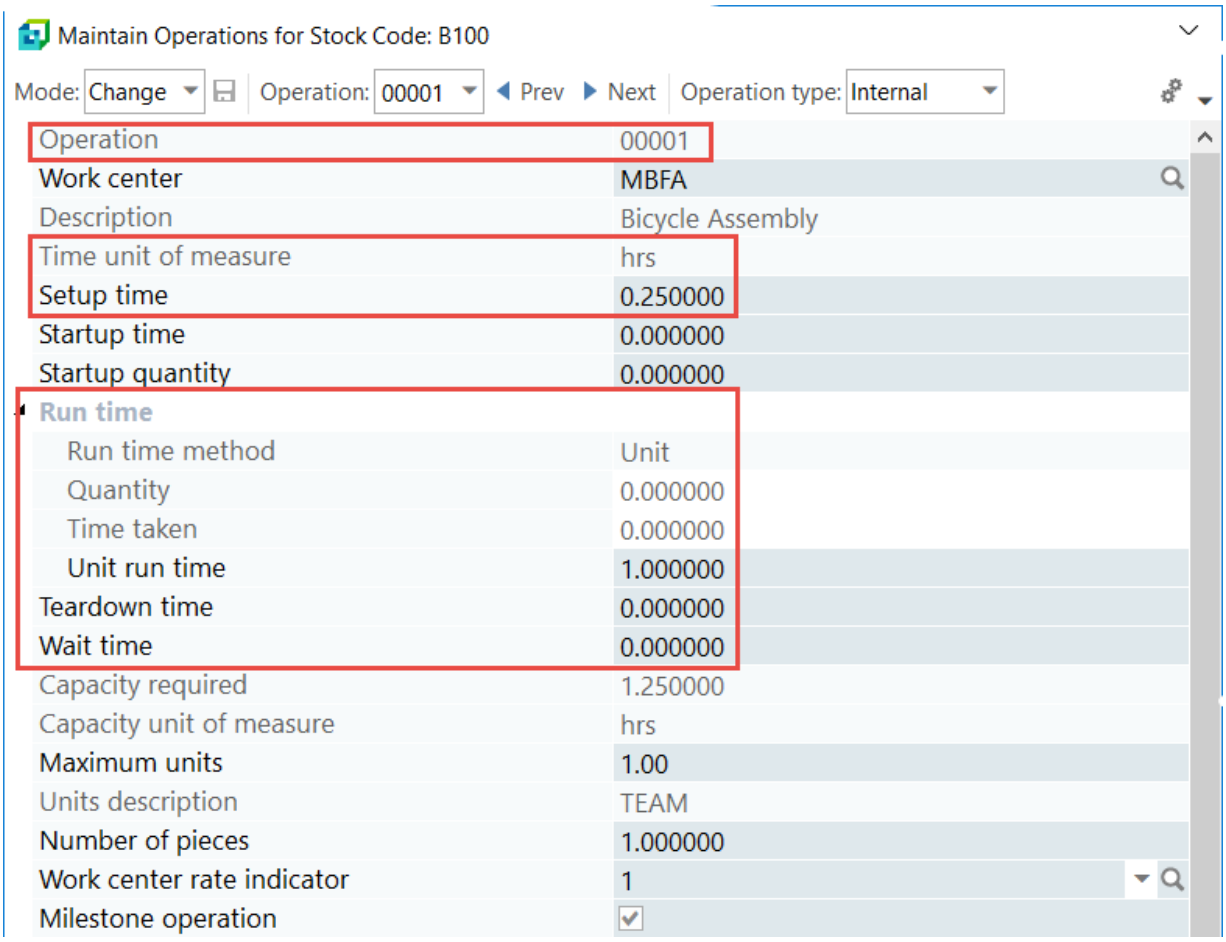


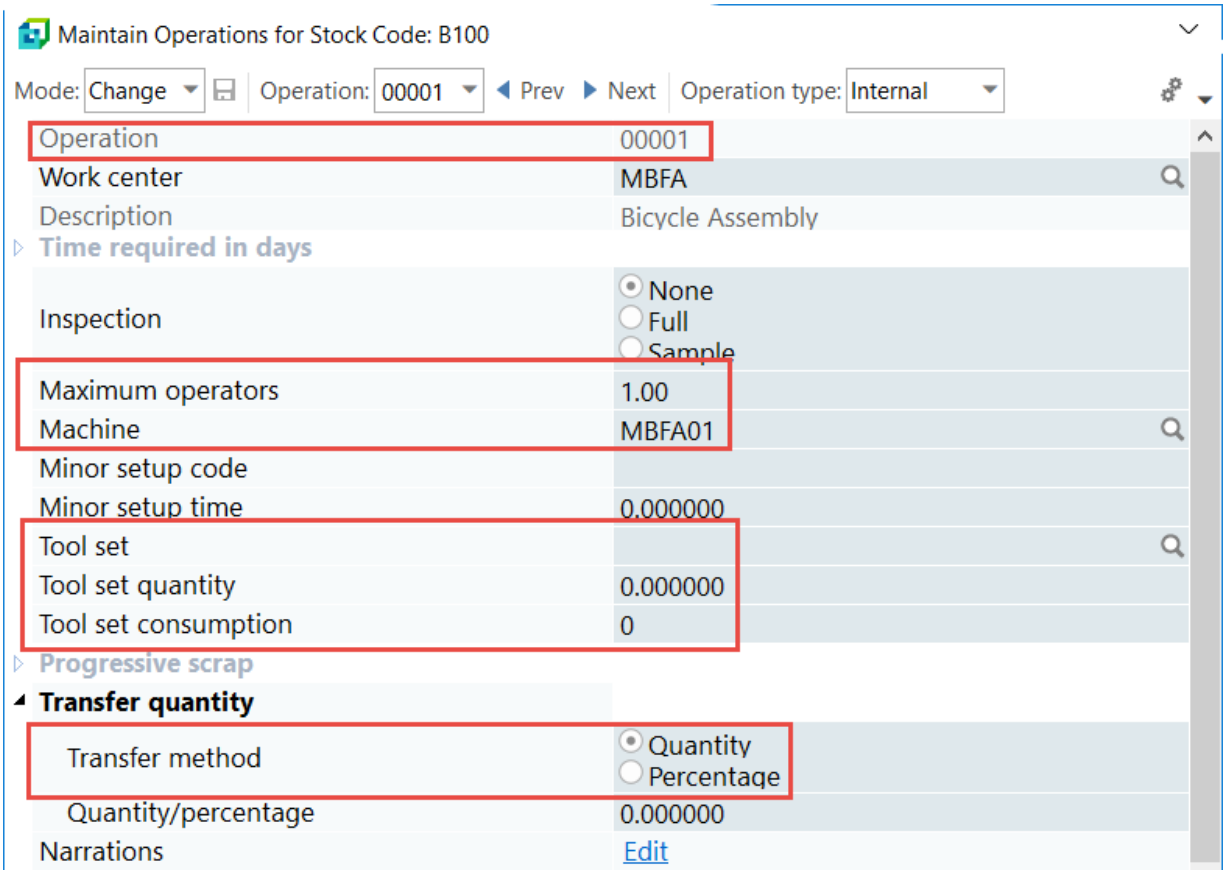
Operation Maintenance

The Bill of Material information captured in the **Structure and Routing Maintenance** program is **NOT** read directly by MOM. Only the captured Operation/Routing against the Job is read and there may be differences between the two records.

Field	MOM Information
Operation	The operation number against a job defines the **sequence** of operations when Scheduling in APS.
Time Unit of Measure	The Time Unit of Measure is taken from the Work Center setup. It can be set to whatever you like but WILL always be converted to **hours** for Scheduling purposes.
Setup time	Only the Setup time is used in SYSPRO MOM. The Startup time and quantity is currently ignored.
Run time: Run time method Quantity Time taken	All the **Run time** fields are supported when scheduling in Visual APS. **Note:** Quantity and time taken fields are enabled wit rate or block are being used as defined against the Work Center record.
Teardown time	Teardown time is considered in scheduling at the end of the operation after **Wait time**.

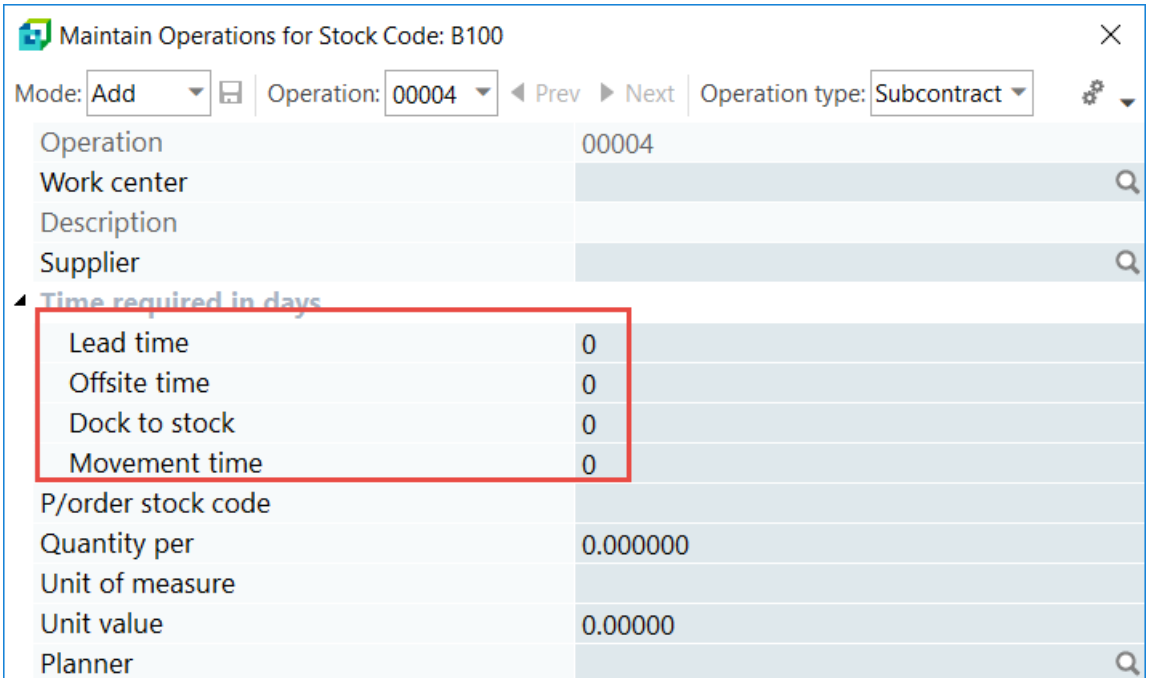
Field	MOM Information
Wait time	Wait time is used **after** Run time and **before** Teardown time. This is to be used where the resource is still needed but no quantity is produced. For example, drying time. **Note:** You can determine how resources are consumed in Visual APS settings.
Movement time	The value entered in Movement time field is used for scheduling after the operation. **Parallel** operations can be represented by putting any negative value in the Movement time field. This results in the operation running **parallel** to the **previous** operations
Maximum operators	Specify the number of operators required to complete this operation. This figure is issued when scheduling and can be variable. **Note:** You will not be able to enter a value greater than the number of operators entered against the work center. Refer to **FLOAT** resources in Visual APS for more information.
Machine	The machine field does not need a value to be entered for scheduling to work **but** at least one machine **must** be defined per work center. If this field is left blank, MOM will assume that the default machine is to be the first machine associated with the work center in alphabetical order.
Toolset Toolset quantity Toolset consumption	Toolset can be specified to identify a **secondary** resource (multiple constraint) that is required for this operation. The Toolset quantity defines how many tools are required for the operations (equivalent to operators). Toolset consumption defines how this resource is consumed: 0 as specified; 1 proportional to operators and 2 all available.
Transfer method and Quantity/percentage	The Transfer method and Quantity/percentage fields are used to specify where the operations overlap. Entering values here result in the operation overlapping the next operation.





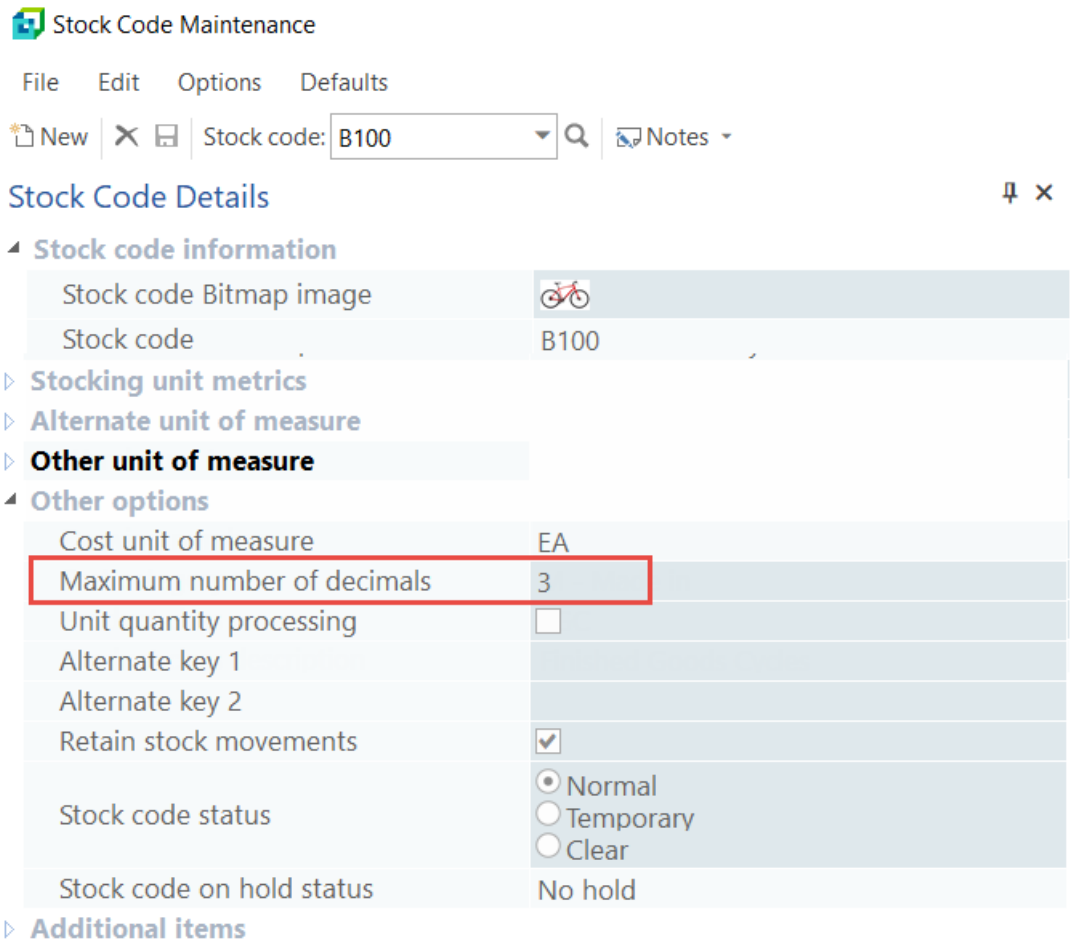
Subcontract Operations

Field	MOM Information
Lead time	The Lead time field is not used by Visual APS for scheduling. This field is used for MRP purposes and represents the purchase lead time.
Offsite time; Dock to stock and Movement time	For subcontract operations the Planning Manager uses the Offsite time, Dock to stock and Movement time to schedule. These are automatically converted from days into hours i.e. x 24. If provided the movement time is used **before** the operational time i.e. Offsite time + Dock to stock. **Note:** A subcontract machine (resource) should have a 24 x 7 shift applied and be set to **infinite capacity / Not defined**.



Stock Code Maintenance

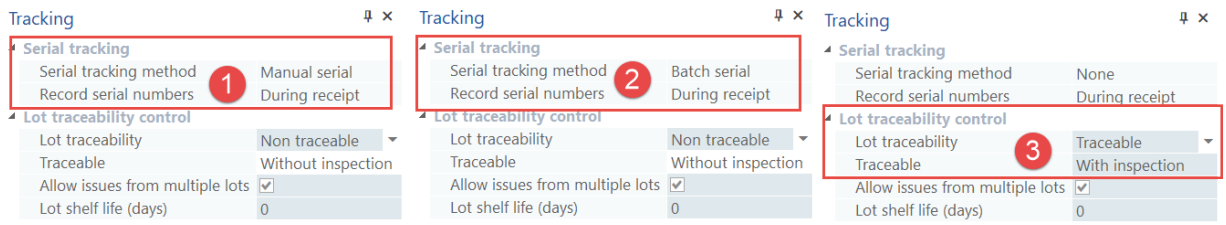
The **Maximum number of decimals** field is used when posting material issues and other quantity transactions from MOM to Work in Progress.



Stock Code Traceability

SYSPRO has three options for stock code traceability:

1. Serialized - Manual
2. Serialized - Batch
3. Lot traceable



All three of these methods are supported in MOM.

If any of these methods are chosen you must enter a valid serial or lot number when using **Material issues** and/or **Job receipts** in MOM for the transaction to post correctly to Work in Progress.

Work Center Maintenance

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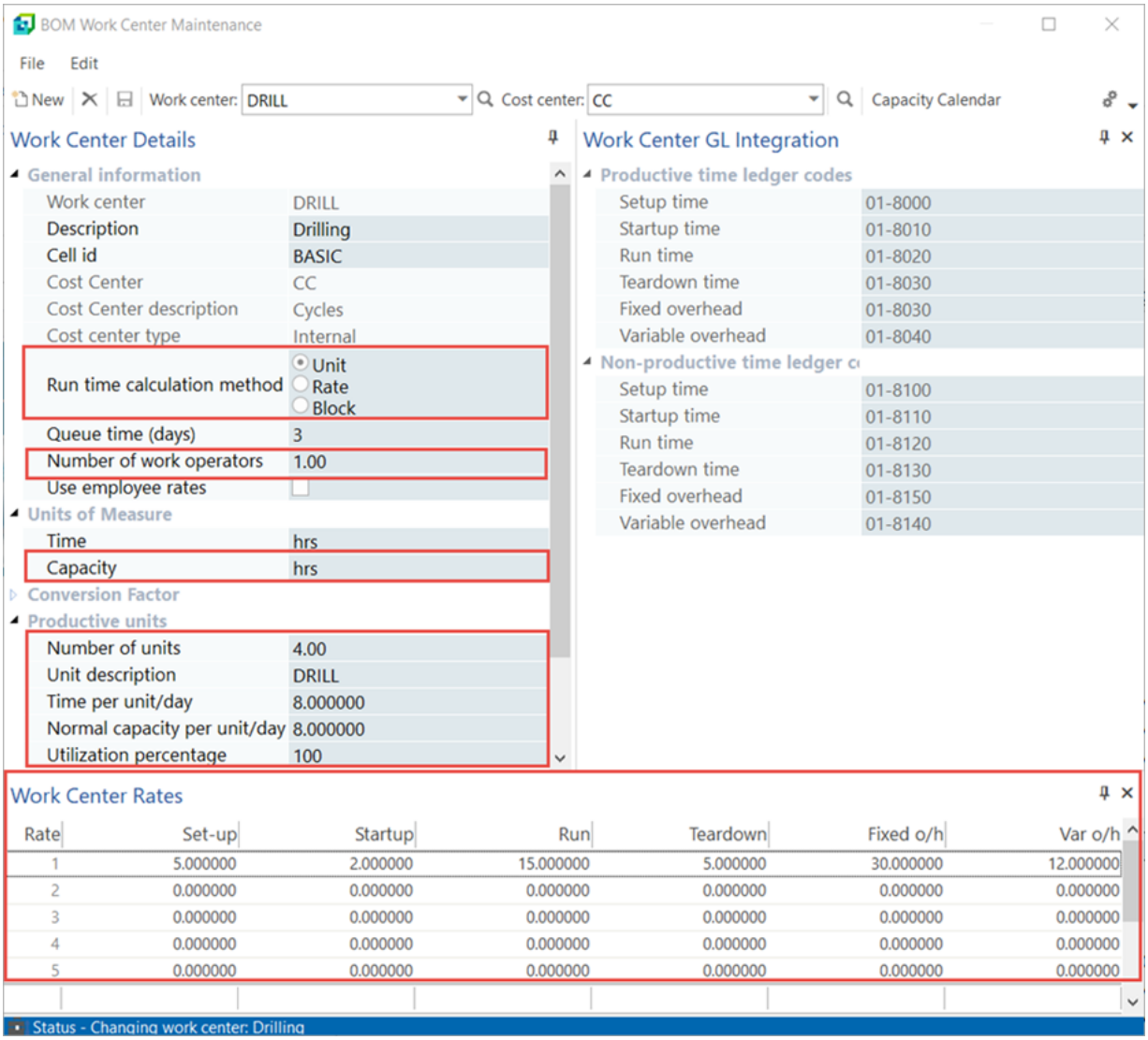


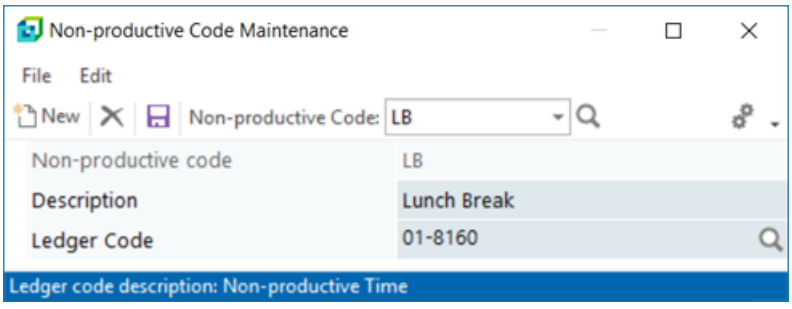
The following fields are used for integration purposes between SYSPRO and MOM.

Field	MOM Information
Run time calculation method: Unit; Rate; Block	When adding operations in SYSPRO against a Bill of Materials or a Job ensure that the correct loading method is selected. MOM supports all three methods. **Note:** If entering time in a routing by a batch quantity use RATE or BLOCK.

Field	MOM Information
Number of work operators	The **Number of work operators** field entered against a Work Center is linked to the **Maximum Operators** field when adding an operation (routing) for the same work center. **Note:** The Maximum operators may not exceed the number available in the work center.
Capacity Unit of Measure: Capacity	**Note:** SYSPRO MOM only supports a Capacity Unity of Measure = Hrs. You can still select a different Time Unit of Measure but you must make sure that the conversion (factor) is correct. The Conversion Factor is calculated automatically (Normal capacity / Time per unit). If required you can ignore the **Factor** calculated by selecting the **Manual override** field and entering the conversion factor manually.
Productive Units: • Time per unit/day • Normal capacity per unit/day • Utilization percentage	Enter the conversion here e.g. if entering time into an operation (routing) in HOURS than select the number of Hours/day. Normal capacity should always be shown in **hours** (hrs) i.e. do not exceed 24 hours.
Work Center Rates	Rates are important as they are specified against an operation (routing) - Work Center Rate Indicator 1-9, in the **Structure and Routings** program. The rate indicator against each operation is used to apply the correct costs when posting labor transactions from SYSPRO MOM to SYSPRO Work in Progress.

Non-Productive Code Maintenance

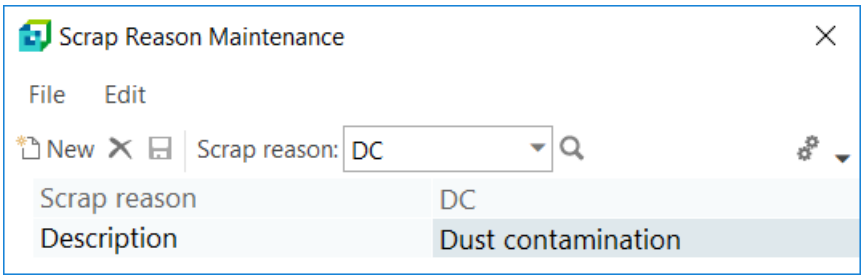
Non-productive codes can be mapped to **Diversion Codes** in **MOM** allowing transactions to be posted back to Work in Progress for financial analysis purposes.



Scrap Reason Maintenance

Scrap Reason codes are used during data collection in MOM i.e. if you scrap a quantity you must specify a valid scrap reason code for the transaction to successfully post back to SYSPRO Work in Progress.

Note: A default scrap reason code can be added via **Integration Settings** in MOM.



Navigation

Overview

The MOM interface is made up of the MOM website and Visual APS.

The MOM website provides an interface to:

- Communicate and access resources
- Configure settings
- Post transactions
- Review production issues
- Analyze performance

Visual APS provides an interface to:

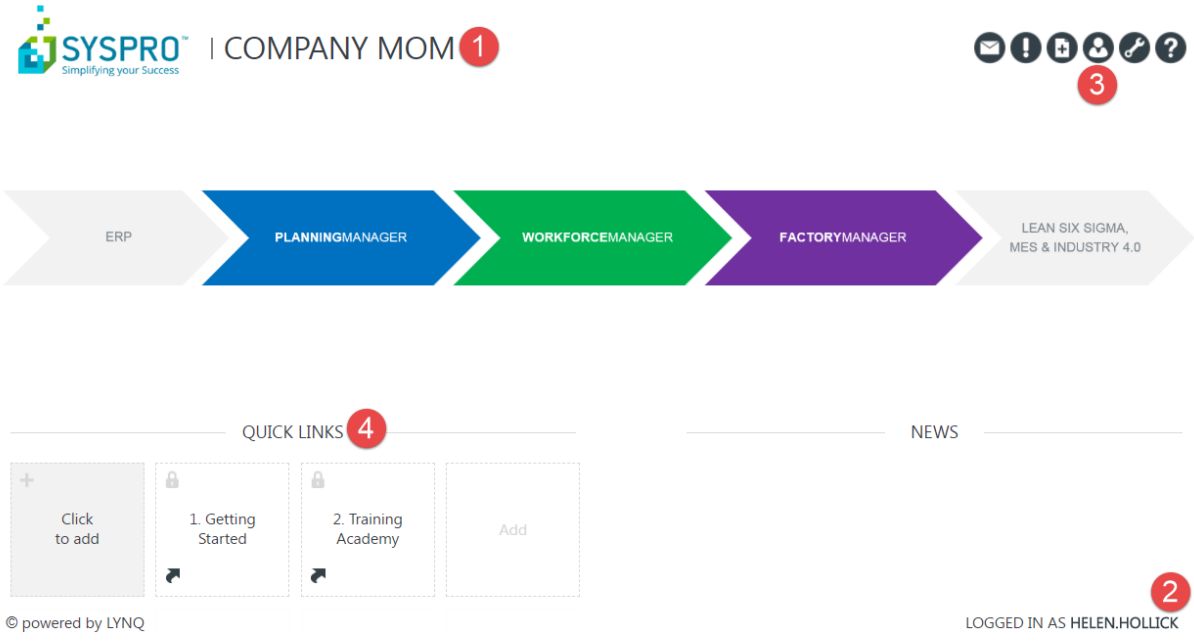
- Prioritize job schedules
- Review material requirements
- Plan and schedule jobs

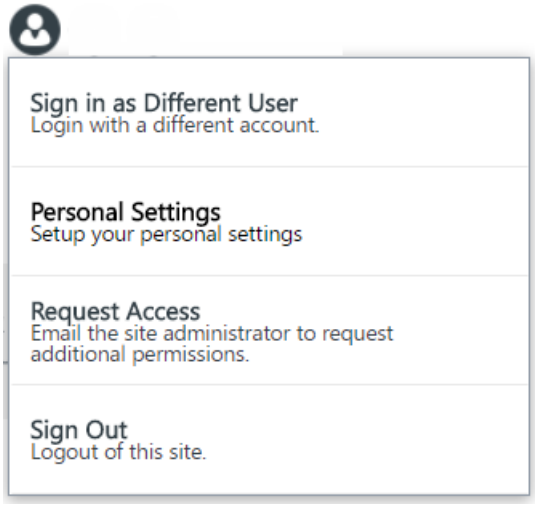
Several processes are outlined below, to help familiarize you with the general flow of the SYSPRO MOM solution:

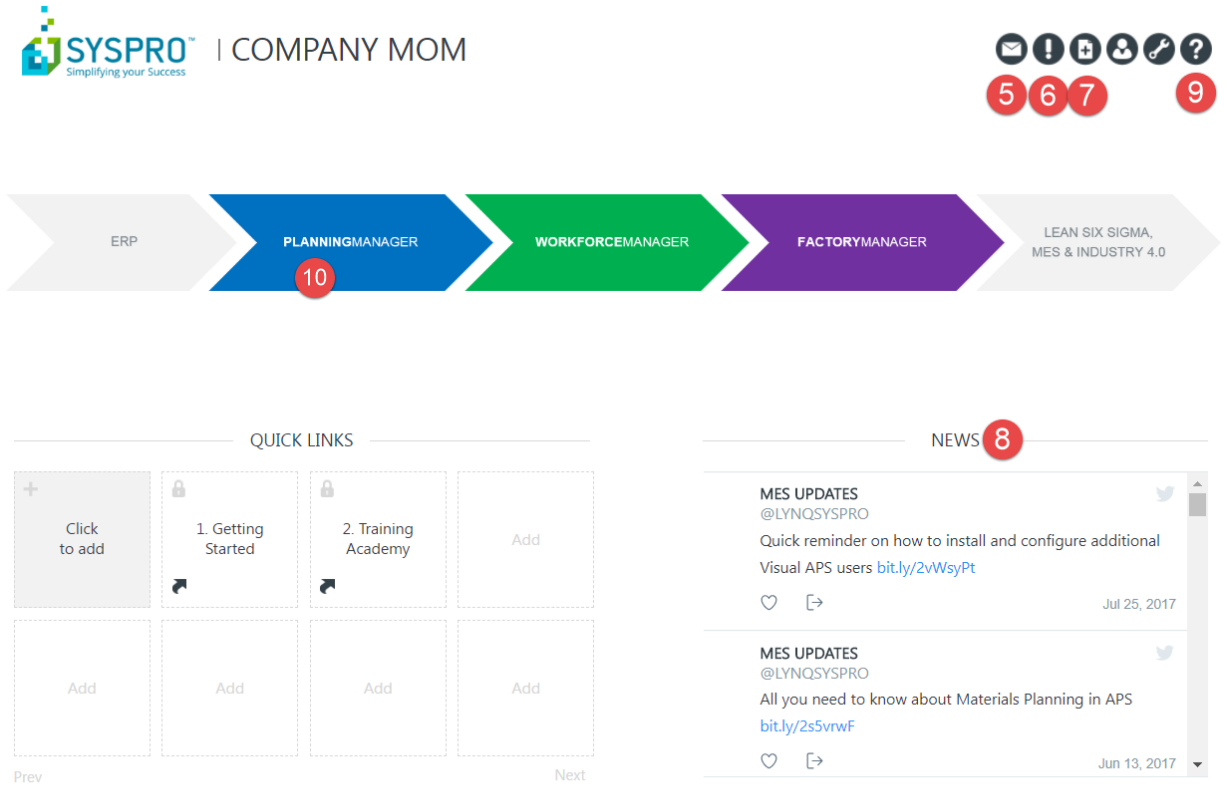
1. Finding your way around
2. Configuring for first use
3. Scheduling jobs
4. Viewing published plans
5. Collecting data
6. Tracking progress
7. Analyzing performance
8. Improving performance

Finding your way around

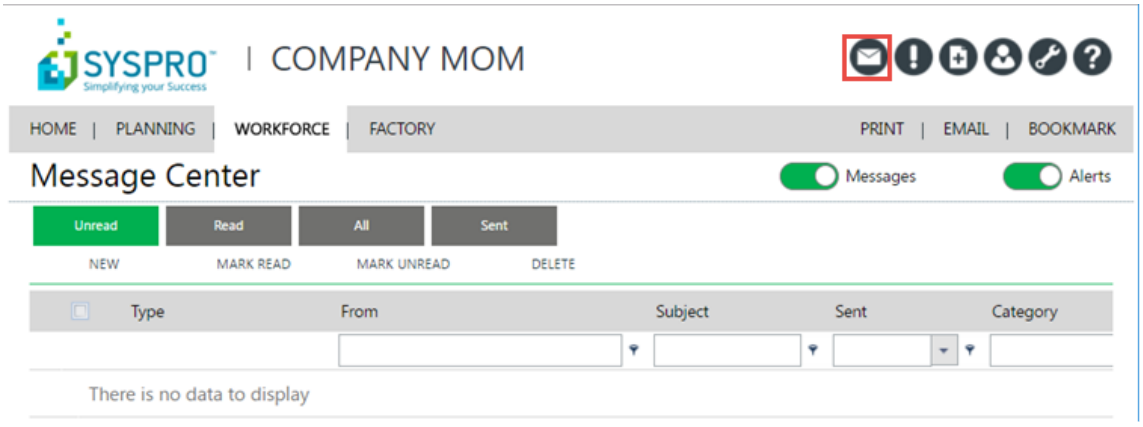
In our example, you will be accessing the SYSPRO MOM Training on your local machine using the url: http://localhost/MOM_MOM/.

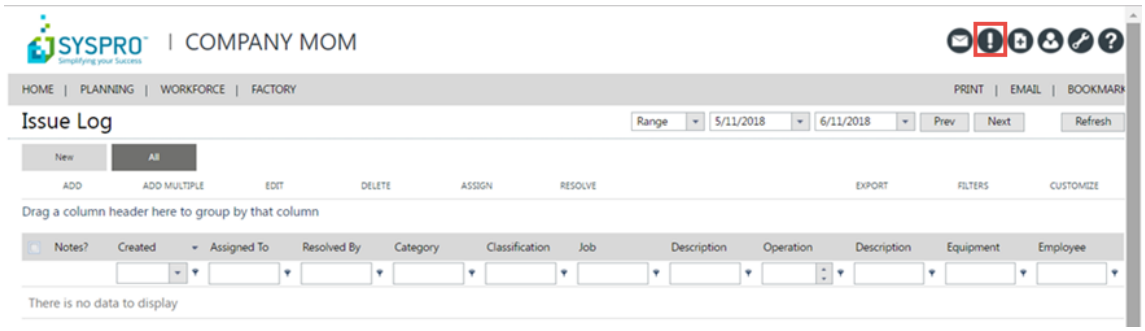
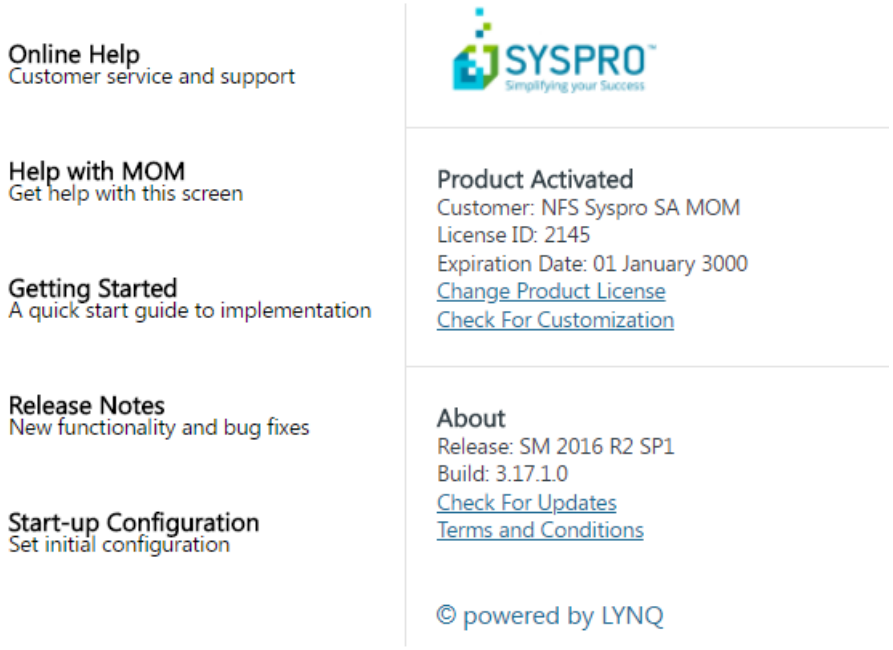


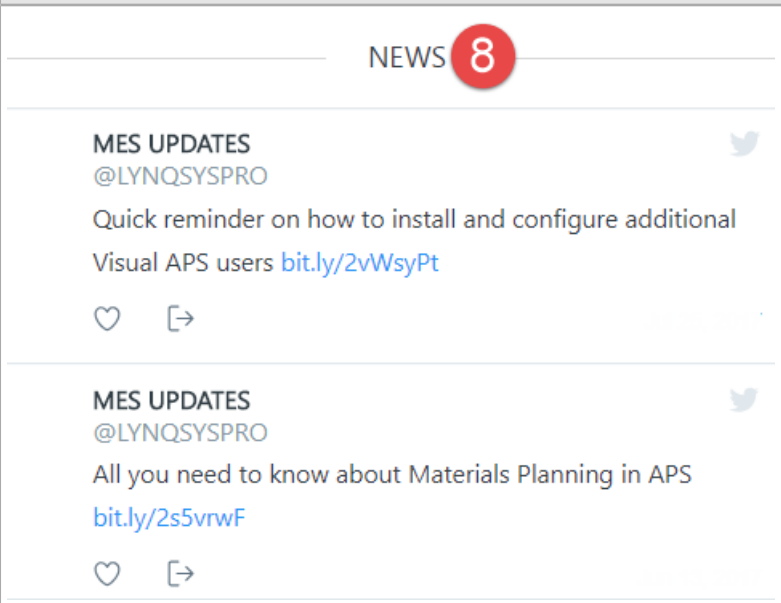
	Description
1	**Company Name**: Refers to the company you are working in. MOM relates to the SYSPRO company id (MOM).
2	**User Name**: The operator who is currently logged in to the system. As your account is linked to Active Directory you only have to sign in once.
3	**Personal settings**: Under Personal setting you can sign in and out or switch to a different user. You can also set your own language and localization settings or request additional access from your system administrator. 
4	**Quick links**: Add your own personal bookmarks to frequently used dashboards, views or reports. You can also add quick links to external Web Sites or other web based systems that you may use.



Step	Description
5	**Message Center**: Messages and management alerts fro the factory floor.
6	**Issue Log**: Review, assign and resolve your production issues.



Step	Description
	
7	**Document library**: Add files, forms and links to jobs, employees and equipment.
8	**Need help?**: Access extensive online help with videos and other articles that help you get the most of the system. 
9	**News**: Keep an eye out for new videos and other news regarding your software via Twitter.

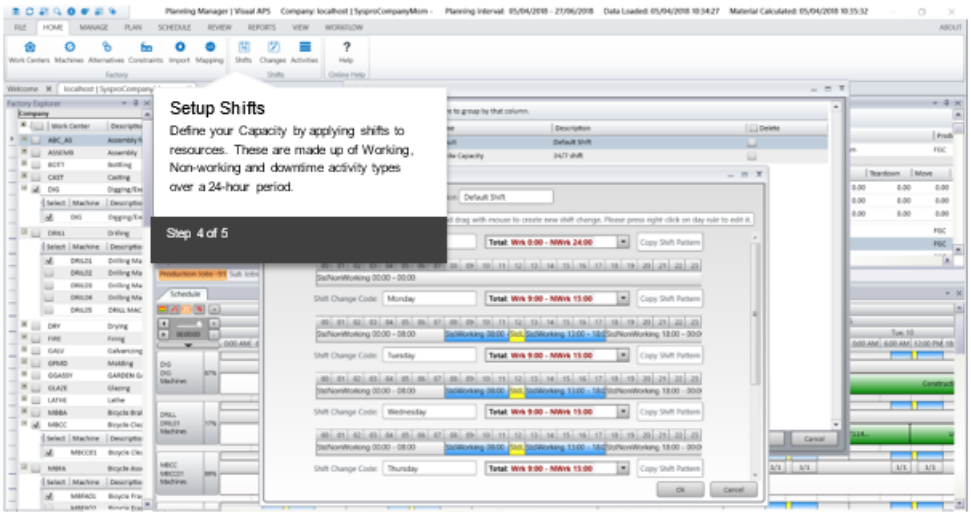
Step	Description
	
10	**Let's get started!**: Navigate to the main areas of the system. Go to **Planning** to schedule or publish. Go to **Workforce** to collect data from the shop floor or to see the current status of your employees, equipment or jobs. Go to **Factory** to review factory performance analysis.

Configuring for first use

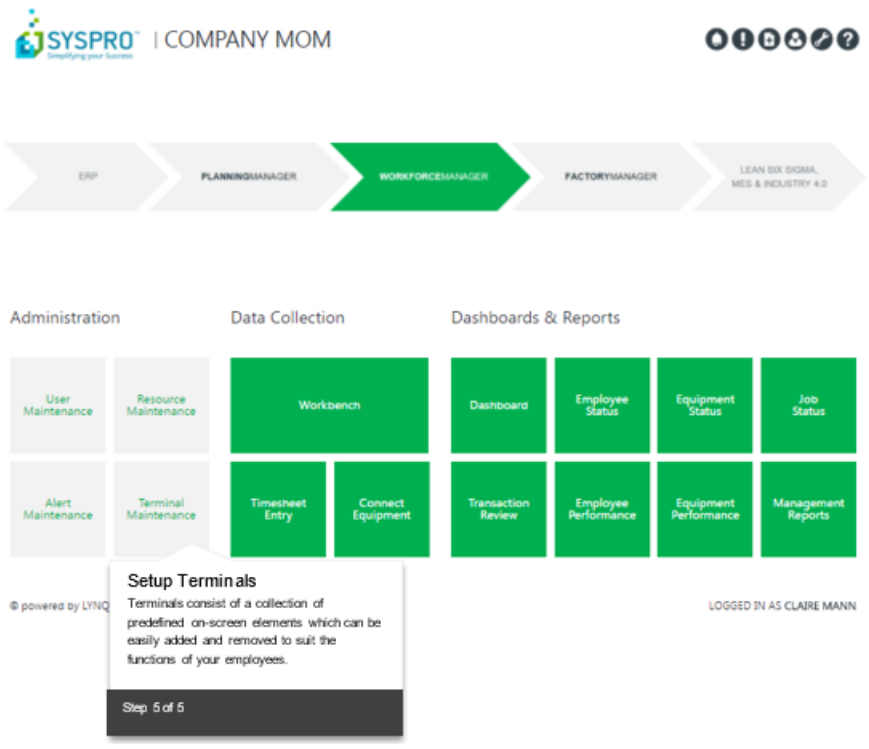
1	**Confirm licensing** Start by checking your license details. Find out the number of seats you have available. A seat is required for all users who will access the system and all resources where data collection is required.
2	**Setup users** Add your system users. Each user will have a login and be a member of a group and role. You can also set the permissions for each user has from here. **Setup resources**

	Staying within user maintenance, you can now setup resources. A resource is any employee or equipment that you will either schedule to or collect data from. Resources can be imported from your ERP or PLM system.
3	**Setup shifts** Open Visual APS and click on the HOME tab. Add your shifts for scheduling. Shifts allow you to define your capacity.
4	**Setup terminals** Setup and configure the terminals that will be used to collect data from your employees and equipment.

- **Step 1** -
- **Step 2** -
- **Step 3** -

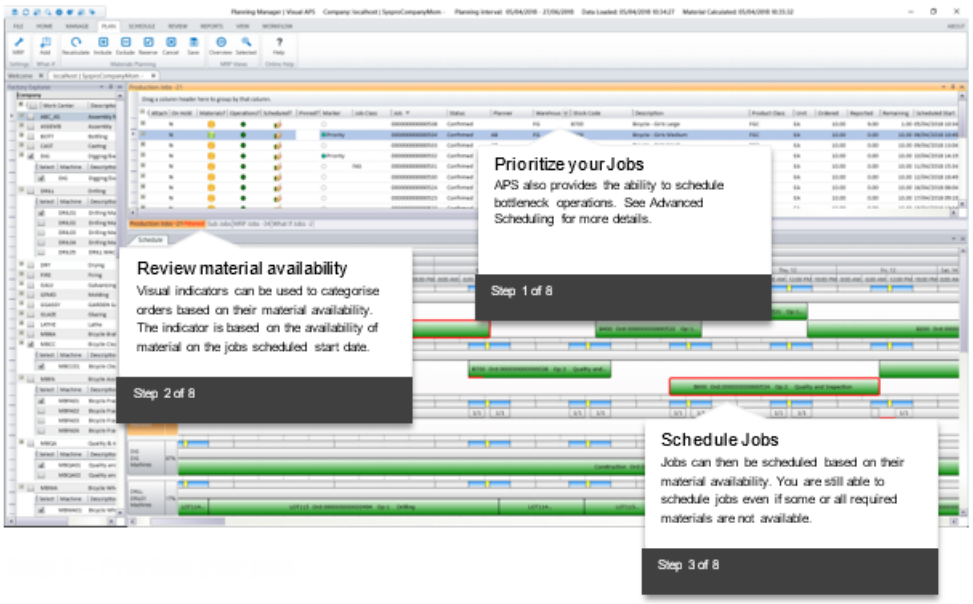


- **Step 4**



- **Step 5** -

Scheduling Jobs



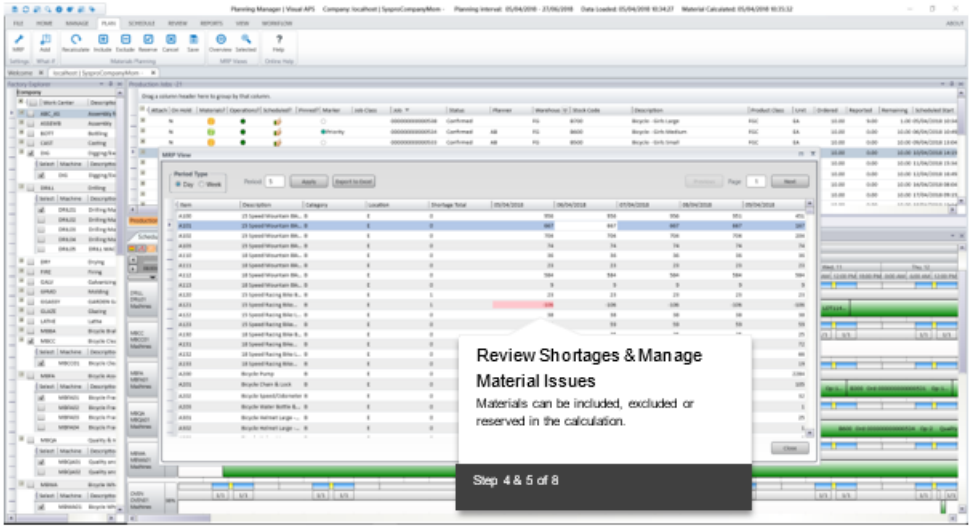
- **Step 1** - Prioritize your jobs

  In Visual APS. Prioritize your jobs using attributes and markers. Apply groups and filters and then save these as a workflow to build your planning process.
- **Step 2** - Review material availability

Load the jobs you want to schedule and group them using the material availability icons i.e. no shortages, partial shortage, or no materials.

- **Step 3** - Schedule jobs where materials are available

  Select your jobs without shortages, right click and auto-schedule. From within the auto-scheduling dialogue you can set the scheduling sequence to minimize the changeover time. e.g. blue first, then green, then red and so on…Update the planning board.



- **Step 4** - Review shortages

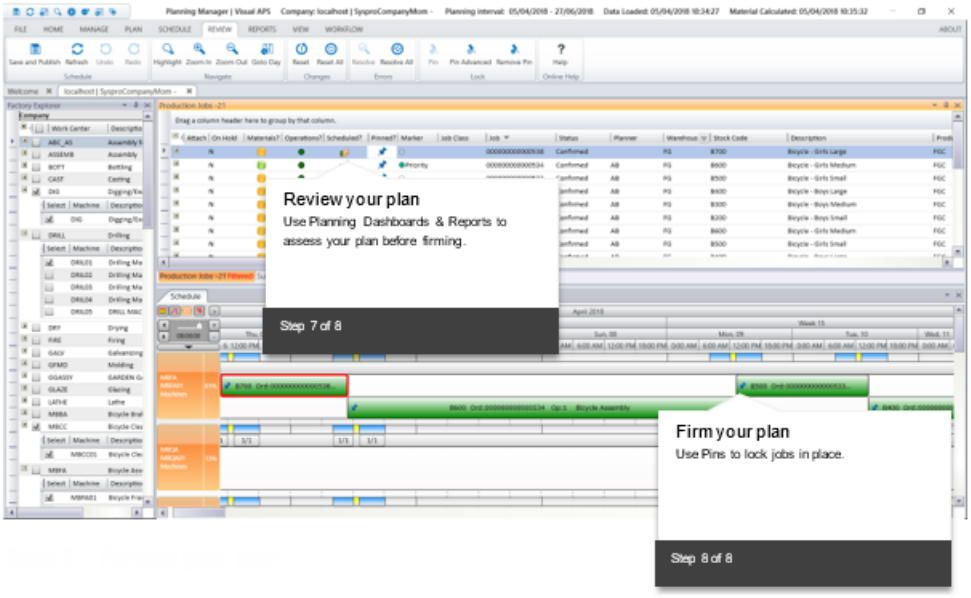
  Return to the jobs with shortages. Run a selected MRP view to see when materials will become available. If they arrive before the required/promise date, drag and drop these jobs onto the planning board based on the dates materials will become available. Note: the material icon turns green to confirm you have no shortages by the scheduled date.

- **Step 5** - Material Issues

  Use the markers to mark jobs with material issues. Filter, export and share this list with your procurement teams for them to expedite with your suppliers. Alternatively, you may choose to schedule jobs with shortages. Doing this will allow MRP systems to inform your procurement team of any material supply adjustments.

- **Step 6** - Repeat

  Repeat steps 2 through 5 for each of your job groups.



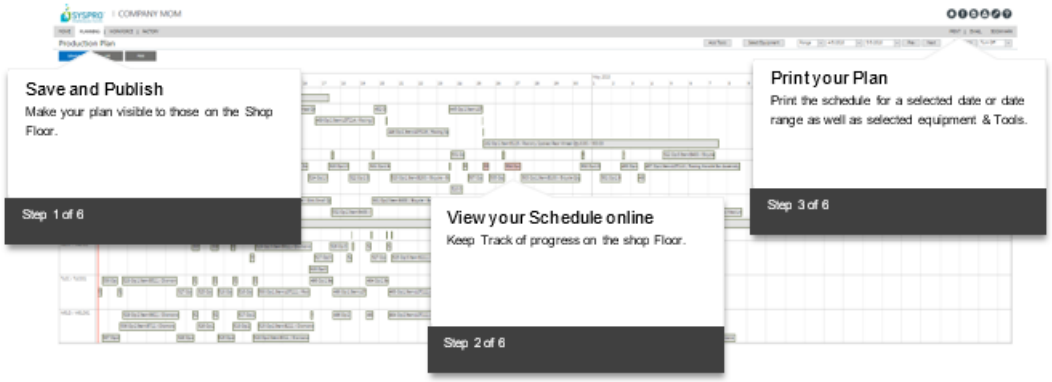
- **Step 7** - Review your plan

  Go to "Dashboard" to review your planned order fulfilment and equipment utilization. Use "Equipment Loading" to see the details. For Rough Cut Capacity Planning use the "Capacity Chart" to add MRP and What-if jobs.

- **Step 8** - Firm your plan

  Make any adjustments and then fix your plan for your firm planning period by using "Pins" to lock jobs in place.

Publishing Plans



- **Step 1** - Save and publish

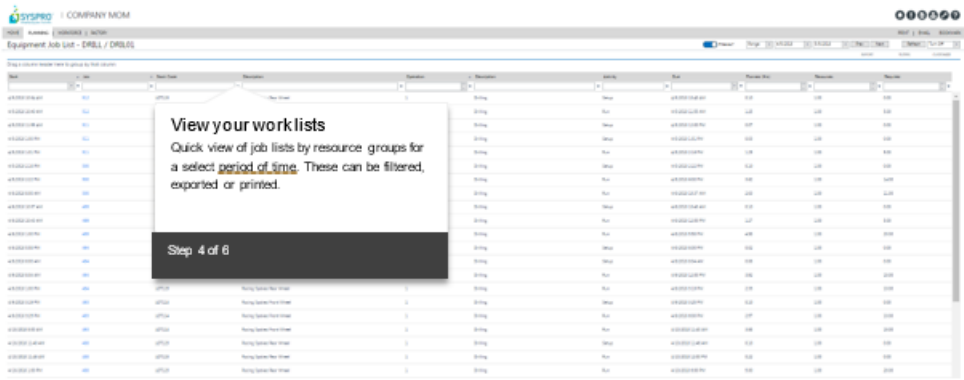
  Click "Save & Publish" from the Visual APS to sync your plan with your ERP or PLM system. Your plan is also published to the factory floor in the form of an online schedule and equipment specific work lists.

- **Step 2** - View your schedule online

Go to "Production Plan" to view your online schedule and check how you are progressing. Why not make this visible to everyone on the shop floor on a big screen?

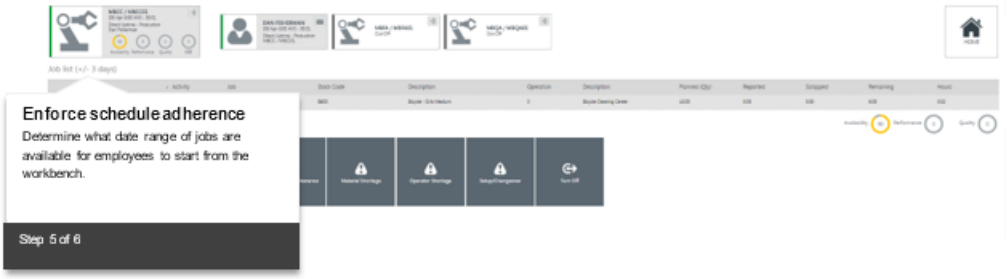
- **Step 3** - Print your plans

  Do you need to print your plans…? Go to "Production Plan" and select the "Print" tab. Here you can print a bar-coded production plan for any equipment or date range



- **Step 4** - View your work lists

  Go to "Equipment Job List" from your mobile device to access simple work lists for each piece of equipment based on your schedule.



- **Step 5** - Enforce schedule adherence

  Change the period filter and configure your terminals to enforce your plan and make sure that operators only work on the jobs that they should be working on according to your plan.

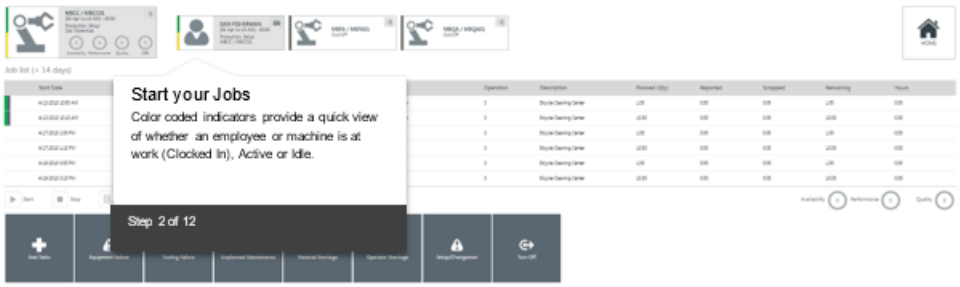
- **Step 6** - Revise your plan

  Go back to "Visual APS". Change your plan based on changes in job progress or priority. Click "Save & Publish" to update the production plan and shop floor execution.

Collecting Data

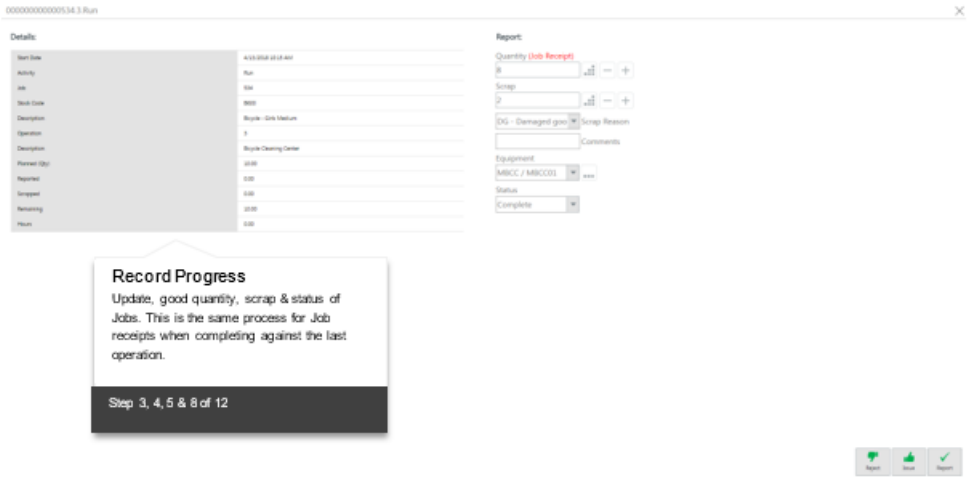
- **Step 1** - Start your day

  Go to terminal at the entrance of your building or work area and scan/enter your employee code to start your day.



- **Step 2** - Start your jobs

  Go to "Workbench" to start the jobs and begin collecting data. Open your terminal and click on equipment to view the work list. Click "Start" to begin the job. Click "Stop" to stop the job. Labor and machine hours will be recorded automatically against the job.



- **Step 3** - Record progress

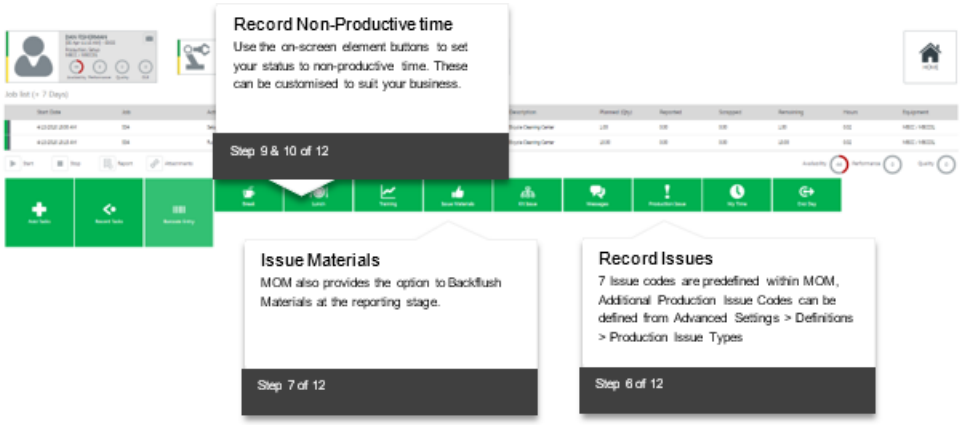
  To record progress against a job and measure performance you must report operational quantities. Click "Report" to enter the operational quantity that has been produced so far.

- **Step 4** - Record scrap

  Click "Report" to enter the scrap quantity. Recording scrap effects the measurement of quality. Use the scrap reason code to provide the reason for the scrap.

- **Step 5** - Record status

Click "Report" to record the operational status. If you have completed the operation, mark the status as "Complete".



- **Step 6** - Record issues

  Go to "Production Issues" to record issues on the shop floor. Issues notifications are automatically sent to your team lead for assignment and resolution.

- **Step 7** - Issue materials

  Go to "Material Issue" or "Kit Issue" to issue materials to the job/jobs you are working on. When posted to Work in Progress inventory will be updated.

- **Step 8** - Complete job receipts

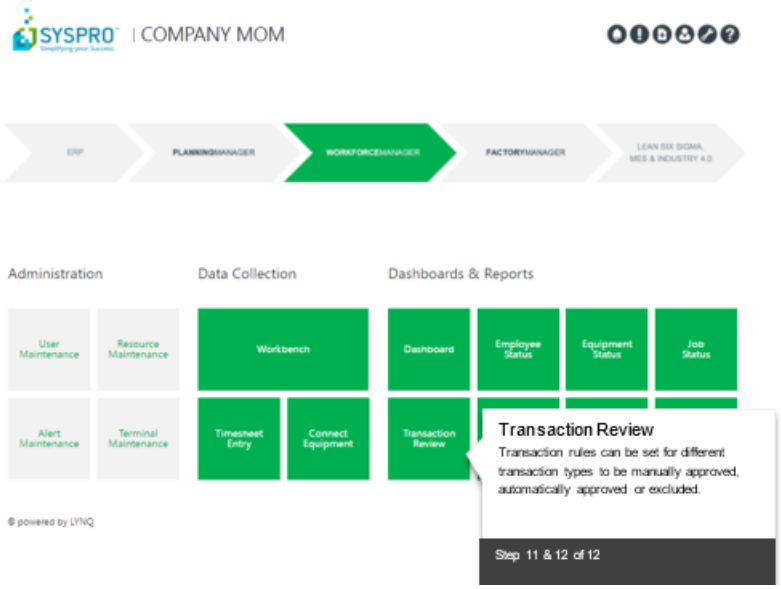
  If Job Receipting has been enabled, clicking "Report" on the last operation will allow you to enter the quantity as a job receipt. When posted to Work in Progress inventory will be updated.

- **Step 9** - Record non-productive time

  Go to "Meeting", "Training" or other non-productive buttons from within your workbench terminal. Jobs currently in progress will be paused and non-productive time will be recorded automatically.

- **Step 10** - End your day

  Go to "End Day" to finish your day. Your jobs will be stopped, transactions will be automatically generated, and employee and equipment status will be updated.

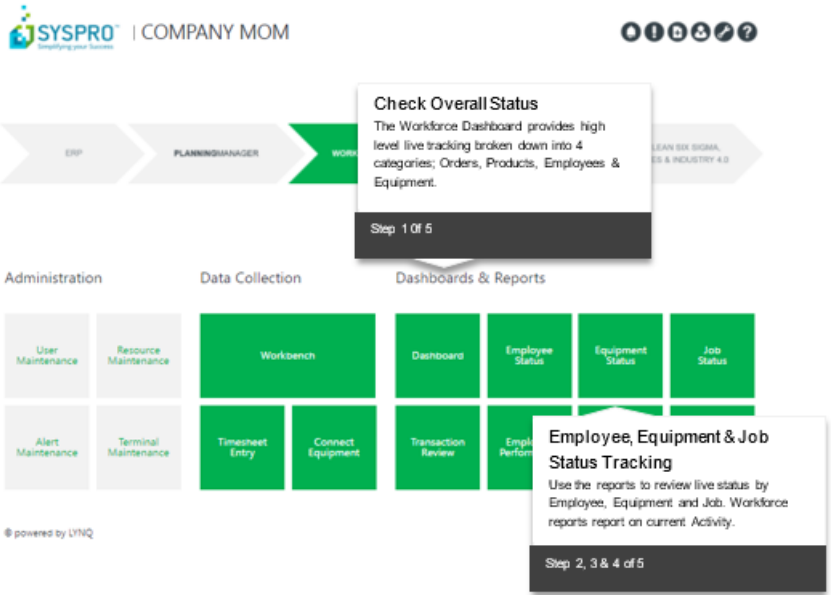


- **Step 11** - Review transactions

  Go to "Transaction Review" to review and approve transactions created from the activities during the day.
- **Step 12** - Post transactions

  Click "SYNC" to post approved transactions to Work in Progress.

Tracking Progress



- **Step 1** - Check your overall status

  Go to "Dashboard". Here you can see high level status of your jobs and workforce. Click on the plates to drilldown to the detail.

- **Step 2** - Check employee status

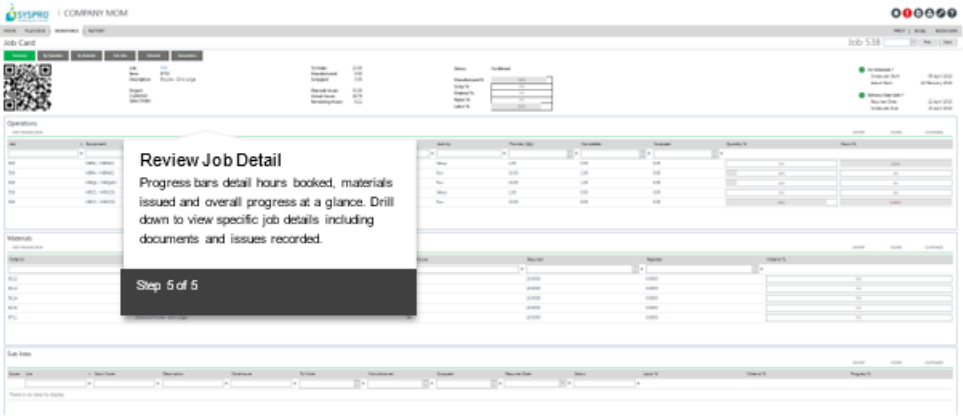
  Go to "Employee Status" to check the status of your employees. This screen provides live status of employee performance and current activity. If you have the permission you can access the employee workbench from here and see any alerts and issues they might have.

- **Step 3** - Check equipment status

  Go to "Equipment Status" to check the status of all your equipment. This screen provides live status of employee performance and current activity. You can also see alerts and issues.

- **Step 4** - Check job status

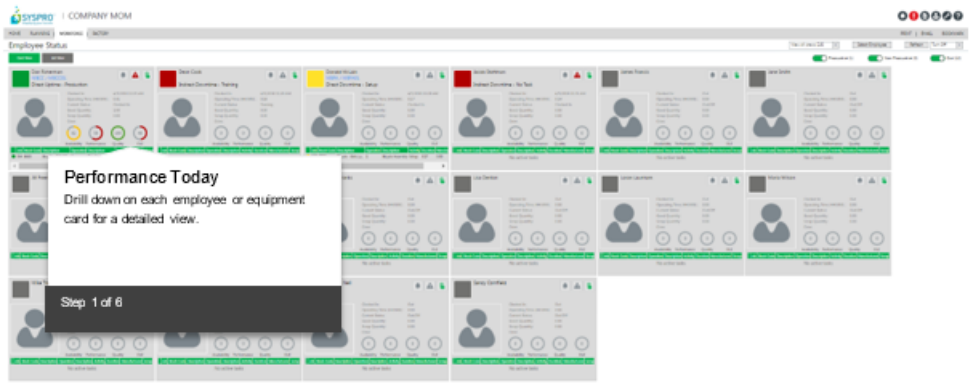
  Go to "Job Status". Here you can see the status of overall job progress, labor bookings and material issues. Drill into specific job details by clicking on the link.



- **Step 5** - Review job detail

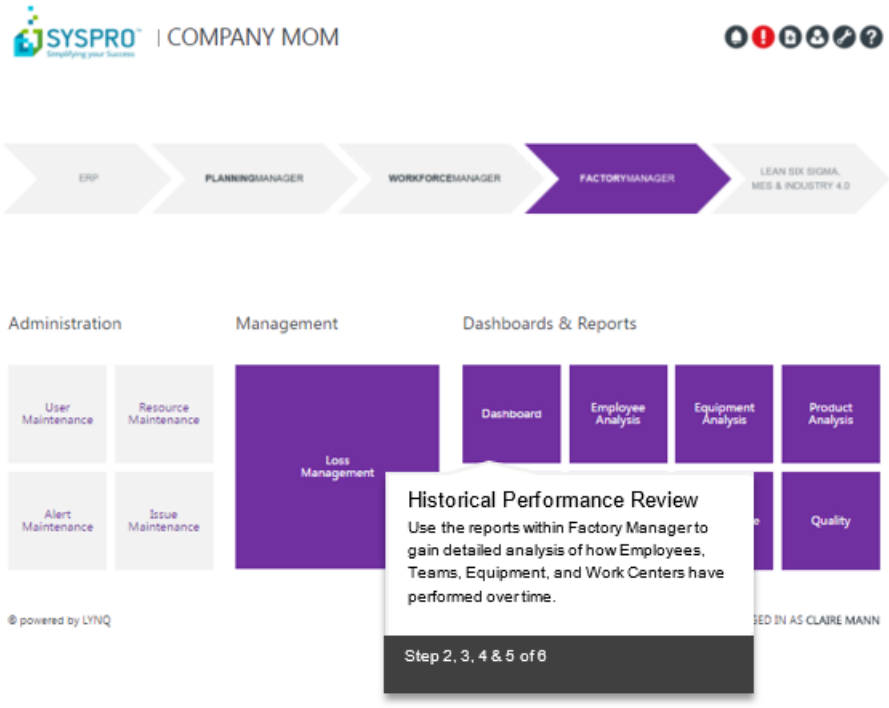
  Here you can see the specifics of the job including its schedule, operational and material progress, attachments, issues and more. Easy indicators let you know whether the job is on track or not making this screen useful to sales, customer service and production teams.

Analyzing Performance



- **Step 1** - Performance today

  Go to "Employee Status" or "Equipment Status". Here you can you see how each resource is performing and what every resource you have is working on right now.



- **Step 2** - Employee performance

  Here you can see how an individual employee has performed over time. Use the "Dashboard" for a high-level view or click on "Summary" and "Detail" for more information.

- **Step 3** - Team performance

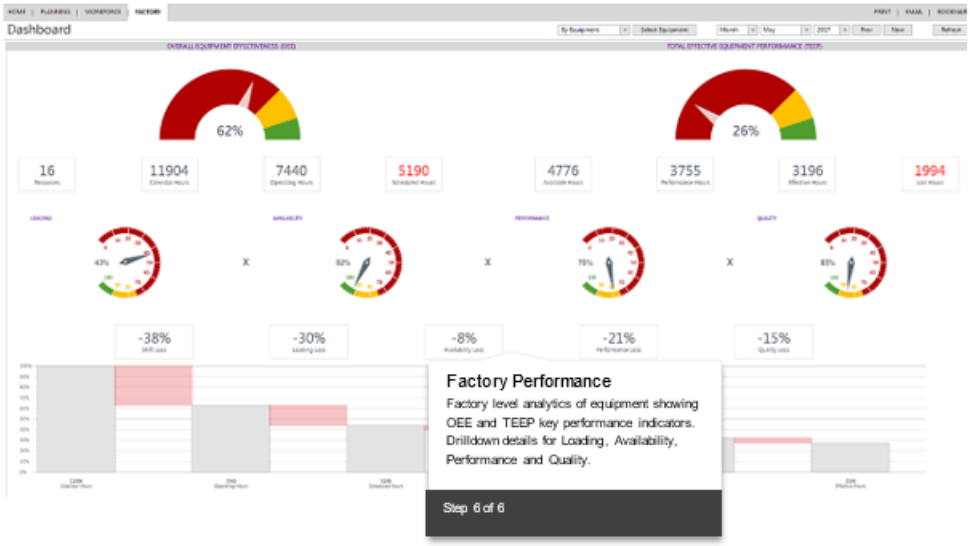
  Go to "Employee Analysis". Here you can see how an individual or group or employees have performed over time. You can also see how many parts they produced, how much time was productive and the reason why performance was not 100%.

- **Step 4** - Equipment performance

  Here you can see how a specific machine has performed over time. You can also see why the machine was not 100% productive and where hours were lost.

- **Step 5** - Work Center performance

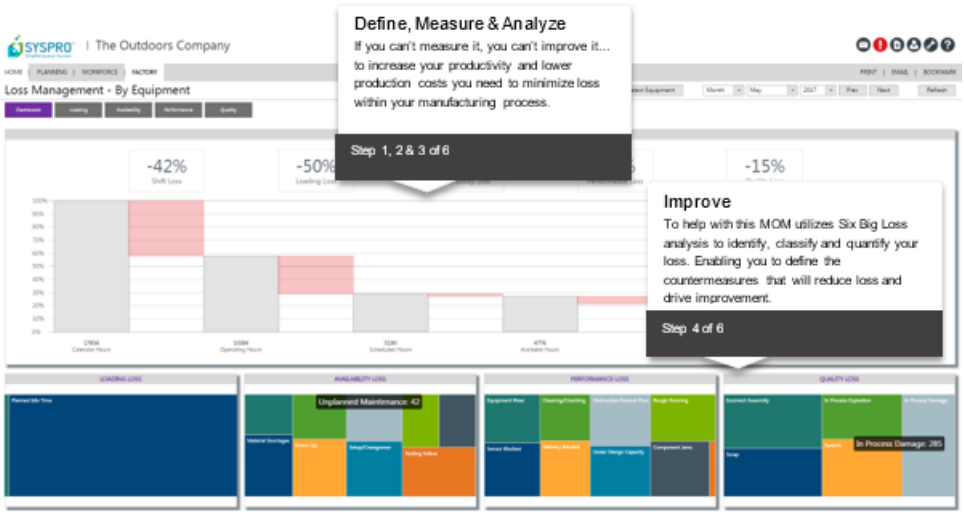
  Go to "Equipment Analysis". Here you can see how some or all of your equipment has performed, how many parts were produced, how much time was productive and the reason why performance was not 100%.



- **Step 6** - Factory performance

  Go to "Dashboard" for high level view of OEE (Overall Equipment Effectiveness) and TEEP (Total Effective Equipment Performance). Why are these not 100%? See the metrics below. Drill into the metrics for more detailed analysis.

Improving Performance



- **Step 1** - Define

  Why is our performance not 100%? What can we do to improve it? These are both questions answered by the "Loss Management" dashboard.

- **Step 2** - Measure

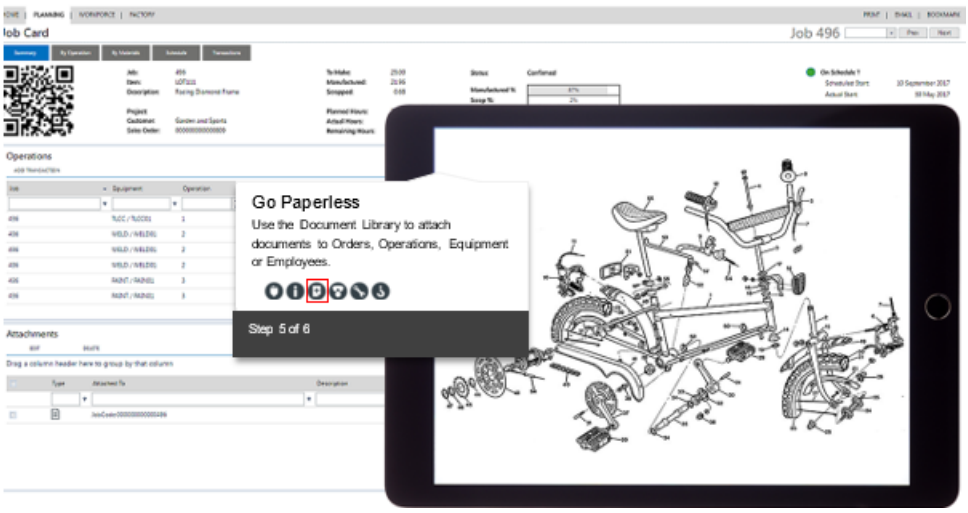
  Tree maps identify, classify and quantify your losses. They work on the principle of the larger the square tile the larger the issue. This lets you target your largest loss reasons first.

- **Step 3** - Analyze

  Drill down to investigate and analyze reasons for the loss by each category: Loading, Availability, Performance and Quality. Use iGrafx ® , Minitab ® or other statistical process and analysis tools for further investigation.

- **Step 4** - Improve

  Go to "Production Issues". Here you can create and track your continuous improvement initiatives. Assign each issue to an owner and track resolution activity.



- **Step 5** - Go paperless?

If loss is as a result of missing documentation why not go paperless and put your documents online. Click here to attach static files, online forms or link to a document management system.

Step 6 - Control

Go to metric reports e.g. "Loading". Use comparative reporting to review whether countermeasures have been successful. Repeat the process to continue to drive improvement.

Schedule and Publish - Configuration

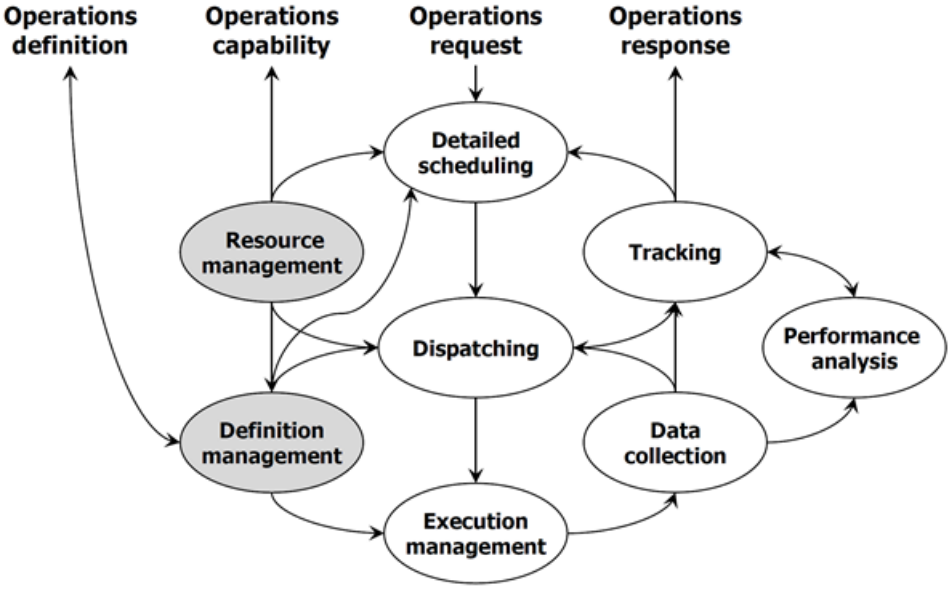
Overview

SYSPRO Manufacturing Operations Management has been formed around the international standard, IEC62264. This standard is illustrated below. It comprises 8 core activities, which include resource management and definition management.

Resource management deals with the resources required to manufacturer e.g. machines, tools, labor and materials.

Definition management deals with the rules to produce a product e.g. standard product routing.

These two activities are delivered by SYSPRO Manufacturing Operations Management in combination with other modules such as Bill of Materials and Inventory.



Source: IEC62264-3 Generic activity model of manufacturing operations management

Reset Profile Settings -

Note: Profile settings must be reset in both **Visual APS** and **MOM** prior to completing any steps in the training guide. The profile includes factory defaults for all configuration settings.

Reset profile settings in Visual APS

The following steps describe how to reset profile settings in Visual APS.

1. Open **Visual APS**.
2. Select **File** Menu.
3. Select **Company Settings** Menu.
4. Select **Reset Settings**.
5. Close **Visual APS**

Re-create default connection settings in Visual APS

The following steps describe how to re-create default connection settings in Visual APS.

After resetting the profile settings in Visual APS you need to re-load Visual APS and re-create your default connection settings.

1. Open **Visual APS**.
2. Select **File** Menu.
3. Select **Open**.
4. Select **New Database Connection**.
5. Enter the *SYSPRO Database Server Name* as the server name or computer name where the SYSPRO SQL Database resides. Include the SQL instance name if SQL is not installed as a default instance.
6. Select the Authentication Mode **Windows/SQL**.
7. Tick the **App Role**, if you have configured Visual APS to connect to the SYSPRO database using the Application Role (default setting).
8. Enter the *SYSPRO Database Name* in the **Company** field.
9. Select **OK**.

How to apply a new license from the internet

The following steps describe how to apply a new license from the Internet.

1. From **Visual APS** click on **About**.
2. Click on **Change Product License**.
3. In the Customer **Name** field type your customer license name.
4. Click on **Get License Online**.

How to load a new license from a file

The following steps describe how to apply a new license from file.

1. From **Visual APS** click on **About**.
2. Click on **Change Product License**.
3. Select **Upload license file manually**.
4. Select the license file and select **Open**.

Companies

How to open a company from an existing Company list

The following steps describe how to open a company from an existing company list.

1. Select **Open** from the Visual APS **File** Menu.
2. Click the **Arrow** next to **New Database Connection**.
3. Select the **Server** […]
4. Select the **Company** […]
5. Click **OK**.

How to switch companies

The following steps describe how to switch companies.

Use the **Tabs** at the top of the window to select which company you require.

System Site Settings

System settings are accessed from the MOM home page by clicking on the Settings roundel in the top right-hand corner of the screen. Site settings are configured automatically by the installation wizard.

Section	Field	Meaning
General Settings	Company Name	Site Display Name
	Add ERP Database Name	Append Database Name to site Name
	Localization	Default Site Localization
	Language	Default Site Language
	Administrator	Site Administrator(s) separated by semi colon
	Admin e-mail address	Administrators email address
Email Settings	Address	Email address for all Messaging
	From	From address for all Messaging
	Alias	Alias address for all Messaging
	Server	SMTP Server address
	Port	SMTP Port Number
	Account	Mailbox account
	Password	Mailbox password
	Enable SSL	SSL required/not required
Data Caching Interval	Tasks	Time in seconds for caching to occur
	Task Schedules	Time in seconds for caching to occur
	Operations	Time in seconds for caching to occur
	Materials	Time in seconds for caching to occur
	Jobs	Time in seconds for caching to occur
	Employees	Time in seconds for caching to occur

Section	Field	Meaning
	Equipment	Time in seconds for caching to occur
	APS Planning Statistics	Time in seconds for caching to occur
Database Settings	Source	Database connection string details for SYSPRO Database
	Data	Database connection string details for MOM Data Database
	Config	Database connection string details for MOM Config Database
	Logic	Database connection string details for MOM Logic Database
Integration Setting	Host	SmartLYNQ site name
	Service	SmartLYNQ Service name
	Instance	SmartLYNQ instance name

Database Settings connect MOM to SYSPRO. These settings are configured automatically during the installation. Do not make changes to these settings. If the instance of MOM should be re-configured to a different SYSPRO company, another instance of MOM should be installed or the Repair option should be run through the Product Updater to re-map the instance to another company. These settings should not be changed unless the location or other key information concerning your SYSPRO system has changed.

Recreate Views should be run with caution as SQL views may be customized. Customizations are not re-applied when selecting the option to recreate views.

Email Settings must be configured to send external emails from Smart Manager, settings relating to your email setup need to be configured. Clicking on Test Connection will allow you to test the Emails Settings are set correctly.

Data Caching Intervals are used to determine the frequency at which data is cached from SYSPRO to MOM. For training demonstration purposes, it is recommended that these settings are set low (i.e. every 5 seconds). The default settings for caching are based on production environments

Integration Settings must be configured when using the Document Library and to enable the manual SYNC functionality from the Transaction Review screen. These settings are using to link MOM to the SmartLYNQ application. These settings should not be changed unless the location or SmartLYNQ has changed or the instance of in SmartLYNQ has changed.

General Settings

General settings are used to manage default application settings in relation to data collection, display of decimals, group security and data management. The application is shipped with these default settings.

Data Collection	
Equipment status (default)	Out/Off

Equipment status (default)	Out/Off
Clock out warning after (hrs)	14.0
Terminal timeout after (secs)	600
Clocked time (default)	Office Time
Store data at lowest level?	True
Open Workbench from Current Status	False
Data selector (default)	Operation Selection
Report quantity (maximum)	1000000.00
Report scrap (maximum)	1000000.00
Split equipment by primary type	Split equipment view lookups to Primary/Secondary

Display Decimals	
Hours	2
Quantities	2
Other	2

Group Security & Messaging	
Direct (single level)	False
Dependent (multi-level)	False

Data Management	
Purge data automatically	False
Purge data older than (days)	False
Start purge at (hh:mm)	False

Groups

Groups are used to organize seats into a hierarchical structure which models those found in your organization. The groups in the following table are shipped with the application.

Use groups to define your organizational structure for security and messaging

Group	Description	Role
Administrators	Administrators	Administrators
Engineering	Engineering	
Finance	Finance	
HR	Human Resources	
Manufacturing	Manufacturing operations and planning	Planners, Managers
Production	Production managers	Workforce, Managers
Line 1	Line Manager	Workforce
Supervisor (1)	Supervisor (Line 1)	Supervisors

Group	Description	Role
Workers (1)	Workers (Line 1)	Workers
Line 2	Line Manager	Workforce
Supervisor (2)	Supervisor (Line 2)	Supervisors
Workers (2)	Workers (Line 2)	Workers
Purchasing	Purchasing	
Sales	Sales	

Groups are used for transaction approval and messaging purposes within Workforce Manager. The group security and messaging settings under Settings, Advanced Settings, General, determine:

- What transactions (by employee) are visible in the Transaction Review.
- Whose messages are sent to when an employee sends a message from the Workbench.
- Which employees/equipment an alert is based on and who will receive alerts.

Security Setting	Meaning
Direct (Single Level)	Only the immediate level in the group structure is applied.
Dependant (Multi Level)	All levels including the immediate level and below in the group structure is applied.

Adding a new group

The following steps describe how to create a new group.

Hi Colin,

We are expanding our production lines and require a 3 rd line to be created beneath the Production Group. The new line should replicate the same configuration as line 1 and line 2. The owner of the 3 rd production line is JSmith who is already a user of the system. We will confirm later the users that need to be added to this new 3 rd production line. Please action at your earliest convenience.

Thanks

1. Select **Planning Manager**.
2. Select **User Maintenance**.
3. Select the **Groups** tab.
4. Highlight the **Production** group within the hierarchy.
5. Select **New**.
6. Enter *Line 3* in the **Name** field and *Line Manager* in the **Description** field.
7. Under the **Owners** tab select **JSmith**.
8. Select **Save**.
9. Highlight the **Line 3** group within the hierarchy.
10. Select **New**.
11. Enter *Supervisor [3]* in the **Name** field and *Supervisor (Line 3)* in the **Description** field.
12. Select **Save**.
13. Highlight the **Supervisor [3]** group within the hierarchy.

14. Select **New**.
15. Enter *Workers [3]* in the **Name** field and *Workers (Line 3)* in the **Description** field.
16. Select **Save**.

Viewing, printing and exporting a list of groups

The following steps describe how to view, print and export a list of groups held on file.

You need to ensure that you have added the group as requested.

1. Select **Planning Manager**.
2. Select **User Maintenance**.
3. Select the **Groups** tab.
4. Select **Export**.
5. Select **Close**.

Roles

Create roles to provide your employees with appropriate rights based on their responsibilities

Roles comprise of one or more built-in rights. You can create your own roles to suit the responsibilities within your organization. Groups can be associated with one or more roles. The built-in roles shipped with the application and their associated rights include:

Role Name	Module	Functional Area
Administrators	All	All
Managers	Syspro MOM Factory Manager	Documents Issue Log Message Center All
Planners	Syspro MOM Planning Manager	Documents Grid Settings Issue Log Message Center All
Supervisors	All	Except for: Advanced Settings Resource Maintenance Settings
Workers	Syspro MOM Workforce Manager	Message Center Workbench
Workforce	Syspro MOM Workforce Manager Factory Manager Factory Manager	Documents Grid Settings Issue Log Message Center All Employee Analysis Loading

Adding a new role

The following steps describe how to create a new role.

Hi Colin, We would like to create a new role called Workers + which provides access to the Message Center, Employee Status, Employee Details and the Workbench. Please action at your earliest convenience. Thanks

1. Select **Planning Manager**.

2. Select **User Maintenance**.
3. Select **Roles**.
4. Select **New**.
5. Enter *Workers +* in the **Name** field and *Workers +* in the **Description** field.
6. From the **Rights** tab check on the functional areas:

SYSPRO MOM	Message Center
Workforce Manager	Employee Status
	Employee Status Details
	Workbench

Viewing, printing and exporting a list of roles

The following steps describe how to view, print and export a list of Roles held on file.

You need to ensure that you have added the role as requested

1. Select **Planning Manager**.
2. Select **User Maintenance**.
3. Select on the **Roles** tab.
4. The **Roles** should display as illustrated below
5. Select on **Export**.
6. Select on **Close**.

User Rights

Rights

Control access permissions within your roles

Rights are used to assign permissions to a role. Rights cannot be amended or deleted. The rights in the table below are created when the application is installed.

Smart Manager	Planning Manager	Workforce Manager	Factory Manager
Advanced Settings	User Maintenance	Alert Maintenance	Availability
Documents	Dashboard	Dashboard	Dashboard
Grid Settings	Equipment Job List	Employee Performance	Employee Analysis
Issue Log	Equipment Loading	Employee Status	Equipment Analysis
Message Center	Equipment Plan	Employee Status Detail	Issue Maintenance
Resource Maintenance	Material List	Equipment Details	Loading
Settings	Production History	Equipment Performance	Loss Management
	Production Job List	Equipment Status	Performance
	Production Plan	Job Card	Product Analysis
		Management Reports	Quality
		Job Status	

Smart Manager	Planning Manager	Workforce Manager	Factory Manager
		Terminal Maintenance	
		Timesheet Entry	
		Transaction Review	
		Workbench	

Employees

Setting up your resources for scheduling and data collection

In the previous lesson you learned that users must be created in MOM. These users are windows accounts assigned to one or more groups. The group assignment determines which functional areas of the application the user will have access to.

Employees/Equipment

Before a user can perform data collection activities through the workbench they will need an active employee record. In addition, if a user wants to track any activity outside of the workbench against an employee, the employee record must be activated in MOM. The same also applies to data collection for equipment.

MOM provides an option to import resources from Work in Progress, avoiding the need to create resources manually in both MOM and Work in Progress. The only pre-requisite for importing resources into MOM is:

- Employee has been created in Work in Progress.
- Equipment (machine) has been created in Work in Progress

During the implementation of MOM, all resources must be created and imported into MOM where appropriate. Each resource should be configured appropriately.

Adding an employee in Work in Progress

The following steps describe how to create a new employee in Work in Progress.

> Hi Colin,
>
> We have a new worker 'Justin Andrews' joining the company and we need to set him up so he can collect data in MOM using the workbench feature. Please action at your earliest convenience.
>
> Thanks

1. Open the **Employees** program in **Work in Progress** > **Setup** > **Employees**.
2. Enter *123456* in the **Employee** field and press **Tab**.
3. Enter *Justin Andrews* in the **Name** field.
4. **Save** the changes.
5. Exit the program.

Importing employee from Work in Progress

The following steps describe how to import a new employee from Work in Progress

1. Select **Planning Manager**.

2. Select **User Maintenance**.
3. Select **Import**.
4. Select **Employees**.
5. Select **Justin Andrews**.
6. Select on **OK**.
7. Tick Employee **Justin Andrews**.
8. Select **Activate**.

Note: When importing an employee, the workbench ID will automatically be set to the employee ID. Once activated, the employee can clock into the workbench using their employee ID. 1 activated employee consumes 1 seat from the license allowance.

Adding an employee in MOM

The following steps describe how to create a local employee.

Hi Colin,

We have a temporary worker 'Sam Smith' joining the company and we do not plan to maintain an employee record in Work in Progress. He will only be working for the company for 1 month and will perform data collection activities in MOM via the workbench. The Work In Progress Temporary employee account TEMP must be used for any transactions posted to Work in Progress. He will be the operator of DRIL01 during this time. I believe MOM allows you to create a local employee record for this purpose. Please action at your earliest convenience.

Thanks

1. Select on **Planning Manager**.
2. Select on **User Maintenance**.
3. Select on **Seats**.
4. Select on **New**.
5. Select on **New Employee**.
6. Select the **User** type **Workbench**.
7. Enter *Temporary* in the **First Name** field.
8. Enter *Worker* in the **Last Name** field.
9. Enter *TEMP1* in the **Workbench ID** field.
10. Enter *TEMP* in the **Employee ID (ERP)** field.
11. Select *DRIL01* from the **Equipment Code** field.
12. Select on **Save**.
13. Select on **Close**.

Setting employee properties

MOM allows additional properties to be set against an employee. The training guide does not provide scenarios for all possible property values but the following can be used for reference.

Section	Field	Value
General	Active	Seat is active/inactive
	Photo	Photo of employee
	Crew	Default crew for employee
	First Name	Employee's first name
	Last Name	Employee's last name
	Display Name	Employee's display name
Resources	No. of Resources	Default no of resources
	Planned Busy Time	**Clocked Time** • Availability is calculated as relation between actual Up time to actual Total time. **Basic Calendar** • Availability is calculated as relation between actual up time to basic calendar value of planned hours for a specified day. **Visual APS - Resource Calendar** • Availability is calculated as relation between actual Up time to Planned Up as per Visual APS schedule for specified Work Center/Machine.
Workbench	ID	ID for accessing the workbench
	Password	Password to access the workbench
	Time zone offset	Difference between employee's time and the MOM server time.
Groups	Group Name	The group the employee belongs to. Employee groups are integrated with messaging and alerts and can also be used to restrict certain functionality within the workbench.

Viewing, printing and exporting a list of employees

The following steps describe how to view, print and export a list of employees held on file.

You need to ensure that you have added all employees required for MOM.

1. Select on **Planning Manager**.
2. Select on **User Maintenance**.
3. Select on **Seats**.
4. Change the **Filter Sliders** to only show **Employees**.

5. Confirm all users have been added. (export users if required)

Equipment

Typically manufacturing equipment records (Machines) are maintained in SYSPRO. These records can be imported into MOM by using the **Import Equipment** function. An equipment record will be created based on the machine code and the Work Center the equipment belongs to. If the machine is moved to another Work Center in SYSPRO, the equipment record should be deleted and re-imported in the application.

Adding a machine using Work in Progress

The following steps describe how to create a new machine in Work in Progress.

> Hi Colin,
>
> The drill that I ordered last month has now been delivered to the drill Work Center. Please can you add the drill against the DRILL Work Center in Work in Progress.
>
> Please action at your convenience.
>
> Thanks

1. Open **Work in Progress** > **Setup** > **Machines**.
2. Enter *DRIL05* in the **Machine** field and press **Tab**.
3. Enter *Drill Machine 05* in the **Description** field.
4. Enter *DRILL* in the **Work Center** field.
5. **Save** the changes.
6. **Exit** the program.

Importing machines from Work in Progress to Visual APS

The following steps describe how to import machines from Work in Progress to Visual APS.

This function is run during the implementation of MOM and must be run after you add new machines in Work in Progress

1. **Refresh** Visual APS.
2. Select on **Home**.
3. Select on**Import**.
4. Set the **Resource type** to **Machine - Machine Hours**.
5. Leave the shift as **Default - Default Shift**.
6. Select on **OK**.
7. Expand the **DRILL** Work Center.
8. Select the **DRLL05** machine.
9. Select on **OK**.

Note: When importing equipment, the workbench ID will be automatically set to the internal equipment ID. Once activated, the equipment can be used for

data collection. 1 activated equipment record consumes 1 seat from the license allowance.

Default Machine Settings

Default machine settings when importing from Work in Progress to Visual APS .

Visual APS allows additional properties to be set against a machine. The training guide does not provide scenarios for all property values but the following can be used for reference.

Section	Field	Value
Resources	Infinite Resource	Indicates no limits to capacity
	Resource Type	Type of resource
	Default Resource Qty	Default No. of Resources
	Float Resource Usage	Float Resources based on Type
	Float Resource Usage Type	All/Less or Equal/Greater or Equal
	Float Discrete Resource Usage	Float Resources based on min/max
	Min Resource Consumption	Min no. of resources required
	Max Resource Consumption	Max no. of resources required
	Recommended Load Level (%)	Recommended load level percentage
	Split Task Consumption (Min)	Minimum time during which a task can be started when splitting tasks
	Split Task Interruption (Max)	Maximum time interruption when splitting tasks
Shifts	Shift	Default shift

Importing machines to Manufacturing Operations Management

The following steps describe how to import machines into MOM.

1. Select **Planning Manager**.
2. Select **User Maintenance**.
3. Select **Import**.
4. Select **Import Equipment**.
5. Select the **DRIL05** machine.
6. Select **OK**.
7. Tick **DRIL05**.
8. Select **Activate**.

Setting Equipment Properties

MOM allows additional properties to be set against equipment. The training guide does not provide scenarios for all possible property values but the following can be used for reference.

Section	Field	Value
General	Active	Seat is active/inactive
	Photo	Photo of equipment
	Work Center	Work Center equipment belongs to
	Equipment	Equipment (machine) code
	Display Name	Equipment display name
Properties	Source	Work in Progress or MOM
	User	Manual or Auto
	Equipment ID	Internal identification number
	Machine (ERP)	Work in Progress machine code
	Equipment Group	The group the equipment belongs to. Groups are integrated with messaging and alerts and can also be used to restrict certain functionality within the workbench.
Capacity	Capacity UOM	UOM for the work Center the equipment belongs to
	No. of resources	Default no. of resources
	Planned Busy Time	**Clocked Time** • Availability is calculated as relation between actual Up time to actual Total time. **Basic Calendar** • Availability is calculated as relation between actual up time to basic calendar value of planned hours for a specified day. **Visual APS - Resource Calendar** • Availability is calculated as relation between actual Up time to Planned Up as per Visual APS schedule for specified Work Center/Machine.
Workbench	ID	ID for accessing the workbench
	Password	Password to access the workbench
	Time zone offset	Difference between equipment's time and the MOM server time

Viewing, printing and exporting a list of equipment

The following steps describe how to view, print and export a list of equipment held on file.

You need to ensure that you have added all equipment required for MOM.

1. Select **Planning Manager**.

2. Select **User Maintenance**.
3. Select **Seats**.
4. Change the **Filter Sliders** to only show **Equipment**.
5. Confirm all equipment has been added. (export equipment if required)

Assessment: Resources

1. Explain the steps required to add a new employee to MOM from Work In Progress?

   A. User Maintenance > Seats > New > New Employee

   B. User Maintenance > Seats > Activate

   C. User Maintenance > Seats > Import > Import Employees

   D. Resource Maintenance > Employee > Employee Maintenance

   _____

   _____

2. Explain the steps required to add a new machine to MOM?

   A. User Maintenance > Seats > New > New Equipment

   B. User Maintenance > Seats > Activate

   C. Resource Maintenance > Equipment > Equipment Maintenance

   D. User Maintenance > Seats > Import > Import Equipment

   _____

   _____

3. Which feature on the Home Menu in Visual APS should be used to configure variations in time factors?

   A. Machines

   B. Alternatives

   C. Constraints

   D. Mapping

4. During the implementation of MOM all resources must be created in Work In Progress and imported into MOM where appropriate.

   A. True

   B. False

5.

> Hi Colin
>
> We have a new worker 'Frank Lee' who will be the operator of a special drill we have purchased for the drilling Work Center. The drill will arrive next week and both his employee account and equipment record must be setup in Working in Progress and MOM.

Employee Code: 123457 Equipment Code: DRIL07

Please action at your earliest convenience.

Thanks

Shifts

Creating and assigning shifts to your resources to define your capacity

In the previous lesson you learned how to create resources in MOM. Before a resource can be available for scheduling purposes, the resource must be associated with a Shift.

Shifts are used to define the available capacity of a resource. Shifts contain different activity types to identify working time from non-working time and downtime. A shift may contain multiple activity types. The default activity types included in the application are:

- Working time
- Non-working time
- Lunch time
- Maintenance time
- Approved overtime

Shift changes can be applied to the entire factory, single or multiple resources to account for changes to the default shift pattern.

Defining your Working Hours

The following steps describe how to create new activities.

Activities are used to define your working an non-working hours.

Hi Colin,

The company will be on shutdown for the last 2 weeks in December. I cannot see that we have an activity defined for this purpose. Please action at your earliest convenience.

Thanks

1. Select the **Home** Menu.
2. Select **Activities**.
3. Select **Add New**.
4. Enter *Shutdown* in the **Activity Code** field.
5. Enter *Christmas Shutdown* in the **Activity Description** field.
6. Select a **Color** for the activity by Selecting […]
7. Select **OK**.
8. Select **OK**.
9. Select **OK**

Adding a shift

The following steps describe how to create a new shift based on hour types.

Hi Colin,

The company will be operating on a 6-day week (Mon-Sat) from 8AM to 8PM with 1 hour for lunch between 12PM and 1PM. We require a new shift to be created that can handle this. Please action at your earliest convenience.

Thanks

1. Select the **Home** Menu.
2. Select **Shifts**.
3. Select **Add New**.
4. Enter *Mon-Sat 8-8* in the **Shift Name** field.
5. Enter *Mon-Sat 8-8* in the **Shift Description** field.
6. Under the timeline for Monday, left **Select** and drag to highlight the time from **08:00 to 12:00 -**Times can also be edited by overtyping the Start and End Time in the pop up.
7. Select the **StdWorking** Activity Code.
8. Under the timeline for Monday, left Select and drag to highlight the time from **12:00 to 13:00**.
9. Select **Apply**.
10. Select the **StdLunch** Activity Code.
11. Select **Apply**.
12. Under the timeline for Monday, left Select and drag to highlight the time from **13:00 to 20:00**.
13. Select the **StdWorking** Activity Code.
14. Select **Apply**

Note: You can either repeat steps 7-15 for Tuesday to Saturday or use the copy function

15. **Select** and hold the **Copy Shift Pattern** for Monday.
16. **Drop** the shift down to Tuesday.
17. Repeat for Wed through to Saturday.
18. Select **OK**.
19. Select **OK**.

Adding an activity

The following steps describe how to create a multi-shift environment.

Over the next few tasks you will setup a Multi-shift environment e.g. 2 x 8 hour shifts with 1 hour break.

Hi Colin,

The company has agreed to extend its operating hours to 2 x 8-hour shifts, Monday to Friday, each with a 1-hour break. We require a new shift to be created that can handle this. Please action at your earliest convenience.

Thanks

1. Select the **Home** Menu.
2. Select **Activities**
3. Select **Add New**.
4. Enter *Day Shift* in the **Activity Code** field.
5. Enter *Day Shift* in the **Activity Description** field.
6. Tick **Working**.
7. Select a **Color** for the activity using […]
8. Select **OK**.
9. Select **OK**.
10. Repeat steps 3-9 to create a new activity for **Night Shift**.
11. Select **Add New**.
12. Enter *Break* in the **Activity Code** field.
13. Enter *Break* in the **Activity Description** field.
14. Leave **Working and Downtime** unchecked.
15. Select a **Color** for the activity using […]
16. Select **OK**.
17. Select **OK**.
18. Select **OK**.

Adding a new shift

The following steps describe how to create a new shift.

1. Select the **Home** Menu.
2. Select **Shifts**.
3. Select **Add New**.
4. Enter *Double Shift* in the **Shift Name** field.
5. Enter *Double Shift* in the **Shift Description** field.
6. Under the timeline for Monday, left Select and drag to highlight the time from **06:00 to 09:30 -** Times can also be edited by overtyping the Start and End Time in the pop up.
7. Select the **Day Shift** Activity Code.
8. Select **Apply**.
9. Under the timeline for Monday, left Select and drag to highlight the time from **09:30 to 10:30**.
10. Select the **Break** Activity Code.
11. Select **Apply**.
12. Under the timeline for Monday, left Select and drag to highlight the time from **10:30 to 14:00**.
13. Select the **Day Shif**t Activity Code.
14. Select **Apply**.
15. Under the timeline for Monday, left Select and drag to highlight the time from **14:00 to 17:30**.
16. Select the **Night Shift** Activity Code.

17. Select **Apply**.
18. Under the timeline for Monday, left Select and drag to highlight the time from **17:30 to 18:30**.
19. Select the **Break** Activity Code.
20. Select **Apply**.
21. Under the timeline for Monday, left Select and drag to highlight the time from **18:30 to 22:00**.
22. Select the **Night Shift** Activity Code.
23. Select **Apply**.
24. Select and **hold** the **Copy Shift Pattern** for Monday.
25. Drop the shift down to Tuesday 26. Repeat for Wed through to Friday.
26. Select **OK**.
27. Select **OK**.

Assigning a shift to a resource

The following steps describe how to assign a shift to a resource.

You need to assign a shift to a resource so that you can define the resource capacity.

> Hi Colin,
>
> The shift applied to MBBA01 is currently showing as the default shift. The correct shift for this machine is Mon-Sat 8-8. Please action at your earliest convenience.
>
> Thanks

1. Select the **Home** Menu.
2. Select **Machines**.
3. Expand the **MBBA** Work Center.
4. Select the **MBBA01** machine.
5. Set the **Shift** to Mon-Sat 8-8 Using the dropdown.
6. Select **OK**.
7. Select **Nothing**.

Changing a resource

The following steps describe how to change a resource.

> Hi Colin,
>
> On 2 January we will have in an increased number of resources (10) for ASSEMB. These resources need to be available for scheduling purposes. Please action at your earliest convenience.
>
> Thanks

1. Navigate to the **Factory Explorer**.
2. Navigate to the **ASSEMB** Work Center.
3. Tick **ASSE01** to see the machine on the Planning Board.
4. Navigate to **2 January** on the Planning Board.

5. Double Select on the shift for **2 January**.
6. Select **Details**
7. Enter *10* in **Resource Qty** field for each of the **StdWorking** Activity Code time frames.
8. Select on **OK**.

Viewing a list of shifts

The following steps describe how to view, print and export a list of shifts.

1. Select **Home** Menu.
2. Select **Shifts**.
3. To Export - Right Select on any Heading and Select Export.
4. To Print - Print from Export.
5. To View - Select on the Shift and Select Edit Shift

Changing a shift

The following steps describe how to update an existing shift.

> Hi Colin,
>
> We would like to adjust the Mon-Sat 8-8 shift so the company finishes early on a Friday. The shift on a Friday should end at 5PM. Please action at your earliest convenience.
>
> Thanks

1. Select the **Home** Menu.
2. Select **Shifts**.
3. Select the Mon-Sat 8-8 shift.
4. Select **Edit Shifts**.
5. Under the timeline for Friday, left Select and drag to highlight the time from 20:00 to 17:00.
6. Select **OK**.
7. Select on **OK**.

Rebuilding a machine shift

The following steps describe how to rebuild a shift for a machine.

In the previous task you updated a shift for a specific day. If the shift has already been applied to a machine, the machine must be rebuilt for the changes to take effect

1. Select **Home** Menu.
2. Select **Machines**.
3. Select **Machine View**.
4. Locate **MBBA01** machine.
5. Select **Rebuild** in the machine row.
6. Select **OK**.
7. Select **Nothing**.

Updating a shift for a single resource

The following steps describe how to update a shift for a single resource (day, week, month, year).

Hi Colin,

We would like to plan for our annual shutdown which will occur between the 18th December and the 1 January for MBBA01. MBBA01 is currently operating with the Mon-Sat 8-8 shift and will need to be updated to take into consideration the shutdown period. There is already a shutdown activity for this purpose. Please action at your earliest convenience.

Thanks

1. Navigate to the **Factory Explorer**.
2. Expand the **MBBA** Work Center.
3. Locate the **MBBA01** machine.
4. Right click on **MBBA01**.
5. Select **Shift (Change)**.
6. Select **Add New**.
7. Enter *Shutdown* in the **Shift change code** field.
8. Under the timeline for left click and drag to highlight the time from **00:00 to 00:00**.
9. Set the **Activity Code** to **Shutdown - Christmas Shutdown**.
10. Select **Apply**.
11. Select **OK**.
12. Click on the heading **Ungrouped** from the **Day Shift Changes** task panel.
13. Right click on **Shutdown**.
14. Select **Copy**.
15. Select the dates **18 December to 1 January** by click and hold of left mouse button.
16. Right click on **1 January**.
17. Select **Paste**.
18. Select **Apply**.
19. Select **YES** to rebuild the calendar.
20. Select **Nothing.**

Note: To remove the rule, right click on the day(s) in the calendar view and click **Set to default**.

Updating a shift for multiple resources

The following steps describe how to update a shift for multiple resources.

Hi Colin,

We would like to plan for an annual shutdown which will occur between the 18th December and the 1 January for Bicycle Wheel Assembly MBWA. MBWA is currently operating with the default shift and will need to be updated to take into consideration the shutdown period. Please action at your earliest convenience.

Thanks

1. Select the **Home** Menu.
2. Click on **Changes**.
3. In the **Company Panel**, tick **MBWA** (confirm only the MBWA machines are selected).
4. Click on the heading **Ungrouped** from the **Day Shift Changes** task panel.
5. Right click on **Shutdown**.
6. Select **Copy**
7. Select the dates **18 December to 1 January** by click and hold of left mouse button.
8. Right click on **1 January**.
9. Select **Paste**.
10. Select **OK**
11. Select **Apply**.
12. Select **YES** to rebuild the calendar.
13. Select **Nothing**.

Assessment: Shifts

1. What are working, non-working and downtime hour types?

   A. Shifts

   B. Activities

   C. Mapping

   D. Resources

   _____

   _____

2. Why are shifts required?

   A. To define the available capacity of a Machine

   B. To define the available capacity of an Employee

   C. To define available capacity of a Resource

   D. Shifts are not required

   _____

   _____

3. Shifts contain different activity types to identify working time from non-working time and downtime.

   A. True

   B. False

4. Shift changes can be made to

A. Single Resource

B. Multiple Resources

C. Entire Factory

D. All the above

5.

Hi Colin,

Some MBFA & MBQA Work Centers will be working overtime Monday to Friday from September 1 to December 18.

We will need a shift defined as follows:

- 08:00 to 12:00 Working Time
- 12:00: 13:00 Lunch Time
- 13:00 to 17:00 Working Time
- 17:00 to 20:00 Overtime
- 20:00 to 21:00 Maintenance Time
- The entire Factory will also be shut down on Nov 22 for Thanksgiving.

Please action at your earliest convenience.

Thanks

Terminals

In the previous lesson you learned how to create and assign shifts to resources.

Terminals are a feature in Workforce Manager that determine the functions that are available to a user for data collection and reporting purposes. The terminal definition

represents a collection of predefined Workbench Elements which can be easily added or removed to suit the functions of your employees. Terminals are highly customizable and a flexible feature of the application.

In this lesson you will learn how to create 2 types of terminal:

- Clock-In Terminal
- Shop Floor Terminal

Clock-In Terminals are typically located at the entrance of the building or production unit to track employees clock in and clock out time. This type of terminal may be used by all employees regardless of their functional role. Clock-In Terminals are typically limited in their functionality. Shop Floor terminals are typically located on the shop floor and situated within the relevant production unit. These terminals can be configured by equipment, crew or employee to display scheduled/unscheduled jobs or only jobs within a specific time frame or within custom filter definitions. Additional elements can be included, (e.g. Break, Lunch, Material Issue, Kit Issue, Production Issues) providing employees with the ability to complete all their reporting requirements from one simple screen.

Terminals can be password protected and multiple users can access the same terminal from multiple locations.

Manufacturing Operations Management is shipped with 8 pre-configured Workbench Terminal definitions ready for immediate use. The configuration of these terminals has been designed to service well established manufacturing models and you can start to use them as a template with minimal further configuration.

Pre-configured Workbench Terminals

Terminal Name	Description
1 - Entrance	Clock in and out to start/end your data
2 - Basic	Basic terminal with limited options
3 - Advanced	Advanced terminal with extended functionality
4 - Crew	Advanced terminal with crew functionality
5 - Time Entry	Time entry terminal for employees using timesheets
6 - Equipment	Equipment terminal with downtime tracking
7 - Materials	Advanced terminal with materials issue capabilities
8 - Office	Office terminal for non-manufacturing personnel

Adding a terminal

The following steps describe how to create a clock-in terminal.

Hi Colin,

The company requires a new clocking in/out terminal to be situated at the entrance of the building. The terminal will be presented on a tablet device and should be used by all employees setup in MOM.

Please action at your earliest convenience.

Thanks

1. Select the **Workforce** Menu.
2. Select **Terminal Maintenance**.

3. Tick **1 - Entrance**.
4. Select **Copy**.
5. Enter *Outdoors Entrance* in the **Terminal Name** field.
6. Select **Save**.

Viewing a list of terminals

The following steps describe how to view a list of terminals.

1. Select the **Workforce** Menu.
2. Select **Terminal Maintenance**.
3. Confirm required terminals have been setup.
4. Select**Export** (if required).

Configuring your Terminal (Quick)

Terminal elements can be configured, added or removed to suite the functionality of the terminal. For instance, some elements could be required in one terminal but not in another. For example, the Kit issue and Material Issue functions may be relevant to a group of employees in production areas such as picking but not in assembly.

Terminals can be linked to one or multiple equipment records, this enables the employees, when opening the Workbench, to view the schedules put together by the Planner. Data collection is gathered, if enabled, by linking one or multiple equipment to a Terminal.

Terminals can also be configured to filter only relevant data to that terminal.

Configuring your Terminal (Advanced)

Advanced Settings are used to define how the application collects and processes manufacturing data. These are important and complex settings whose configuration requires an in depth understanding of the both the application and the organization. Do not edit these settings unless you fully understand the ramifications of the changes you may make. Inaccurate setup may cause the application to capture data incorrectly or interpret data collection unreliably.

Advanced Settings - Summarized		
Tab Name	**Sub Tab**	**Purpose**
Workbench	Terminals	Used to define and configure data entry terminals across your business and shop floor. Control access using passwords. Create dynamic views of data depending on the employee accessing the terminal.
	Statuses	Used to track an employee's or equipment's status at a point in time. The application is shipped with a number of pre-defined status codes.

Advanced Settings - Summarized		
Tab Name	**Sub Tab**	**Purpose**
	Elements	Used by the Workbench to control the different types of functions available to the user. Every On-Screen Element (button) on the Workbench has a set of functions assigned to it. Functions are used to pre-define the button's behavior and processes that will be executed in the background by pressing that button
	Matrix	Used to determine the relation between statuses and On-Screen elements so the application knows which On-Screen elements to show or execute on the Workbench screen in regards to status of the employee/equipment.
Designer	Grid Settings	Used to define the columns and their sequence for certain types of grid layout screens. **Note:** Workbench grid settings are defined in the Workbench onscreen elements \ function settings.
	Column Width	Used to control the column width and sort order of certain screens.
	Column Width (Workbench)	Used to control the column width and sort order of workbench.
Analytics	Alerts	Used to define and manage the measurement, schedule, recipient information, notification method and message template for default management alerts.
	Dial/Bar KPI's	Throughout Manufacturing Operations Management there are many visual presentations of performance, availability, quality etc. These act as a quick visual key performance indicator for the organization and can be customized to display different colors based on pre-defined threshold values. Dial and Bar KPI's are seen in areas such as the Workbench, Reports and Dashboards.
Definitions	Issues	Used to define types of issue codes for reporting and analytical purposes. The application is shipped with a number of issue

Advanced Settings - Summarized		
Tab Name	**Sub Tab**	**Purpose**
		codes by default. Additional codes can be added where required.
	Custom	Used to define types of custom codes for reporting and analytical purposes. The application is shipped custom codes by default. Additional codes can be added where required.
	Dropdown	Used to define additional reporting details for analytical purposes. The application is shipped with the following dropdown codes by default. Additional codes can be added where required.
	Extended	Used to define which additional tracking fields are required for reporting or analytical purposes.
	Classifications	Used to create predefined classification values for reporting and analytical purposes. The application is shipped with the following classification codes by default and are provided as a guide. Classification values can be updated to suit the company's reporting requirements.
	Data	Used to control which columns are displayed in relation to stock code and job, operations, jobs, jobs with drill down to operation.
	Tasks	Used to categorize time in the context of job or activity subject. Tasks can be created to suit the company's requirements.
	Periods	Used to edit, delete and create default filtering periods for the application.
	Diversions	Used to categorize time by cost type and operational type. New diversions can be created to suit the company's requirements.
	Scheduler	Used to create, edit and delete fixed or recurring schedule times. Schedules are used to automate the execution of on-screen elements. For example, sending employees to break, lunch etc. The application is shipped with default schedules
	Bookmarks	Used to manage user or companywide quick links that appear on the applications home page. With the exception of the

Advanced Settings - Summarized		
Tab Name	**Sub Tab**	**Purpose**
		Workbench, Users can add Bookmarks manually by clicking on the Bookmark option from any application page.
Timesheet	N/A	Used to configure the layout and default values provided in Timesheets.
Permissions	N/A	Used to manage global transaction permissions. From this screen you can determine whether transactions can be edited or deleted.
Rules	N/A	Used to manage the default approval status of generated transactions. The application is shipped with default rules.
General	N/A	Used to manage default application settings in relation to data collection, display of decimals, group security and data management. The application is shipped with default settings.
Profiles	N/A	Used to backup all settings of the current configuration. When saved to the database, the profile can be exported to file.

Note: This guide does not provide scenarios for all advanced settings but instead provides examples of the top 10 configurations requested during implementation.

Assessment: Terminals

1. Which field on the Create Terminal screen controls which equipment is available from the Workbench?

   A. Linked equipment

   B. Default Equipment

   C. Equipment Terminal

   D. Access Control

   _____

   _____

2. Additional Terminals can be added by copying an existing Terminal.

   A. True

   B. False

3. Which 2 methods could be used to restrict which stock codes are visible to the terminal users?

   A. Apply access control

   B. Edit Add Tasks on Screen element

   C. Apply a Terminal data filter

   D. Set Default equipment

4. How are you able to control which users can access a terminal?

   A. Declare linked equipment

   B. Apply data filters

   C. Enable access control

   D. Assign crew

5.

> Hi Colin
> We require a new terminal for the Bicycle Brake Assembly Work Center.
> The terminal should be configured for the equipment codes MBBA01, MBBA02 and MBBA03.
> Employees will require all elements of advanced terminal except for the Add Tasks Element.
> Please action at your earliest convenience.
> Thanks

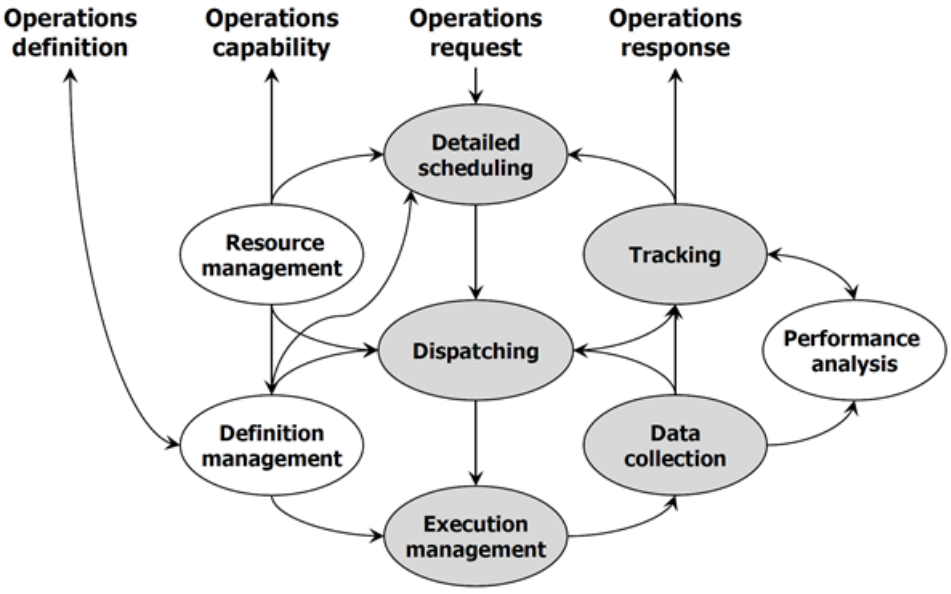
Schedule and Publish - Processing

Using SYSPRO MOM

We have already learned that SYSPRO Manufacturing Operations Management has been formed around the international standard, IEC62264. Other core activities of this standard include detailed scheduling, dispatching, execution management, data collection and tracking.

Detailed scheduling deals with optimizing the use of resources to meet production requirements. Dispatching deals with the flow of production to equipment and personnel through the use of job lists. Execution management deals with moving work through the sequence of operations as defined by the routing. Data collection deals with the gathering, compiling and management of data from production. Tracking deals the summarized real-time status reporting of personnel and equipment being used to produce a product including the current operating conditions (as these may affect the schedule).

These activities are referred to in this guide as transaction processing and are covered in this section.



Source: IEC62264-3 Generic activity model of manufacturing operations management

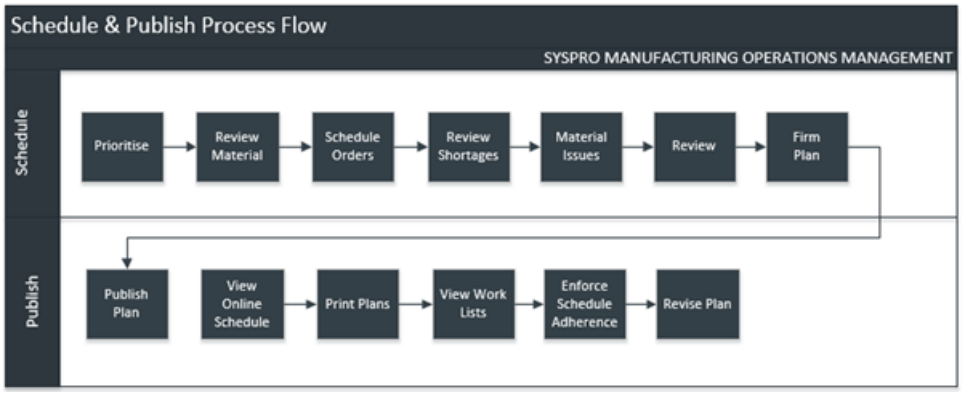
Advanced Planning and Scheduling

Planning and scheduling is a major challenge for many organizations. The variables within processes can make or break a company, and unsatisfactory production planning leads to high operating costs and customer delivery problems.

MOM incorporates an advanced, finite capacity based, planning and scheduling (APS) system allowing you to quickly and accurately schedule while minimizing downtime.

Enabling organizations to create accurate schedules that factor in constraints around tooling, machines, personnel and inventory. Manufacturers are then able to make smarter use of materials and resources helping them deliver to customers faster and in the most cost-effective way possible.

Process Flow

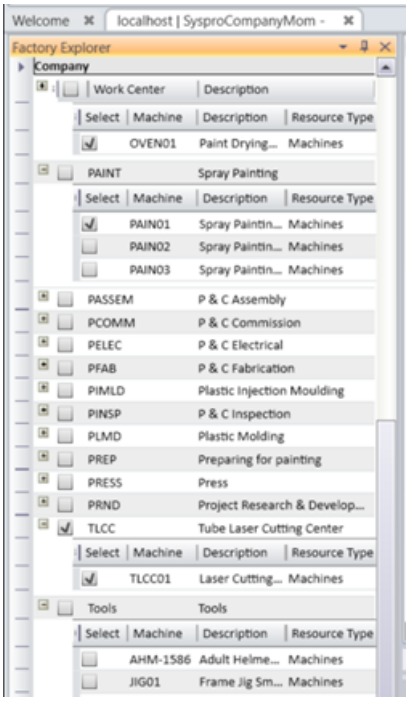


Scheduling Basics

Introduction to Visual APS

Factory Explorer Panel

The **Factory Explorer Panel** provides an outline view of the manufacturing facility by Work Center and Machine . Each Work Center and Machine has a checkbox to indicate whether it should be displayed in the Planning Board. They appear to the left of the board in alphanumeric order.



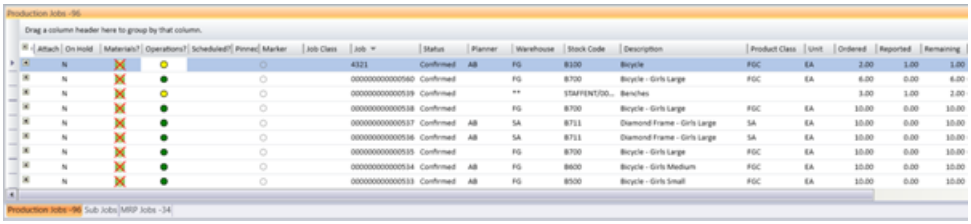
You are able to Manage the machines that you see in the Planning board by using simple techniques below:

- Check the box next to a Machine to view it in the Planning Board. Check the box next to a Work Center to view all of the associated Machines for that Work Center in the Planning Board.
- Uncheck the box next to a Machine or Work Center to remove them from the Planning Board.
- Check or clear the checkbox at the top of the Factory Explorer panel (to the left of the column headings) to view or remove all Machines from the Planning Board.

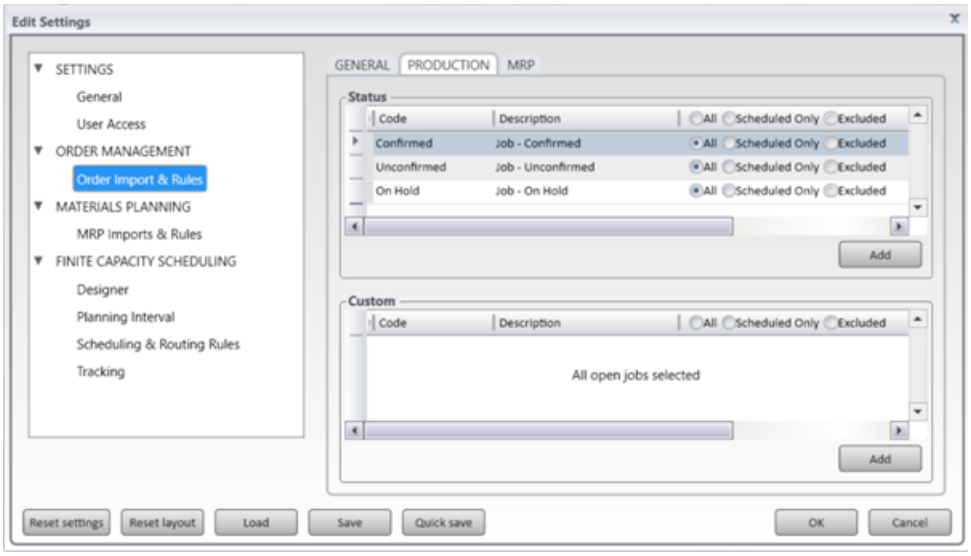
Task Panel

The **Task Panel** displays a list of SYSPRO Production Jobs, Sub Jobs and MRP Jobs. These are divided into Pockets.

A tab displays the total number of Jobs currently contained in its grid. The Job counter is dynamic and responds to a data refresh, changes in the setting or filters. Filters may be applied for any column or columns in the task panel. When a filter is applied, the tab name shows the number of Jobs followed by the word Filtered in red. It is possible to have no Jobs showing if the filters are too restrictive and in this case the counter is 0.

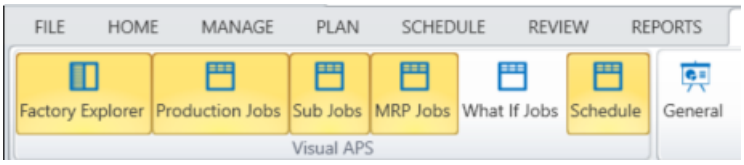


The Jobs that appear in the Task Panel will depend on which status codes have been defined under the **Settings > Order Management > Order Imports & Rules**.



You can amend and add your own Criteria. To only display jobs which are incomplete click on **Add** under the Status window and Enter incomplete in the **Code** field. Enter a description and ensure the check is in **All**.

Job Panels can be easily turned on/off from the **View** Menu.



Column Headings

An explanation of some of the most common columns can be seen in the following table.

Field Name	Description
Attach	This provides the ability to add a document related to a Job or an item. When an Job document is attached, a paperclip icon is displayed in this column.
Materials?	Provides a visual indicator as to whether materials are available at the start date of the Job.
Operations?	This round colored symbol indicates if there is adequate information for Visual Planner to schedule the operation or Job. • Green = Valid for scheduling • Red = Cannot be scheduled • Yellow = Does not need to be scheduled • Grey = Needs to be validated (by clicking on the line)
Scheduled?	This column is blank if a Job is not scheduled. When scheduled, the graphic may be: • Thumbs up with yellow cuff = scheduled/unsaved • Thumbs up with green cuff = scheduled / saved • Warning sign = partial scheduling of some operations

Field Name	Description
Pinned?	Provides a visual indicator if the Job has been pinned. This job can no longer be moved unless the pin is removed first.
Marker	Markers appear as user defined visual indicators that can be set against jobs. Markers can be color coded and used for sorting and filtering purposes.
Possible Errors	Available capacity at a Work Center may be changed when settings or shifts are changed. After saving the change, a dialog box appears asking if any jobs should be ignored, unscheduled or marked as possible errors. This column will display a red circle with an x as the possible error designation. The Jobs or operations should be verified. To remove this icon, use the Resolve Possible Errors function.
Scheduled Start	When imported from ERP system this is the Job/Operation planned Start Date. This will be updated once the Job/Operation is scheduled within Visual APS with the actual scheduled start date.
Scheduled Due	When imported from ERP system this is the Job/Operation planned Due Date. This will be updated once the Job/Operation is scheduled within Visual APS with the actual scheduled due date.
SYSPRO	This is based on the original planned scheduled due date. This date does not change when the job is scheduled.
Ordered	The total quantity to produce on the Job.
Reported	How many units have been produced against the Job.
Remaining	Shows the difference between the ordered quantity and the reported quantity.
Running Late?	A clock Icon will appear in this column if when a Job is scheduled and updated back to SYSPRO the Job's due date is after the source due date in SYSPRO.

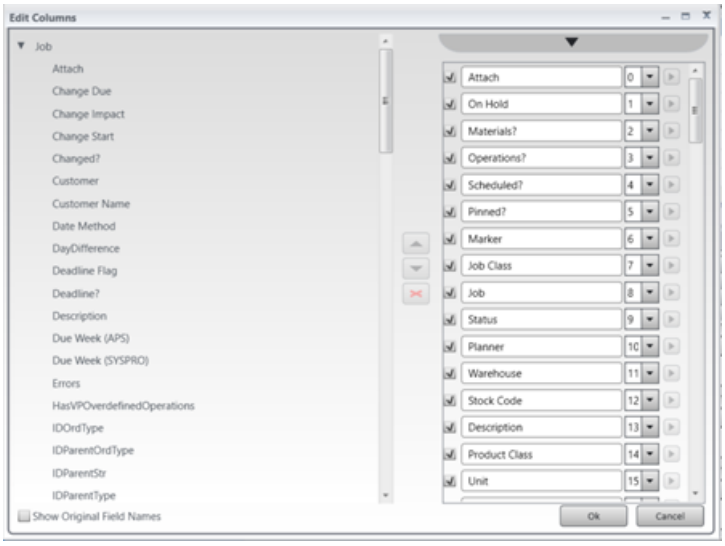
Columns can be reordered, added or removed depending on your requirements.

How to change the order of Column Headings

To change the order of the columns in the order grid drag a column header to a new location. The application retains the change and the task panel will again appear in this order when the software is reopened. Default view settings can be restored from the **Settings** dialog, **Reset layout settings** button.

How to add or remove columns

A number of additional columns are available and can be added to the task panel.



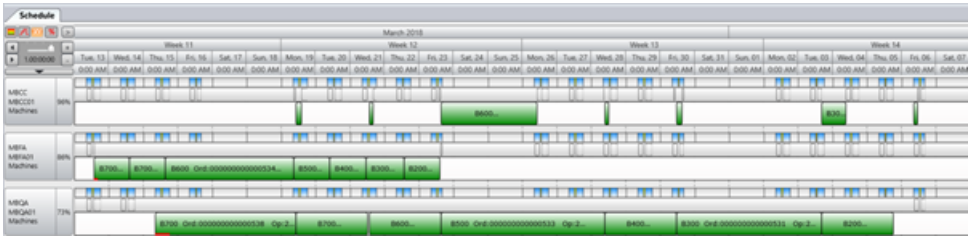
The following steps explain how to do this.

1. To open the **Edit Columns** dialog for more column options, right click on a column header and select **Column Settings** from the context menu.
2. Locate the **Column Header** you wish to add or remove. The left side of the **Edit Columns** dialog includes the list of all column possibilities in alphabetical order. If you have located the column to add in this list click the + to transfer it to the Right side of the Dialog.
3. The right side of the **Edit Columns** dialog allows you to control your columns. Check the box to the left of the name to include it in the order grid. Uncheck or clear the box to remove it.
4. The order of the columns may be changed in three ways:
    a. Use the **Up** and **Down** arrows in the middle of the **Column Picker** dialog.
    b. Select a new number to the right of the column name using the drop down arrow then click the arrow next to the number to make the change
    c. Drag and drop the column header in a new position on the list.
5. For additional controls, click the arrow above the list of columns headers.

    a. To perform a search to find a particular column header, enter the search criteria. Click the magnifying glass to start the search. Click the magnifying glass again to go the next match. Check or clear the **Search Forward** box, depending on which direction you want to search.
    b. Check or clear the **Enable Search Indexes** box to show or hide the column indexes.
    c. Check the **Select all** box if you want to show all column headers. Clear the **Select All** box to start over.
6. Double-click on a column header to change the name. With the text selected, enter the new name. Then press **Enter** to apply the new name.

Note: The custom name will be placed in brackets after default name of the column in the list of all available columns (in the left).

Planning Board



The Planning Board Panel displays all scheduling information, including Work Center's and their time schedules. The start and end date/time for scheduled Jobs are graphically represented . Vertical lines divide the time bar in various increments. The vertical lines remain in the same place but represent different amounts of time.

Each Machine that is selected or highlighted in the Factory Explorer panel will appear on the Planning Board in the form of two horizontal lines (three if you are using the resource mode).

- The top line indicates the Machine capacity defined by shifts . It displays the Machine scheduled hours in colored blocks for working / non-working or other activities.
- The middle line presents resource availability at any point of time. This information can be presented in %, quantity or colored equalizer modes.
- The bottom line displays scheduled tasks in blocks on a line in the sequence they are scheduled. The tasks cover the time required for that item to be produced. The time consumption is calculated according to the route parameters of the Machine (i.e., item units per hour, number of workers, calendar rules, etc).

Available Resources

You can show available resource representation on the Planning Board as one of the following:

- Equalizer
- Line diagram
- Numbers
- Percentage

These options are represented by the following icons and views can be amended by selecting the corresponding image.

Note: This option changes the representation only for Machines with the enabled resource mode.

How to use Zoom on the Planning Board

Planning Board has **zooming functionality** which can be used to change the time interval. Use the + & - icons on the top left-hand corner of the planning board to zoom in and out or alternatively access the Zoom in and Out functions from the Review menu.

Visual APS also supports zooming in intervals of Minute, Hour, Day and Week.

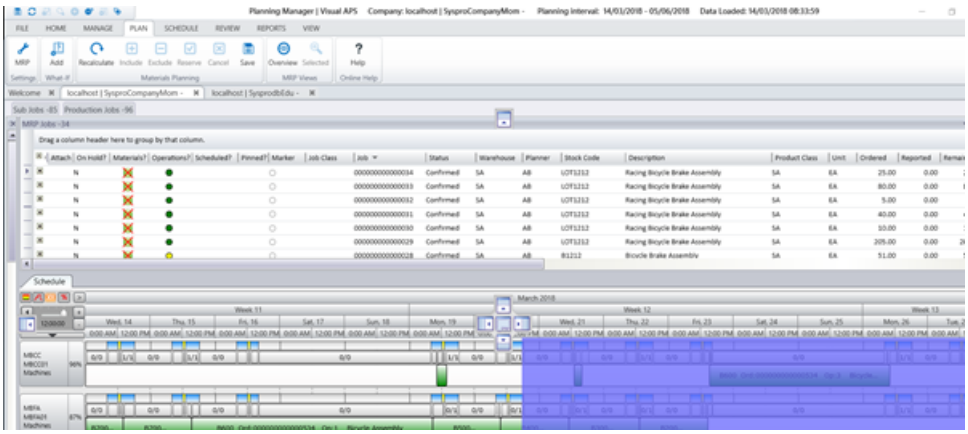
Arranging Panels

The panels of the Main Window can be changed according to your preference. You can do any of the following with the panels of the Main Window:

- Resize
- Float
- Dock
- Tabbed Document
- Autohide

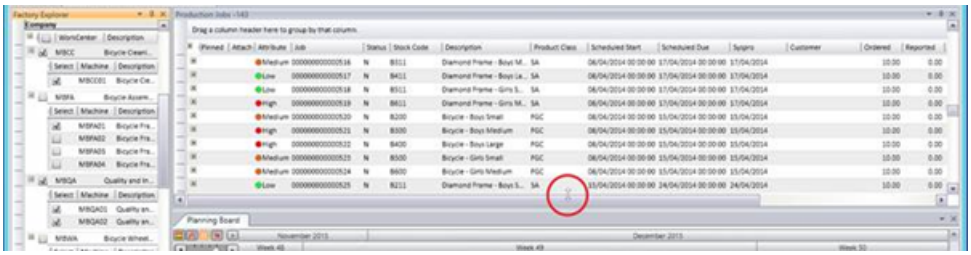
How to Move the Factory Explorer, Task Panel or Planning Board

1. Select and hold the left mouse button on the window header. A colored area indicates the window you are moving. Small icons indicate the possible locations to move the window.
2. Drag the window to the new location on the screen. Point to one of the icons to dock the window to that location. Or drag it anywhere to open that panel in a separate window (floating).



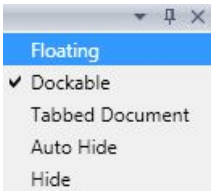
How to Resize the Factory Explorer, Task Panel or Planning Board

1. Point the mouse on the border of the window until the resizing cursor appears.
2. Click and hold the left mouse button and drag the border as needed.
3. Release the left mouse button.



How to Float the Factory Explorer, Task Panel or Planning Board

1. Click on the small arrow at the top right of the window that you want to float.
2. Select **Floating** from the menu. The panel is now in a separate window. You can also simply double-click the window header.

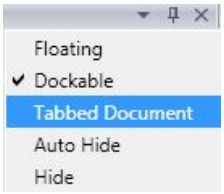


How to Dock the Factory Explorer, Task Panel or Planning Board

Windows are automatically docked. If you have previously floated a window, you can redock it by moving it to one of the docked locations indicated by the small icons that appear when you move a window.

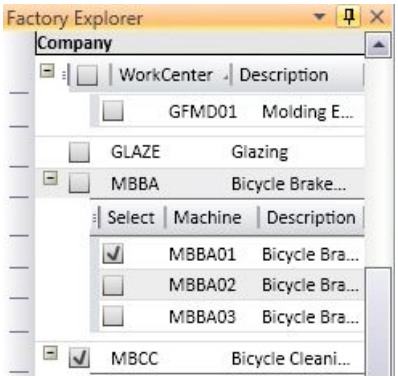
How to Create a Tabbed Document

1. Click on the small arrow at the top right of the window that you want to tab
2. Select **Tabbed Document** from the menu. The panel is now placed in another window as a tab.



How to Auto Hide the Factory Explorer, Task Panel or Planning Board windows

1. Select the **Auto hide** icon on the right side of the window header.
2. The window is hidden on the side it was docked to. Hover over the window name to see it or click on the name to open it.



Shortcut Keys

Some standard MS-Windows shortcuts are available for use in Visual APS. These are optional and are primarily used from the Task Panel and other grids.

Program key combinations	
CTRL + A	(high volume) Select all the items in the current grid
CTRL + C	Copy the selected field
CTRL + R	Refreshes data from Syspro
CTRL + S	Saves or Updates Syspro
CTRL + Y	Redo

Program key combinations	
CTRL + Z	Undo
Mouse key combinations	
CTRL button + mouse wheel scroll	Changes the planning board zoom +/-; point to a specific spot to zoom there
ALT + drag and drop scheduling	Uses the Autoshift Function
SHIFT + mouse wheel scroll	Move a Task on the Planning Board to the closest limit (e.g. another scheduled task)
SHIFT + left mouse	Task Panel selection of a group of jobs
CTRL + left mouse	Task Panel selection of specific jobs

Quick Access Toolbar

The quick access Toolbar appears to the left of The Title Bar. This can be moved by right clicking on the toolbar and selecting **Set Below**. By default, the Quick Access Tool includes menus for some of the most common commands for easy access. The default Command are:

- Save and Publish
- Refresh Data from Database
- Unschedule Selected Items
- Highlight Job
- Load Required WorkCenter
- Unload All WorkCenters
- Perform Autoscheduling
- Show Resource Consumption

Commands can be added or removed from the **Quick Access Toolbar.** To add a command **Locate** on the **Ribbon** menu, Right Click on the command and select **Add to Quick Access Toolbar**.

To remove the command **Right Click** on the **Command** in the **Quick Access Toolbar** and click **Remove From Quick Access Toolbar**.

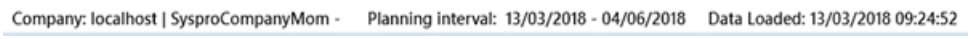
Planning Horizon

The **Planning Interval in Visual APS** defines the period of time where scheduling can occur.

You cannot perform scheduling outside the Planning Interval. The planning interval is defined under the settings area in Visual APS and saved to the user's settings file.

The Planning Interval can also be changed at any time by going to the Schedule menu and select Interval. By default, this is set to 12 weeks.

The Planning Horizon is visible in the **Title Bar** at the top of the **Visual APS** window along with the Server Name, Database Name, and Data Loaded.



Forward/Backward Scheduling

There are two primary methods of scheduling: forward, backward.

Forward scheduling takes a job with a number of tasks and allocates those tasks to resources as early as possible, in other words when resources become available. There is also an option for Visual APS to schedule forward from a specific day.

Backward scheduling takes a job with a number of tasks and allocates those tasks to resources in reverse orders, from last to first operation, and schedules the task on the resource.

Forward scheduling

The following steps describe how to forward schedule.

> Hi Colin,
>
> Without making any changes to the current schedule, please forward schedule from today's date, job 534. Please action at your earliest convenience.
>
> Thanks

1. Right click on **Job 534** in the **Task Panel**.
2. Select **Autoschedule**.
3. Select on the drop-down arrow at the top of ***Autoscheduling Dialog*** window.
4. Select direction **Forward**.
5. Tick **Create Dependency**.
6. Select **From**.
7. Enter *today's date* in the **schedule from/to** field
8. Select**Schedule**.
9. Select **OK**.
10. Select **OK**.
11. From the **Quick Access Toolbar** select **Save & Publish**.
12. Select **OK**.
13. Select **Yes**.
    Job 534 will be forward scheduled to when the required resources are next available.

Backward scheduling

The following steps describe how to backward schedule.

Hi Colin,

Without making any changes to the current schedule, please backward schedule from the end of next month, job 538. Please action at your earliest convenience.

Thanks

1. Right click on **Job 538** in the**Task Panel**.
2. Select **Autoschedule**.
3. Select on the drop-down arrow at the top of ***Autoscheduling Dialog*** window.
4. Select direction **Backward**.
5. Tick **Create Dependency**.
6. Select **From**.
7. Enter *the end of next month* in the **schedule from/to** field.
8. Select **Schedule**.
9. Select **OK**
10. Select **OK**.
11. From the **Quick Access Toolbar** select **Save & Publish**
12. Select **Yes**.
    Job 538 will be backward scheduled from the end of next month and when the required resources are next available.

Advanced Scheduling

To effectively schedule you need to understand your environment and production process. Depending on your process your approach to scheduling may be different.

Process	Job Shop	Batch Production	Production Line
Characteristics	Custom product (low volume)	Moderate product mix (moderate volume)	Low product mix (high volume)
Product Variety	High	Moderate	Low
Equipment Flexibility	High	Moderate	Low
Product Volume	Low	Moderate	High

See the chart below to match the scheduling techniques to your own environment.

Technique	Job Shop	Batch Production	Production Line
Resource Consumption	Yes	Yes	No
Alternative Resourcing	Yes	Yes	No
Changeover Minimization	No	Yes	Yes
Bottleneck Scheduling	Yes	Yes	No
Auto Sequencing	No	Yes	No
High Utilization	No	No	Yes

Mapping

Simplify scheduling by mapping WIP-MOM resources

After you run the option to Import Machines from the Visual APS menu, an automatic mapping will be created between the Machine in Work in Progress and the machine created in Visual APS. In most cases machine mappings do not require any reconfiguration. However, there may be situations where the company wishes to maintain a different organizational structure of machines/work Centers within Visual APS.

Mapping Work in Progress to MOM Resources

The following steps describe how to re-map WIP-MOM resources.

Hi Colin,

We currently have 4 machines, MBBA01, MBBA02, MBFA01, MBFA02 located within Work Centers MBBA and MBFA. The company would prefer to consolidate all 4 machines into machine MBFA01 in the MBFA Work Center. Please action at your convenience.

Thanks

1. Select **Home** menu
2. Select **Mapping**.
3. Select the **+** sign next to the machine **MBFA01**.
4. Double click to Place a check mark next to **MBBA01**, **MBBA02**, **MBFA01** and **MBFA02**.
5. Select **Nothing**.

Note: After creating the new machine mapping, operations for MBBA01, MBBA02 and MBFA02 can be scheduled to machine MBFA01. Reverse the above if you decide to remove the mapping.

Alternative Resourcing

When a specific Machine has no available capacity in the current planning interval, Visual APS can still schedule a job/operation automatically if there is spare capacity within other compatible machines. This is done through the use of alternative machines.

Machines that can perform similar operations are associated for this function to work.

There is also the option to over-ride any saved default settings during each autoscheduling session. This is done by selecting/unselecting "Use Alternative Machines" from the autoscheduling dialog options.

Creating a machine group

The following steps describe how to create a machine group.

1. Select the **Home** Menu.
2. Select **Alternatives**
3. Select **Add > New**
4. Enter *Group1* in a **Group Name** field.

Note: Max 8 Characters

5. Enter *ALTGroup1* in the **Description** field.
6. Select **OK**.
7. To the left of the group name click the + symbol to display a list of Machines.
8. Tick the box against each Machines that is to be included in the group
9. Select **OK**

Using alternative machines when scheduling

The following steps describe how to use alternative machines when scheduling.

1. Select the **Schedule** Menu
2. Select **Default**.
3. Select **Scheduling & Routing Rules**.
4. Click on the **Manual** Tab.
5. Tick **Alternative Machines**.
6. Select **OK**.

Using alternative machines

The following steps describe how to use alternative machines.

> Hi Colin,
>
> We currently have 3 painting machines PAIN01, PAIN02 and PAIN03. It appears that we are only scheduling to PAIN01 even though we have capacity on PAIN02 and PAIN03. These machines can perform the same operation. I believe Visual APS will allow us to schedule to the other machines when there is no capacity on the primary machine PAIN01. Please action at your convenience.
>
> Thanks

1. Click the **Home** Menu.
2. Select **Alternatives**.
3. Select **Add New**.
4. Enter *Paint* in the **Group Name** field.
5. Enter *Paint Group* in the **Group Description** field.
6. Select **OK**.
7. Expand the group **Paint** by Selecting on the **+** symbol
8. Select machines **PAIN01**, **PAIN02** and **PAIN03**.
9. Select **OK**.

If you use the **Alternative Machines** function this means that if a Machine is fully loaded, another Machine in the group will be scheduled but only as a second choice. The usual Visual APS logic is to try and schedule the Machine specified in the operation (the primary) and then try and schedule to alternatives in random order. If an operation can be produced at more than one Machine, there is also the option to drag and drop it either to the primary Machine specified or to an alternative Machine in the group. There is the facility to turn off visibility of the Alternative

Machines during this process by removing the tick from the Loading settings in the Schedule menu.

Setup multi-resource Work Centers

(e.g. a single scheduling resource with multiple operators or machines)

There may be situations where a single scheduling resource may contain multiple operators or machines. Instead of managing scheduling resources for each individual operator or machine, you may choose to manage only one scheduling resource and set the number of resources appropriately.

Adding multiple operators to a single resource

The following steps describe how to set multiple operators for a single resource.

> Hi Colin,
>
> It appears the assembly Work Center ASSEMB is currently set to 1 resource. There are actually 5 resources in assembly. Please action at your convenience.
>
> Thanks

1. Select the **Home** Menu.
2. Select **Machines**.
3. Expand the Work Center **ASSEMB** by clicking on the **+** symbol.
4. Select on the **ASSE01** machine.
5. Enter *5* in the **Resources** field.
6. Select **OK**.
7. Select **Nothing**.

Varying resources

The following steps describe how to set multiple operators for a single resource.

There may be situations where the number of resources vary throughout the day/week.

> Hi Colin,
>
> Apologies for the confusion I have previously mentioned that we have 5 resources in ASSEMB, however these 5 resources are only available in the morning & 3 in the afternoon.
>
> Please action at your convenience.
>
> Thanks

1. Select the **Home** Menu.
2. Select **Machines**.
3. Expand the Work Center **ASSEMB** by clicking on the **+** symbol
4. Select on the **ASSE01** machine.
5. Select **Edit Resources**, located on the right side of the screen.
6. **Right click** over Monday afternoon working activity and change **Resource Qty**: to *3*.

7. Select **Apply**.
8. Repeat step 6 for Tuesday, Wednesday, Thursday and Friday.
9. Select **OK**.
10. Select **OK**.
11. Select **Nothing**.

Define and assign your constraints

Global

The Constraints editor in Visual APS defines the system equivalent resource quantities and the system equivalent resource hours for different types of resources. Constraints can be set for people, machine and time.

Defining a global constraint

The following steps describe how to set a global constraint.

> Hi Colin,
>
> We have been experiencing a few issues with machine MBFA03 in Work Center MBFA and as a result the machine is running 50% slower than normal. We need to account for this in MOM before we begin to schedule any more jobs to the MBFA03 machine.
>
> Please action at your convenience.
>
> Thanks

1. Select the **Home** Menu.
2. Select **Constraints**.
3. Select **Add Constraint**.
4. Enter *Slow Machine 50%* in the **Constraint name** field and **Description** field.
5. Select **OK**.
6. Under **Global Multiplication Factors** select **Edit** in the Machine constraint type row .
7. Enter *1* in the **Resource Qty Factor** field.
8. Enter *1* in the **Setup Time Factor** field.
9. Enter *1,5* in the **Run Time Factor** field.
10. Select **OK**.
11. Select **OK**.
12. Select the **Home** Menu.
13. Select on **Machines**.
14. Expand the **MBFA** Work Center.
15. Select on the **MBFA03** Machine.
16. Set the **Resource Type** to **Slow Machine 50%** using the dropdown.
17. Select **OK**.
18. Select **Nonthing**.

Stock Code

Specific constraints can be set up within any declared global constraint. These stock code/operation specific time settings replace the values declared in the original routing and are used within Visual APS in conjunction with the global constraint multiplication factors. Stock Code constraints are specified in hours.

Defining a stock code constraint

The following steps describe how to set a stock code constraint.

> Hi Colin,
>
> The Drilling operation of Stock Code LOT114 if it runs on DRIL01 the run time is correct, 15 minutes, however DRIL02 is slower the run time is 45 minutes per unit. We do not want to update the Structure and Routing or any open jobs for this Stock Code in Work in Progress because DRIL02 is an alternative machine. However, we need to account for this in MOM before scheduling any further jobs.
>
> Please action at your convenience.
>
> Thanks

1. Select the **Home** Menu.
2. Select **Constraints**.
3. Select the **Machine** Constraint.
4. Select **Add Constraint**.
5. Add a name and a description to the Constraint.
6. On the **Global** Tab select **Edit** on **Machine Constraint** type
7. Add 1 value for Resource Qty Factor, Setup Time Factor and Run Time Factor
8. Select **OK**.
9. Switch to the **Stock Code Operation Description** tab.
10. Select **Add New**.
11. Enter *LOT114* in the **Stock Code** field.
12. Enter *Drilling Operation* in the **Operation Description** field.
13. Enter *3* in the **Run Machine Time** field.
14. Select **OK**.
15. Select **OK**.

Secondary Constraints

MOM supports scheduling of an operation in conjunction with multiple secondary constraint requirements. Secondary constraint serves as a generic purpose and may represent various limitation factors: tools, jigs, forms, pool of specific employees, etc. Within a finite capacity scheduling mode, Visual APS will not schedule an operation within time periods if insufficient secondary constraint capacity exists.

Visual APS Secondary constraint definition consists of 4 parameters:

Definition	Meaning
Secondary Constraint	Defines actual secondary constraint required

Definition	Meaning
Quantity	Defines how may secondary constraint resources (quantity) is required to perform primary operation
Consumption	Defines which operation portion or combination of multiple portions require secondary constrain. • Setup time • Run time • Teardown time • Wait time
Consumption Method	Defines the method of secondary constraint quantity consumption. • Fixed: fixed quantity of secondary constraint resources is required disregards of number of resources consumed by primary operation. • All: All available quantity of secondary constraint resources is consumed • Proportional: Secondary constraint is consumed proportionally to the consumption of resources by primary operation.

Example: If a primary operation requires 1 resource (i.e. machine) and 2 resources of secondary constraint but was scheduled to consume 2 machines, Visual APS will require 4 resources of secondary constraint to be available (proportional increase of resource requirement by secondary constraint).

Within Work in Progress, a secondary constraint is understood as a Toolset referenced within the Operational **Routing** definition.

Routing Definition:

Toolset Field	Meaning
Toolset	Indicates secondary constraint requirement here i.e. JIG_01
Toolset Quantity	Indicates number of secondary constraints required for primary operations
Toolset Consumption	Indicates operational portion where secondary constraint required. Use one of the below codes 0 - secondary constraint required by All operational portions 1 - secondary constraint required by Setup portion 2 - secondary constraint required by Production portions(main and fixed) 3 - secondary constraint required by Teardown portion 4 - secondary constraint required by Wait time portion 5 - secondary constraint required by Production main portion 6 - secondary constraint required by Production fixed portion 7 - secondary constraint required by Setup and Production (main and fixed) portion

Toolset Field	Meaning
	8 - secondary constraint required by Setup, Production (main and fixed) and Wait time portion 9 - secondary constraint required by Production (main and fixed) and Wait time portion 10 - secondary constraint required by Setup, Production (main and fixed) and Teardown time portion 11 - secondary constraint required by Production (main and fixed) and Teardown time portion 12 - secondary constraint required by Production (main and fixed), Wait and Teardown time portion 13 - secondary constraint required by Wait and Teardown time portion

Note: Secondary constraint 'Consumption method' parameter is permanently set to 'Proportional' method. This is done due to lack of Toolset definable fields in Work in Progress.

For the cases when a different 'Consumption method' is required, Visual APS should be customized to read this value from one of the custom form fields.

Scheduling with multiple secondary constraints requirements

There could be cases when multiple secondary constraints are required for the primary operation: Example 'Tool A' on Setup portion and 'Tool B' on run time portion.

Visual APS does support this within its scheduling algorithms but a customization is required that add additional ability for multiple secondary constraint definitions within a single Work in Progress operation. Normally this is done via utilization of Tool Set's (multiple tools) concept.

Use of secondary constraints in Visual APS

Visual APS treats secondary constrains the same as any other schedulable resource (Work Center, Machine, Employee, etc.). In order to schedule operations with secondary constraint, last should be imported into Visual APS with definition of Shift, Resource Type (machines) and Available resources (number of secondary constraint available)

In order to schedule secondary constraints:

1. Define secondary constraint within SYSPRO BOM Tool Set maintenance functionality.
2. Indicate secondary constraint requirement within SYSPRO operational Tools Set definition as specified above
3. Run Visual APS and Import Secondary constraints. These should appear as APS Factory Explorer elements under 'Tools' Work Center. Refresh APS after secondary constraint import.

Note: As secondary constraint availability is normally not related to working hour's shifts definition, it is recommended to maintain 24x7 shift for secondary constraint capacity definition.

Use standard Visual APS Shift Change functionality to indicate periods where Secondary constraint is not available (planned maintenance, etc.)

Changeover Minimization

Every manufacturing process has periods of time where equipment is unavailable due to tooling changes, material changes, part changes, program changes, or any other changes to production that must be performed while equipment is stopped. Collectively, these events are referred to as "changeovers", "setup" or "planned downtime".

By default, Visual APS schedules all activities within an operation (Setup, Run, Wait and Teardown). The operation activities are defined in the routing and can be easily identified in Visual APS.

Labels

Visual APS allows you to change the way jobs are viewed on the planning board. The labels function provides the ability to view jobs broken down by set up, run, wait and teardown times within the operation. This is particularly useful when minimizing changeovers.

Showing labels

The following steps describe how to show labels.

Hi Colin,

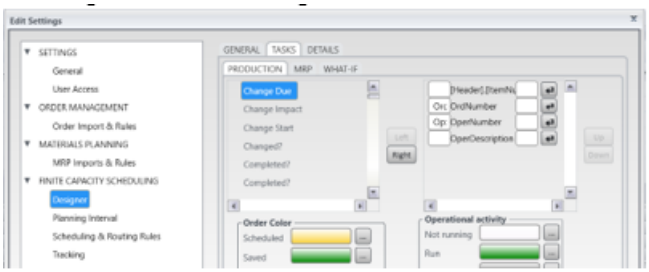
We would like to ensure that the planners have visibility of all activities per operation. Currently they are not seeing the breakdown for setup, run, wait and teardown.

Please action at your earliest convenience.

Thanks

1. Select the **View** Menu.
2. Select **Labels**.

   Each of the activities within an operation has a default color assigned to it. These colors can be changed within the Settings Menu.



Changing the color of tasks in the planning board

The following steps describe how to change the color of tasks in the planning board.

> Hi Colin,
>
> The planners would like to easily distinguish setup time from teardown time in the planning board.
>
> Setup time should be red.
>
> Please action at your earliest convenience.
>
> Thanks

1. Select the **Schedule** tab.
2. Select **Default Settings**.
3. Select **Designer**.
4. Select **Tasks**.
5. Change the **Setup** color to **Red**.
6. Select **OK**.

Bottleneck Scheduling

Bottleneck resources (machine or human) are very common in manufacturing, bottleneck is any resource whose capacity is less than the demand placed on it.

Under the Manage menu in Visual APS there's a function called **List by Operation**. This function allows the Planner to switch Visual APS Task view from a Job level (stock code to manufacture, quantity to make, job start and end date…) to the Operation level (Work Center, Machine, setup and run time…). List by Operations offers the Planner the option to schedule, in first place the bottleneck resource(s) and subsequently the operations around the bottleneck operation.

Scheduling bottleneck resources

The following steps describe how to schedule bottleneck resources

> Hi Colin,
>
> Please schedule bottleneck resource DRIL01 for Jobs 499, 500, 511 and 512.
>
> Thanks

1. Select on the **Manage** Menu.
2. Select **List by Operation**.
3. Drag the column heading **Work Center** to the top of the Task Panel (drag a column header here).
4. Drag the column heading **Machine** to the top of the Task Panel (drag a column header here).
5. Select the **Schedule** Menu.
6. Untick the **Schedule Around** function.
7. Highlight **Operation 1** for **Job 499, 500, 511 & 512** on the **DRIL01** machine.
8. Right Click on one of the highlighted Jobs.
9. Select **Autoschedule**.
10. Select **Schedule**.
11. Select **OK**.
12. Select **OK**.
    At this stage only the operations that runs on the **DRIL01** machine is scheduled.

Scheduling the remaining job operations

The followings steps describe how to schedule the remaining job operations.

1. Select the **Schedule** Menu.
2. Check the **Schedule Around** function.
3. Highlight **Operation 1** for **Job 499, 500, 511 & 512** on the **DRIL01** machine.
4. Right Select on **Operation 1** for **Job 499, 500, 511 & 512** on the **DRIL01** machine.
5. Select **Schedule Around**.

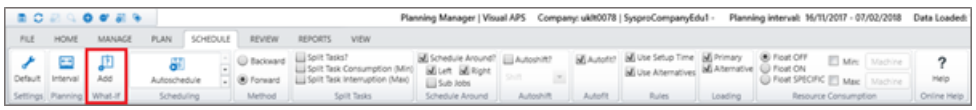
Capable to Promise

Visual APS extends the capability of SYSPRO by providing a virtual job scenario. The Add What If Job option allows you to create a job that is not saved within Syspro so that you can estimate a production unit's capacity without affecting any of SYSPRO's data. Once created the What If Job can also be scheduled, it may be determined that a live manufacturing job should be created. The What If Job can then be unscheduled and remain on the task panel or it can be deleted.

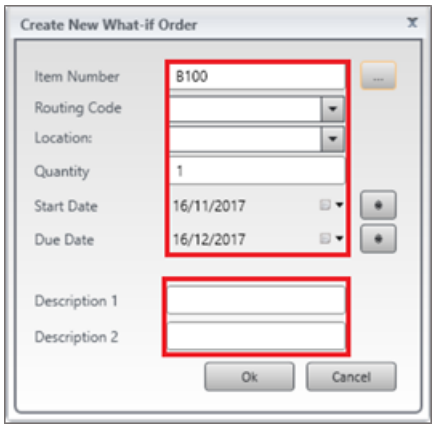
Adding what-if jobs in Visual APS

The following steps describe how to add a What If Job in Visual APS.

1. From the **Schedule** menu select **Add** What IF.



2. Select item number, Routing code, Location, Quantity and Date
3. In description 1 and 2 reference for instance customer name and quote number.



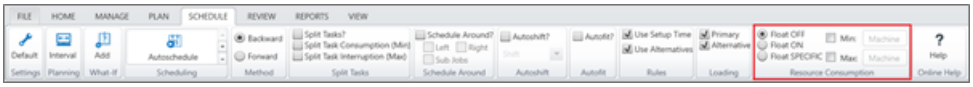
4. Select **OK**.

Resource Consumption

Visual APS defines available resources by a combination of the default machine settings and then by the applied Shift.

Consuming Resources

Resources are consumed based on the requirements defined in your Syspro routing operations.



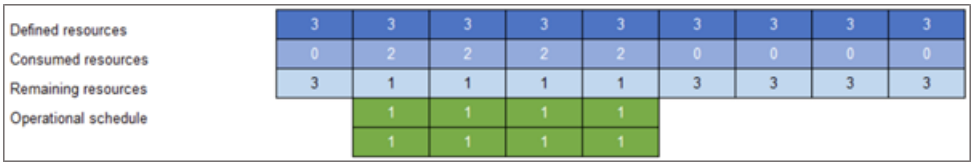
To understand how Resource Consumption works in detail it is best to use an example. Let's consider the following:

A manufacturing operation requires a total of eight (8) hours labor from two (2) resources to complete.

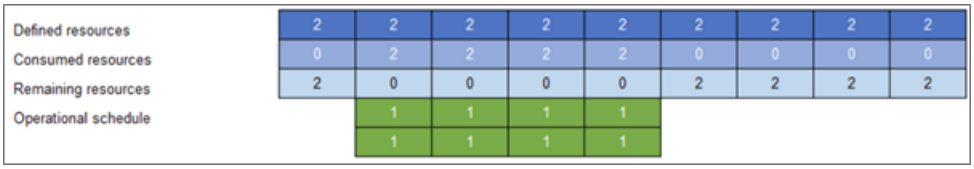
Float Off

With Float switched OFF, Visual APS will schedule based on 2 resources for 4 hours elapsed time (2 x 4 = 8 hours total)

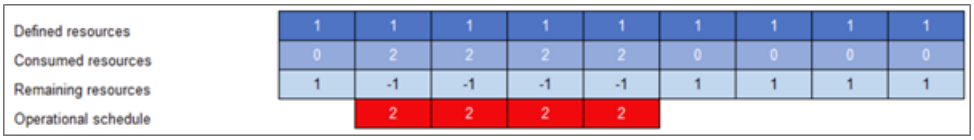
In the example below there are MORE resources available (3) than required by the operation (2). Scheduling is successful.



In the next example there are EQUAL resources to that required by the operation (2). Scheduling is successful.



In the final example of FLOAT OFF there are LESS resources (1) to that required by the operation (2). Scheduling is not permitted.

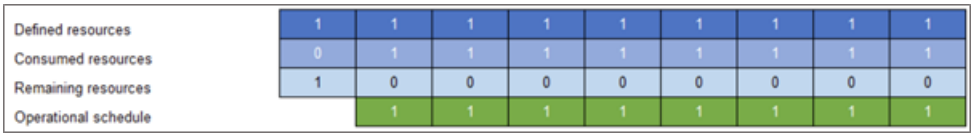


Float On

Now let's see what happens with the Visual APS float option ENABLED

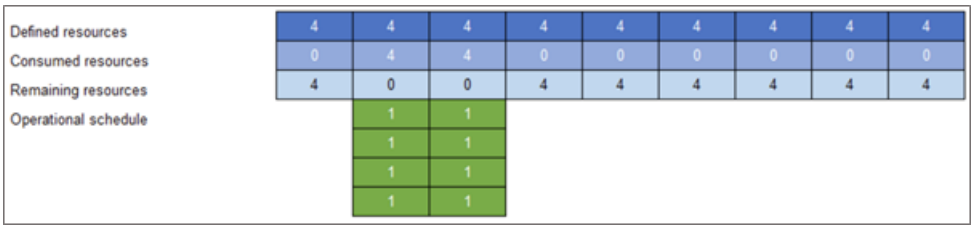
In the example below there are LESS resources (1) to that required by the operation (2). However, due to float being enabled, scheduling is now permitted.

In this scenario the 8 hours required are delivered by one (1) resource instead of the two (2) defined in the operation. Elapsed time is now 8 hours.



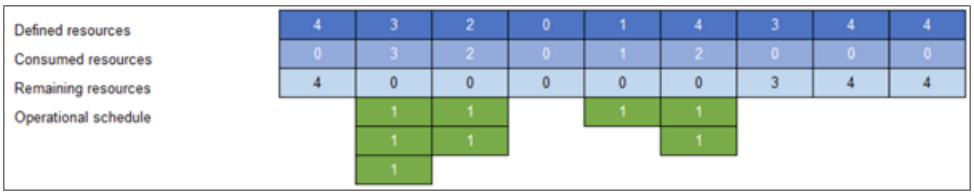
In the next example there are MORE resources (4) to that required by the operation (2). Scheduling is successful.

In this scenario the 8 hours required are delivered by four (4) resources instead of the two (2) defined in the operation. Elapsed time is now 2 hours.



In the following example resources are VARIABLE and show greater and/or less than that required by the operation (2). Scheduling is successful.

In this scenario the 8 hours required are delivered when resources are available. Elapsed time is now 5 hours.

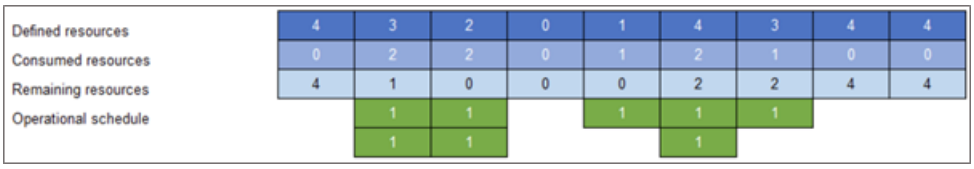


In the final example of FLOAT ON resources are VARIABLE and show greater and/or less than that required by the operation (2).

Furthermore, a MAXIMUM setting of two (2) resources has been set, meaning that no more than 2 resources can be consumed at any one time.

Scheduling is successful.

In this scenario the 8 hours required are delivered when resources are available but consume no more than 2 resources at any one time. Elapsed time is now 6 hours.

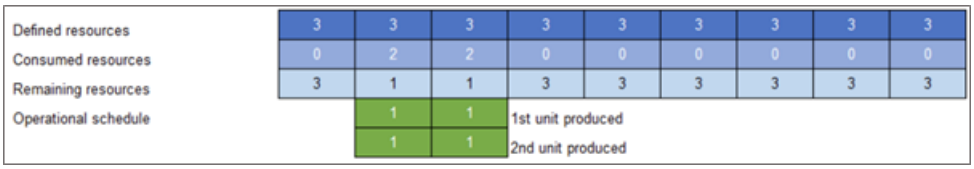


Float Specific

Using Float Discrete, Visual APS is forced to consume resources based on the quantity to produce. It will not consume more resources than required to produce the quantity. Consider the following example. It takes one (1) resource, two (2) hours to produce one (1) unit. Units cannot be produced faster than this.

To produce two (2) units would therefore take four (4) hours).

Note: The Float Discrete setting is a Work Center specific setting and can only be used when FLOAT SPECIFIC AND float usage is switched ON.



In the example above resources are consumed based on time it takes to produce each unit. Two (2) units are required to be produced and there are three (3) resources available. As it takes one (1) resource, two (2) hours to produce each unit, two (2) resources are consumed for two (2) hours each to produce the two (2) units required. Scheduling is successful and the elapsed time is 2 hours. Extended this scenario to the example above you could also produce 3 units in the same elapsed time as you have 3 resources available.

However, four units would take 4 hours of elapsed time (considering available resources are as in the above example).

Scheduling Jobs

Setting markers

The following steps describe how to set markers.

Creating a new marker

The following steps describe how to create a new markers.

Hi Colin,

Job 515,516,517 and 520 are critical. Could you please prioritize these jobs to run as soon as possible?

Going forward, jobs marked as critical must receive the highest scheduling priority.

Please action at your earliest convenience.

Thanks

1. Select the **Manage** menu.
2. Select **Markers**
3. Select the **Marker1** tab
4. Enter *Critical* in the **Value** field.
5. Select **Add**.
6. Click on the **circle** to the right **Critical**.
7. Select red from the color palette.
8. Select **OK**.
9. Select **OK**.

Updating a job as critical

The following steps describe how to update a job as critical.

1. From the **Production Jobs Task Panel** select jobs 515, 516, 517 and 5202.
2. Click Select and select **Markers**.
3. Select **Marker1**.
4. Select **Critical**.

Adding filters

The following steps describe how to create filters.

Hi Colin

To assist with scheduling prioritization, we require a filter for the Finished Goods Cycles product classification. The filter should be distributed to all users of Visual APS. Please action at your earliest convenience.

Thanks

1. Right click on any column Heading in the **Production Jobs Task Panel**.
2. Select **Filter Settings**.
3. Select **AND**.
4. Select **Add Criterion** field.
5. Select **Product Class** in the **first** field.
6. Select **Is Equal** in the **second** field.
7. Enter *FGC* in the **value** field.
8. Select **Save to File**.
9. Enter Product Class - *FGC* in the **filename** field.
10. Select **Save**.
11. Select **Save to Menu**.

12. Select **Add New**.
13. Enter Product Class - *FGC* in the **Name** field.
14. Select **OK**.
15. Select **OK**.

Using groups

The following steps describe how to use groups.

> Hi Colin
>
> To assist with scheduling prioritization, it would be beneficial if planners could understand how to group jobs by different job attributes. (i.e. stock code, customer, project)
>
> Please action at your earliest convenience.
>
> Thanks

1. Select the **Production Jobs Task Panel**.
2. Drag the column heading **Stock Code** to the top of the Task Panel (drag a column header here)

Note: The data will be grouped by Stock Code. Use the + and - icons to the left of each grouping to expand or collapse the contents of the group. Sub groups can be added by dragging additional column headings to the top of the Task Panel. Groups are reset when data is refreshed or when the application is closed.

Setting calculation method to manual

The following steps describe how to set calculation method tomanual.

1. Click on the **Plan** menu.
2. Select **MRP - Settings**.
3. Select the **General** Tab .
4. Select **Manual** from the **Material Calculation** lookup.

Calculating material requirements manually

The following steps describe how to manually calculate material requirements.

> Hi Colin,
>
> Prior to scheduling the jobs, the company has prioritized, we need to identify the current position of material availability. Please action at your earliest convenience.
>
> Thanks

1. Select the **Plan Menu**.
2. Select **Recalculate**.
3. Select **YES** to save the current plan prior to running recalculate.
4. Select **Production Jobs Task Panel**.

5. Drag the column heading **Material** to the top of the Task Panel (drag a column header here).

Autoschedule jobs by priority index

The following steps describe how to autochedule jobs by priority index.

> Hi Colin,
>
> Just following up on those critical jobs.
>
> Could you please sequence the jobs as follow, Job 517, 520, 515 and 516.
>
> Thanks

1. Select all jobs **Marked** as **Critical**.
2. Right click and select **Autoschedule**.
3. Select **Schedule by Priority Index**.
4. Select job 517 and **right click**.
5. Select **Set Priority > 1**.
6. Select job 520 and **right click**.
7. Select **Set Priority > 2**.
8. Select job 515 and **right click**.
9. Select S**et Priority > 3**.
10. Select job 516 and **right click**.
11. Select **Set Priority > 4**.
12. Select **Schedule**.
13. Select **OK**.
14. Select **OK**.

Sequencing jobs using grid grouping

The following steps describe how to autochedule by sequencing jobs by grid grouping.

> Hi Colin,
>
> Please schedule all jobs for Product Class FGC where there are no material shortages.
>
> Please action at your earliest convenience.
>
> Thanks

1. Select **Workflow**. menu
2. Select **Product Class - FGC**.
3. Select on the down arrow in the **Material** column heading.
4. From the **Materials** dropdown select the **Green** Material Indicator.
5. Select **Apply**.
6. Right click anywhere in the **Task Panel**.
7. Select **CTRL + A** to select all jobs.
8. Right click anywhere in the **Task Panel** and select **Autoschedule**.

9. Select and hold on the Stock Code column heading and drag it to "Drag a column header here to group by that column" to group jobs by stock code.
10. Group jobs by either: a) Using the **Move up** and **Move Down** buttons or b) Left click and hold and drag the jobs up or down the list.
11. Select **Autoschedule**.
12. Select **Schedule**.
13. Select **OK**.
14. Select **OK**.

Note: When the Auto Schedule dialog window appears if grouping jobs by Grid Grouping the first job to be scheduled it will be the one at the top of the list. If Grouping by Index, then scheduling priority it will be from lowest to highest number.

Prioritizing by operation

The following steps describe how to prioritize by operation.

Hi Colin

We are frequently seeing a backlog of jobs waiting to be processed on MBQA01, could you please prioritize scheduling for this machine and other operations to be worked around MBQA01.

Thanks

1. Select **Manage** menu.
2. Select **List by Operation**.
3. Filter by **Machine** name **MBQA01**.
4. Select **Schedule** menu and disable **Schedule Around?**.
5. Two scheduling options: Manually drag and drop one operation at the time to the **Schedule Board** or Select group of operations right click and select **Autoschedule**; sort operations scheduling priority using **Priority Index** or **Grid Grouping**
6. Once operations are prioritized select **Schedule**.
7. Select **OK**.
8. Select **OK**.
9. Select **Schedule** menu and enable **Schedule Around?**.
10. From the **Task Board** select the group operations scheduled (these will be marked with a yellow thumb up).
11. Right click and select **Schedule Around?**. This means that those jobs previous and next operations will now be scheduled providing they can be completed within the plan interval.

Schedule jobs manually

The following steps describe how to manually schedule jobs.

1. Select job 517.
2. Right click and select **Load Required Machine**.

3. Click and hold job 517.
4. Drag it to the **Schedule Board**.
   Visual APS also offers its users the option to schedule by WorkCenter or Machine this method is frequently used to help minimize tool changes and help eliminate bottlenecks.

Prioritizing by operation

The following steps describe how to prioritize by operation.

> Hi Colin
>
> We are frequently seeing a backlog of jobs waiting to be processed on MBQA01, could you please prioritize scheduling for this machine and other operations to be worked around MBQA01.
>
> Thanks

1. Select **Manage** menu.
2. Select **List by Operation**.
3. Filter by **Machine** name **MBQA01**.
4. Select **Schedule** menu and disable **Schedule Around?**.
5. Two scheduling options: Manually drag and drop one operation at the time to the **Schedule Board** or Select group of operations right click and select **Autoschedule**; sort operations scheduling priority using **Priority Index** or **Grid Grouping**
6. Once operations are prioritized select **Schedule**.
7. Select **OK**.
8. Select **OK**.
9. Select **Schedule** menu and enable **Schedule Around?**.
10. From the **Task Board** select the group operations scheduled (these will be marked with a yellow thumb up).
11. Right click and select **Schedule Around?**. This means that those jobs previous and next operations will now be scheduled providing they can be completed within the plan interval.

Reviewing material shortages

The following steps describe how to review material shortages.

> Hi Colin,
>
> We need to identify material shortages for FGC stock. I would like to email the procurement team an excel spreadsheet of the materials we need to purchase for the next 4 weeks.
>
> Please action at your earliest convenience.
>
> Thanks

1. Select the **Workflow** Menu.
2. Select the **Product Class - *FGC* filter**.
3. Click anywhere in the **Production Jobs** panel and use **CTRL + A** to select all FGC jobs.

4. Select the **Plan** Menu.
5. Select **MRP Views Selected**.
6. Set **Period Type** to **Week**.
7. Enter *4* in the **Periods** field.
8. Select **Apply**.
9. Select **Export to Excel**.
10. Enter File name and click **Save**
11. Click **Close**.

There may be situations where jobs may need to be excluded from the material calculation to free up materials for other jobs. Let's say there's a job for a large quantity of 10,000 pieces. Perhaps it is unreleased and you don't believe it will ever happen. Excluding it will change the material indicator so that it will be excluded from any calculations.

By default when running recalculate materials, all jobs are included. To exclude a job after the recalculation has been performed complete the following steps.

Excluding materials

The following steps describe how to exclude materials.

1. Select the **Plan** Menu.
2. Highlight the job in the **Task Panel**.
3. Select **Exclude**.
   A job which has previously been excluded can be included by clicking on **Include** from the **Plan** Menu.

Creating a new marker

The following steps describe how to create a new markers.

Hi Colin,

Job 515,516,517 and 520 are critical. Could you please prioritize these jobs to run as soon as possible?

Going forward, jobs marked as critical must receive the highest scheduling priority.

Please action at your earliest convenience.

Thanks

1. Select the **Manage** menu.
2. Select **Markers**
3. Select the **Marker1** tab
4. Enter *Critical* in the **Value** field.
5. Select **Add**.
6. Click on the **circle** to the right **Critical**.
7. Select red from the color palette.
8. Select **OK**.
9. Select **OK**.

Updating jobs with material issues

The following steps describe how to create a new marker.

1. Select the **Production Jobs Task Panel**.
2. Drag the column heading **Stock Code** to the top of the **Task Panel** (drag a column header here)
3. Use **CTRL** to **Highlight** all jobs with some shortages (amber indicator).
4. Right click in **Task Pane**.
5. Select **Markers**.
6. Select **Marker1**.
7. Select **Material Issue**.
8. Repeat steps 3-7 for all jobs with entire shortages.
9. Click on the **down arrow** in the **Marker** column heading.
10. Select **Material Issue** from the dropdown.
11. **Right click** on any column heading.
12. Select **Export**.
13. Enter File Name & Click **Save**.

Pinning operations to specific machine(s)

The following steps describe how to pin an operation to a specific machine(s).

> Hi Colin,
>
> To prevent any further changes to the production schedule, please freeze the schedule for today + 7 days.
>
> Please action at your earliest convenience.
>
> Thanks

1. Select on the **Review** Menu.
2. Select **Pin Advanced**.
3. Select **Today's date** in the **date from** field.
4. Select **Today's date + 7 days** in the **date to** field.
5. Select **All Work Centers**.
6. 2Select **Pin**.

Publishing Plans

Changing the planning interval

The following steps describe how to change the planning interval.

The planning interval can be changed at any time.

1. Select **Schedule** Menu .
2. Select **Planning Interval**.
3. Select the **new interval** from the calendar.

4. Click **OK**.

Note: The function **Save and Publish** will post back to Work in Progress the job's new start and due date. After running Save and Publish, the scheduled status image will change from a yellow thumbs up to a green thumbs up.

Saving and publishing plans

The following steps describe how to save and publish plans.

Hi Colin,

Please publish the plan so the Jobs are updated in Work in Progress.

Please action at your earliest convenience.

Thanks

1. Locate the **Quick Access Toolbar**.
2. Select **Save & Publish**.
3. Select **Yes**

Note: If a job is updated in SYSPRO, un-schedule the job in **Visual APS** then use the save & publish function again. This returns the job start and due date to the original SYSPRO start and due dates

Viewing the production plan

The following steps describe how to view the production plan.

1. Select the **Reports** Menu.
2. Select **Production Plan**.
3. Click on **Select Equipment**.
4. Select the required **equipment** records.
5. Select **OK**.
6. Select the required **date range**.
7. Click **Refresh**.

Printing the production plan

The following steps describe how to print the production plan.

1. Click on the **Reports Menu** .
2. Select **Production Plan** from the **Published Section**.
3. Select **Print**.
4. Click **Select Equipment**.
5. Select the required equipment record.
6. Select the required date range.
7. Select **Print**.
8. Select **OK**.

9. Select **Refresh**.
10. Select the **Print Icon**.

Viewing your work lists

The following steps describe how to view your work lists.

1. Select the **Reports Menu**.
2. Select **Equipment Job List**.
3. Select **MBFA**
4. Select **MBFA01**.
5. Select the required date range.
6. Select **Refresh**

Configuring period filters

The following steps describe how to configure period filters.

Earlier the plan was pinned for the next 7 days.

The workbench can also be configured to reflect the same period and the Add Task function removed. This will ensure operators are only working on jobs that you have scheduled in the period you have pinned.

To amend the Workbench configuration:

1. Select **Advanced Settings**.
2. Select **Workbench**.
3. Select **Elements**.
4. Enter *workbench* in the **Code filter** field.
5. Double click on the **Workbench (Employee)** on screen element.
6. Select **Settings**.
7. Select **+7 Days** in the **use period to filter** field.
8. Select **Save**.
9. Select **Close**.
10. Select **Save**.
11. Repeat the steps 1 - 10 for all other workbench onscreen elements.

Removing add tasks onscreen elements.

The following tasks describe how to remove add tasks onscreen elements.

1. Select **Advanced Settings**.
2. Select **Workbench**.
3. Select **Elements**.
4. Enter *add task* in the **Code filter** field.
5. Double click on the **Add Tasks (Small)** on screen element.
6. Select **Terminals**.
7. Unselect **all Terminals**.
8. Select **Save**.

9. Repeat the steps 1 - 8 for all other add task onscreen elements.

Calculation of potentially late operations

The followings steps describe the calculation of potentially late operations.

The following steps should be taken to carry out this task:

1. Select the **Manage** Menu.
2. From the **Potentially Late** options, click on **Calculate**.
3. Observe which operations have been flagged as potentially late (these are highlighted in blue on the list and have a blue vertical band to the left of the operation in the Planning board).

Reschedule late jobs/operations

The following steps describe how to reschedule late jobs/operations including those highlighted as potentially late.

1. From the **Potentially Late** options in the **Manage** Menu select **Reschedule**.

   Note that all jobs/operations highlighted during the calculation process have now been virtually rescheduled.

   Any manual adjustments can be made to the rescheduling proposal at this point.

2. Once complete, select **Save and Publish** to apply the changes.

   Note: After making changes to the plan, be sure to **save and publish** the plan to commit any changes to the Work in Progress and MOM

Collect and Track - Configuration

Terminals

In the previous lesson you learned how to create and assign shifts to resources.

Terminals are a feature in Workforce Manager that determine the functions that are available to a user for data collection and reporting purposes. The terminal definition represents a collection of predefined Workbench Elements which can be easily added or removed to suit the functions of your employees. Terminals are highly customizable and a flexible feature of the application.

In this lesson you will learn how to create 2 types of terminal:

- Clock-In Terminal
- Shop Floor Terminal

Clock-In Terminals are typically located at the entrance of the building or production unit to track employees clock in and clock out time. This type of terminal may be used by all employees regardless of their functional role. Clock-In Terminals are typically limited in their functionality. Shop Floor terminals are typically located on the shop floor and situated within the relevant production unit. These terminals can be configured by equipment, crew or employee to display scheduled/unscheduled jobs or only jobs within a specific time frame or within custom filter definitions. Additional elements can be included, (e.g. Break, Lunch, Material Issue, Kit Issue, Production Issues) providing employees with the ability to complete all their reporting requirements from one simple screen.

Terminals can be password protected and multiple users can access the same terminal from multiple locations.

Manufacturing Operations Management is shipped with 8 pre-configured Workbench Terminal definitions ready for immediate use. The configuration of these terminals has been designed to service well established manufacturing models and you can start to use them as a template with minimal further configuration.

Pre-configured Workbench Terminals

Terminal Name	Description
1 - Entrance	Clock in and out to start/end your data
2 - Basic	Basic terminal with limited options
3 - Advanced	Advanced terminal with extended functionality
4 - Crew	Advanced terminal with crew functionality
5 - Time Entry	Time entry terminal for employees using timesheets
6 - Equipment	Equipment terminal with downtime tracking
7 - Materials	Advanced terminal with materials issue capabilities
8 - Office	Office terminal for non-manufacturing personnel

Creating a new clock-in terminal

The following steps describe how to create a clock-in terminal

Hi Colin

The company requires a new clocking in/out terminal to be situated at the entrance of the building. The terminal will be presented on a tablet device and should be used by all employees setup in MOM.

Please action at your earliest convenience.

Thanks

1. Select the **Workforce** Menu.
2. Select **Terminal Maintenance**.
3. Tick **1 - Entrance**.
4. Select **Copy**.
   Enter *Outdoors Entrance* in the **Terminal Name** field.
5. Select**Save**.

Creating a shop floor terminal

The following steps describe how to create a shop floor terminal.

Hi Colin,

The company requires a new shop floor terminal to be situated in the bicycle assembly Work Center. The terminal will be presented on a tablet device and should display the same functionality as the template '3 - Advanced'. The terminal should be configured for MBFA01, MBFA02. We may add additional equipment at a later date.

Please action at your earliest convenience.

Thanks

1. Select the **Workforce** Menu.
2. Select **Terminal Maintenance**.
3. Tick **3 - Advanced**.
4. Select **Copy**.
5. Enter *Assembly* in the **Terminal Name** field.
6. Select […] in the **Linked Equipment** field.
7. Click on **MBFA/MBFA01, MBFA/MBFA02**.
8. Select **OK**.
9. Select **Save**.

Testing your new terminal from the workbench

The following steps describe how to test your new terminal from the workbench.

1. Select the **Workforce** Menu.
2. Select **Workbench**.
3. Select **Terminals**.
4. Tick **Outdoors - Entrance**.
5. Enter *110* in the **ID** field.
6. Select **Login**.
7. Select **Terminals**.
8. Select **Assembly**.
9. Enter *110* in the **ID** field.
10. Select **Login**.

Viewing a list of terminals

The following steps describe how to view a list of terminals.

1. Select the **Workforce** Menu.
2. Select **Terminal Maintenance**.
3. Confirm required terminals have been setup.
4. Select**Export** (if required).

Configuring your Terminal (Quick)

Terminal elements can be configured, added or removed to suite the functionality of the terminal. For instance, some elements could be required in one terminal but not in another. For example, the Kit issue and Material Issue functions may be relevant to a group of employees in production areas such as picking but not in assembly.

Terminals can be linked to one or multiple equipment records, this enables the employees, when opening the Workbench, to view the schedules put together by the Planner. Data collection is gathered, if enabled, by linking one or multiple equipment to a Terminal.

Terminals can also be configured to filter only relevant data to that terminal.

Designing your terminal

The following steps describe how to design your terminal (add/remove buttons and elements.

Hi Colin,

The assembly terminal is displaying a button for Barcode Entry. This button is not required in the assembly Work Center and should be removed from the terminal configuration.

Please action at your earliest convenience.

Thanks

1. Select the **Workforce** Menu.
2. Select **Terminal Maintenance**.
3. Tick **Assembly**.
4. Select **Edit**.

   Within the *On-Screen Elements* section, deselect the elements:

   Barcode Task Entry (Large)

   Barcode Task(s) Entry (Large)
5. Select **Save**.

Linking equipment to your terminal

The following steps describe how to link equipment to your terminal.

Hi Colin

The assembly terminal should be updated to display additional equipment MBFA03 and MBFA04.

Please action at your earliest convenience.

Thanks

1. Select **Workforce** Menu.
2. Select **Terminal Maintenance** .
3. Tick **Assembly**.
4. Select **Edit**.
5. Select […] in the **Linked Equipment** field.
6. Select **Edit**.
7. Select **MBFA/MBFA03** and **MBFA/MBFA04**.
8. Select **OK.**.
9. Select **Save**.

Controlling access to your terminal

The following steps describe how to control access to your terminal.

Hi Colin

The assembly terminal should be restricted to members of the Workers [1] group. Currently the terminal is configured for unrestricted access.

Please action at your earliest convenience.

Thanks

1. Select the **Workforce** Menu.
2. Select **Terminal Maintenance**.

3. Tick **Assembly**.
4. Select **Edit**.
5. Under **User Access**, select **Access Control**.
6. Select […] in the **Access Control** field.
7. Expand **Manufacturing**.
8. Expand **Production**.
9. Expand **Line 1**.
10. Expand **Supervisor [1]**.
11. Select **Workers [1]**.
12. Select **OK**.
13. Select **Save**.

Filter data for your terminal using static and dynamic filters

Data Filters in Terminal Maintenance are used to filter the data that is displayed to users of the Workbench. Two types of filters are available

- Static
- Dynamic

Static filters provide you with the ability to filter data based on a fixed value. Multiple conditions are supported.

Condition Examples

Condition	Filter Value	Column Name
Item equals B100	B100	Item
Item equals B100 or B200	B100; B200	Item
Item equals B100 and Operation equals 10	B100	Item
	10	Operation
Item equals B100 and Operation does not equal 10	B100	Item
	!10	Operation
Item does not equal B100 or B110	!B100; B110	Item

Dynamic filters provide you with the ability to use current context filters to filter data. For example, you want to filter tasks where the operation Work Center code is the same as the employee's home Work Center.

Restricting a terminal to a stock code

The following steps describe how to restrict a terminal to a stock code.

Hi Colin,

The assembly terminal should be restricted to only display tasks for stock code B100. Currently the terminal is configured to show tasks for all stock codes.

Please action at your earliest convenience.

Thanks

1. Select the **Workforce** Menu.
2. Select **Terminal Maintenance**.
3. Tick **Assembly**.
4. Select **Edit**.
5. Select […] in the **Data Filters** field.
6. Within the options window, enter *B100* in the **Stock Code** field.
7. Select **OK**.
8. Select **Save**.

Configuring your Terminal (Advanced)

Advanced Settings are used to define how the application collects and processes manufacturing data. These are important and complex settings whose configuration requires an in depth understanding of the both the application and the organization. Do not edit these settings unless you fully understand the ramifications of the changes you may make. Inaccurate setup may cause the application to capture data incorrectly or interpret data collection unreliably.

Advanced Settings - Summarized		
Tab Name	**Sub Tab**	**Purpose**
Workbench	Terminals	Used to define and configure data entry terminals across your business and shop floor. Control access using passwords. Create dynamic views of data depending on the employee accessing the terminal.
	Statuses	Used to track an employee's or equipment's status at a point in time. The application is shipped with a number of pre-defined status codes.
	Elements	Used by the Workbench to control the different types of functions available to the user. Every On-Screen Element (button) on the Workbench has a set of functions assigned to it. Functions are used to pre-define the button's behavior and processes that will be executed in the background by pressing that button

Advanced Settings - Summarized		
Tab Name	**Sub Tab**	**Purpose**
	Matrix	Used to determine the relation between statuses and On-Screen elements so the application knows which On-Screen elements to show or execute on the Workbench screen in regards to status of the employee/equipment.
Designer	Grid Settings	Used to define the columns and their sequence for certain types of grid layout screens. **Note:** Workbench grid settings are defined in the Workbench onscreen elements \ function settings.
	Column Width	Used to control the column width and sort order of certain screens.
	Column Width (Workbench)	Used to control the column width and sort order of workbench.
Analytics	Alerts	Used to define and manage the measurement, schedule, recipient information, notification method and message template for default management alerts.
	Dial/Bar KPI's	Throughout Manufacturing Operations Management there are many visual presentations of performance, availability, quality etc. These act as a quick visual key performance indicator for the organization and can be customized to display different colors based on pre-defined threshold values. Dial and Bar KPI's are seen in areas such as the Workbench, Reports and Dashboards.
Definitions	Issues	Used to define types of issue codes for reporting and analytical purposes. The application is shipped with a number of issue codes by default. Additional codes can be added where required.
	Custom	Used to define types of custom codes for reporting and analytical purposes. The application is shipped custom codes by default. Additional codes can be added where required.
	Dropdown	Used to define additional reporting details for analytical purposes. The application is shipped with the

Advanced Settings - Summarized		
Tab Name	**Sub Tab**	**Purpose**
		following dropdown codes by default. Additional codes can be added where required.
	Extended	Used to define which additional tracking fields are required for reporting or analytical purposes.
	Classifications	Used to create predefined classification values for reporting and analytical purposes. The application is shipped with the following classification codes by default and are provided as a guide. Classification values can be updated to suit the company's reporting requirements.
	Data	Used to control which columns are displayed in relation to stock code and job, operations, jobs, jobs with drill down to operation.
	Tasks	Used to categorize time in the context of job or activity subject. Tasks can be created to suit the company's requirements.
	Periods	Used to edit, delete and create default filtering periods for the application.
	Diversions	Used to categorize time by cost type and operational type. New diversions can be created to suit the company's requirements.
	Scheduler	Used to create, edit and delete fixed or recurring schedule times. Schedules are used to automate the execution of on-screen elements. For example, sending employees to break, lunch etc. The application is shipped with default schedules
	Bookmarks	Used to manage user or companywide quick links that appear on the applications home page. With the exception of the Workbench, Users can add Bookmarks manually by clicking on the Bookmark option from any application page.
Timesheet	N/A	Used to configure the layout and default values provided in Timesheets.
Permissions	N/A	Used to manage global transaction permissions. From this screen you can determine whether transactions can be edited or deleted.

Advanced Settings - Summarized		
Tab Name	**Sub Tab**	**Purpose**
Rules	N/A	Used to manage the default approval status of generated transactions. The application is shipped with default rules.
General	N/A	Used to manage default application settings in relation to data collection, display of decimals, group security and data management. The application is shipped with default settings.
Profiles	N/A	Used to backup all settings of the current configuration. When saved to the database, the profile can be exported to file.

Note: This guide does not provide scenarios for all advanced settings but instead provides examples of the top 10 configurations requested during implementation.

#1 - Automatically send all or certain Employees to break at hh:mm

Workforce Manager allows for the configuration of auto scheduled events that are run in the background. Scheduled events are particularly useful for actions of a repetitive nature.

Creating a schedule to start break

The following steps decribe how to create a schedule to start break.

Hi Colin,

We would like to remove the need for all employees to manually change their status to 'break'. Considering all employees are sent to break every day at the same time we would prefer that the application automatically changed their status to break at 10:00. The break is to last for a duration of 15 minutes.

Please action at your earliest convenience.

Thanks

1. Select **Advanced Settings** Menu.
2. Select **Definitions**.
3. Select **Scheduler**.
4. Select **New**.
5. Enter *Break Start at 10:00* in the **Code** field.
6. Enter *Break Start at 10:00* in the **Description** field.
7. Select **Fixed** Schedule Type.
8. Enter *10:00* in the **Fixed Time** field.

9. Select days **Monday** through to **Friday**.
10. Select **Save**.

Creating a new on-screen element

The following steps describe how to create a new On-screen element to change the status to break.

1. Select the **Advanced Settings** Menu.
2. Select **Workbench**.
3. Select **Elements.**
4. Select **New**.
5. Enter *Scheduled Break Start- 10:00* in the **Code** field.
6. Enter *Scheduled Break Start - 10:00* in the **Description** field.
7. Select **Break Start at 10:00** from the **Execute by Schedule** lookup.
8. Select **Save**.
9. Under the **Functions** tab, select **New**.
10. Select **Status Change** from the **Function** lookup.
11. Select **Update**.
12. Select **Settings**.
13. Select **Break** from the **Target Status** lookup.
14. Select **Save**.
15. Click on the **Statuses** Tab.
16. Select status codes **Clocked-In**, **Meeting**, **Project** and **Training**.
17. Select **Save**.

Creating a schedule to end break

The following steps describe how to create a schedule to end a break.

1. Select the **Advanced Settings** Menu.
2. Select **Definitions**.
3. Select **Scheduler**.
4. Select **New**.
5. Enter *Break End at 10:15* in the **Code** field.
6. Enter *Break End at 10:15* in the **Description** field.
7. Select **Fixed** Schedule Type.
8. Enter *10:15* in the **Fixed Time** field.
9. Select days **Monday** through to **Friday**.
10. Select **Save**.

Creating a new on-screen element to change status back to previous

The following steps describe how to create a new on-screen element to change the status to back to previous status.

1. Select the **Advanced Settings** Menu.
2. Select **Workbench**.

3. Select **Elements**.
4. Select **New**.
5. Enter *Scheduled Break End - 10:15* in the **Code** field.
6. Enter *Scheduled Break End - 10:15* in the **Description** field.
7. Select **Break End at 10:15** from the **Execute by Schedule** lookup.
8. Select **Save**.
9. Under the **Functions** tab, select **New**.
10. Select **Status Change** from the **function** lookup.
11. Select **Update**.
12. Select **Settings**.
13. Tick **Back to Previous Status**.
14. Select **Save**.
15. Click on the **Statuses** Tab .
16. Select status codes **Break**.
17. Select **Save**.

#2 - Automatically clock off all or certain Employees at hh:mm

Creating a schedule to clock out

The following steps describe how to create a schedule to clock out employes

> Hi Colin,
>
> We would like to remove the need for all employees to manually clock out at the end of the day. Considering all employees clock out at the same time every day, we would prefer that the application automatically clocked the employee out at 17:00.
>
> Please action at your earliest convenience.
>
> Thanks

1. Select the **Advanced Settings** Menu.
2. Select **Definitions**.
3. Select **Scheduler**.
4. Select **New**.
5. Enter *Clock Out at 17:00* in the **Code** field.
6. Enter *Clock Out at 17:00* in the **Description** field.
7. Select **Fixed** Schedule Type.
8. Enter *17:00* in the **Fixed Time** field.
9. Select days **Monday** through to **Friday**.
10. Select **Save**.

Creating a new on-screen element to change status to clocked out

The following steps describe how to create a new on-screen element to change status to clocked out.

1. Select the **Advanced Settings** Menu.
2. Select **Workbench**.
3. Select **Elements**.
4. Select **New**.
5. Enter *Scheduled Clock Out- 17:00* in the **Code** field.
6. Enter *Scheduled Clock Out- 17:00* in the **Description** field.
7. Select **Clock Out at 17:00** from the **Execute by Schedule** lookup.
8. Select **Save**.
9. Under the **Functions** tab, select **New**.
10. Select **Status Change** from the **function** lookup.
11. Select **Update**.
12. Select **Settings**.
13. Select **Out/Off** from the **Target Status** lookup.
14. Select **OK**.
15. Select on the **Statuses** Tab.
16. Select status codes **Clocked-In**, **Meeting**, **Project** and **Training**.
17. Select **OK**.
18. Select **Save**.

#3 - Alert me if an Employee has not clocked off

(i.e. notify me when an employee has been clocked in for longer that X hours)

MOM provides your organization with a number of pre-defined Management Alerts which can be configured to monitor performance, quality, or availability for either employees or equipment. Product Users that are assigned as a group owner will automatically receive Management Alerts for group members (employees or equipment) as defined in the Organizational Hierarchy.

Creating email alerts

The following steps describe how to create email alerts.

> Hi Colin,
>
> We would like to receive an alert when employees in the workers [1] group are clocked in for more than 8 hours.
>
> We have a few employees who forget to clock out and we would like to be notified of this problem. The alert should be sent via email to the supervisor of the workers [1] group every 30 minutes.
>
> Please action at your earliest convenience.
>
> Thanks

1. Select the **Workforce Manager** Menu.

2. Select **Alert Maintenance**.
3. Double Click on the **Time since Clock in Alert**.
4. Under the **General** section, tick **Active**
5. Under the **Analysis** section
   a) Enter *0.00* in the condition **start** field.
   b) Enter *8.00* in the condition **end** field.
6. Under the **Details** section.
   a) Select **Every 30 minutes** from the **Execution Schedule** lookup.
   b) Select […] in the **Recipients** field.
   c) Expand **Manufacturing**.
   d) Expand **Production**.
   e) Expand **Line 1**.
   f) Select the Recipient **Supervisor [1]**.
   g) Select **Direct** from the **Group Application** lookup.
   h) Select **OK**.
   i) Select **Save**.

Note: The above alerts will be active the next time an employee clocks into the Workbench and when the clocked in duration is greater than 8 hours. The alert will continue to email the Supervisor until the employee has clocked out.

#4 - Configure Message button for external mail delivery

Configuring message on-screen element

The following steps describe how to configure a message on-screen element.

> Hi Colin,
>
> Please extend the functionality of the message button on the workbench so messages are also delivered to the recipient by email.
>
> Please action at your earliest convenience.
>
> Thanks

1. Select the **Settings** Menu.
2. Select the **Advanced Settings** Menu.
3. Select **Workbench**.
4. Select **Elements**.
5. Tick **Messages (Small)**.
6. Select **Edit**.
7. Click **Settings** in the sequence 20 row.
8. Tick **Send by Email**.
9. Select **Save**.
10. Select **Close**.

Configuring SMTP Mail Settings

The following steps describe how to configure SMTP mail settings.

1. Select the **Settings** Menu.
2. Select **Settings**.
3. Configure the Email Settings with a valid email account.
4. Select **Save**.
5. Select **OK** to restart the site

   The email account specified in the SMTP Mail Settings will be used to send email externally.

Email Settings	Address	Email address for all Messaging
	From	From address for all Messaging
	Alias	Alias address for all Messaging
	Server	SMTP Server address
	Port	SMTP Port Number
	Account	Mailbox account
	Password	Mailbox password
	Enable SSL	SSL required/not required

#5 - Changing the default period for displaying scheduled tasks

The default workbench terminal templates are configured to show scheduled tasks for +/- 3 days. The default date period against a terminal can be amended to show tasks using any of the following default periods. In addition, new periods can be created as required.

Code	Description
+14 Days	Today + 14 Days
+30 Days	Today + 30 Days
+7 Days	Today + 7 Days
+/- 3 Days	Today +/- 3 Days
Today	Today

Creating a new period

The following steps describe how to create a new period.

Hi Colin,

For all terminals, we would like to change the default task period to +/- 5 days. Currently the terminal is configured for +/- 3 days.

Please action at your earliest convenience.

Thanks

1. Select the **Advanced Settings** Menu.
2. Select **Definitions**.
3. Select **Periods**.
4. Select **New**.
5. Enter *+/- 5 days* in the **Code** field.
6. Enter *+/- 5 days* in the **Description** field.
7. Select **5** from the **Current Date - Days** lookup.
8. Select **5** from the **Current Date + Days** lookup.
9. Select **Save**.

Updating the workbench period filter

The following steps describe how to update the workbench period filter

1. Select the **Advanced Settings** Menu.
2. Select **Workbench**.
3. Select **Elements**.
4. Double click **Workbench (Employee)**.
5. Select **Settings**.
6. Select **+/- 5 Days** from the **use period to filter** lookup.
7. Select **Save**.
8. Repeat steps 1-7 for the **Workbench (Equipment)** element.

#6 - Make it easy for operators to track non-productive time

(e.g. create Workbench buttons for non-productive codes)

MOM includes several possibilities for tracking non-productive time. The application is pre-configured with a number of indirect diversions which by default are excluded from posting to Work in Progress.

Pre-configured indirect diversions

Code	Description
Break	Break
Holiday	Holiday
Meeting	Meeting
No Task	Idle time
Sick Leave	Sick leave
Training	Training

Additional diversion codes can be created to meet the requirements of the organization.

Creating an new diversion code

The following steps describe how to create a new diversion code.

> Hi Colin,
>
> Against the Assembly Terminal, we would like to track time spent on 'Staff Development'. We do not need to post this time to Work in Progress. Staff Development would need to behave the same as Break from the Workbench terminal.
>
> Please action at your earliest convenience.
>
> Thanks

1. Select the **Advanced Settings** Menu.
2. Select **Definitions**.
3. Select **Diversions**.
4. Select **Custom**.
5. Select **New**.
6. Enter *Staff Development* in the **Code** field.
7. Enter *Staff Development* in the **Description** field.
8. Select **Indirect** from the **Type** lookup.
9. Enter *CLEAN* in the **ERP Non- Production Code** field.
10. Select **Downtime** from the**Operational** field.
11. Select a **Color** from the color palette.
12. Select **Save**.

Creating a new task

The following steps describe how to create a new task.

1. Select the **Advanced Settings** Menu.
2. Select **Definitions**.
3. Select **Tasks**.
4. Select **New**.
5. Enter **Staff Development** in the **Code** field.
6. Enter *Staff Development* in the **Description** field.
7. Select **Staff Development** from the **Diversion** lookup.
8. Select **Save**.

Creating a new workbench status

The following steps describe how to create a new workbench status.

1. Select the **Advanced Settings** Menu.
2. Select **Workbench**.
3. Select **Statuses**.
4. Select **New**.
5. Enter *Staff Development* in the **Status** field.
6. Enter *Staff Development* in the **Description** field.

7. Select the Pre-Defined Task **Staff Development** from the **Task Code** lookup.
8. Select **Clocked Time Counted**.
9. Select **Codes**.
   a) Active Tasks
   b) Back to Previous (Large)
   c) Back to Previous (Small)
   d) End Day (Entrance)
   e) End Day (Large)
   f) End Day (Small)
   g) Scheduled Events
   h) Stop all Tasks (Large)
   i) Stop all Tasks (Small)
   j) Timesheet Terminal Entry
10. Select **Save**.

Creating a new on-screen element

The following steps describe how to create a new On-screen element to change the status to break.

1. Select the **Advanced Settings** Menu.
2. Select **Workbench**.
3. Select **Elements.**
4. Select **New**.
5. Enter *Scheduled Break Start- 10:00* in the **Code** field.
6. Enter *Scheduled Break Start - 10:00* in the **Description** field.
7. Select **Break Start at 10:00** from the **Execute by Schedule** lookup.
8. Select **Save**.
9. Under the **Functions** tab, select **New**.
10. Select **Status Change** from the **Function** lookup.
11. Select **Update**.
12. Select **Settings**.
13. Select **Break** from the **Target Status** lookup.
14. Select **Save**.
15. Click on the **Statuses** Tab.
16. Select status codes **Clocked-In**, **Meeting**, **Project** and **Training**.
17. Select **Save**.

Creating a new non-productive code and job

The following steps describe how to add a new non-productive code and job.

> Hi Colin,
>
> Against the Assembly Terminal, we would like to track time spent on 'Cleaning'. Please setup a new non-productive code in Work in Progress called CLEAN that we can post the time against.
>
> Please action at your earliest convenience.

hanks

1. Create a new **Non-Productive Code** in Work in Progress with code **CLEAN**.
2. Create a new Job in Work in Progress for non-stocked item **CLEANING**.
3. Create an operation against the **Cleaning** Job for **MBFA01**.

Creating a new diversion code

The following steps describe how to create a new diversion code.

1. Select the **Advanced Settings** Menu.
2. Select **Definitions**.
3. Select **Diversions**.
4. Select **Custom**.
5. Select **New**.
6. Enter *Cleaning* in the **Code** field.
7. Enter *Cleaning* in the **Description** field.
8. Select **Indirect** from the **Type** lookup.
9. Enter *CLEAN* in the **ERP Non- Production Code** field.
10. Select **Downtime** from the**Operational** field.
11. Select a **Color** from the color palette.
12. Select **[…]** to open the Task lookup.
13. Select the **Cleaning Job** created in step 2 of previous task.
14. Select **Save**.

Creating a new on-screen element

The following steps describe how to create a new on-screen element for cleaning.

1. Select the **Advanced Settings** Menu.
2. Select **Workbench**.
3. Select **Elements.**
4. Select **New**.
5. Enter *Cleaning* in the **Code** field.
6. Enter *Cleaning* in the **Description** field.
7. Select **Save**.
8. Under the **Functions** tab, select **New**.
9. Select **Button** from the **Function** lookup.
10. Select **2/1** in the **Size** lookup.
11. Select **Update**.
12. Under the **Functions** tab, select **New**.
13. Select **Status Change** from the **Function** lookup.
14. Select **Update**.
15. Click **Settings** in the sequence 20 row.
16. Select **Cleaning** in the **Target Status** lookup.

17. Select **Save**.
18. Under the **Functions** tab, select **New**.
19. Select **Process Data** in the **Function** lookup.
20. Select **Update**.
21. Click **Settings** in the sequence 20 row.
22. Select all **Processing** options.
23. Select **Save**.
24. Click on the **Statuses** Tab.
25. Select status codes **Clocked-In**.
26. Select the **Terminals** tab.
27. Select **Assembly**.
28. Select **Save**.

#7 -Track my work alerts

(i.e. add custom production issues for tracking and analysis)

MOM provides your organization with a number of pre-defined production issue codes for reporting and analytical purposes. Additional production issue codes can be created to meet the reporting and analytical requirements of the organization. *Pre-Configured Production Issue Codes*

Type	Category	Classification
Availability	Breakdown	Breakdowns
	Setup and Adjustments	Setup and Adjustments
Custom	Health & Safety	Accident
		Near Miss
	Loading	Loading Issue
Performance	Minor Stops	Cleaning/Checking
		Component Jams
		Delivery Blocked
		Equipment Wear
		Obstructed Product Flow
		Sensor Blocked
	Reduced Speed	Operator Inefficiency
		Rough Running
	Under Design Capacity	Under Design Capacity
Quality	Rejects	Production Rejects
	Startup Rejects	Startup Rejects

Tracking production issues

The following steps describe how to track production issues.

Hi Colin,

We would like to add a new production issue code for tracking power outages. We have experienced a few power issues in the DRILL Work Center and need to identify if we are experiencing power outages anywhere else in the factory.

Please action at your earliest convenience.

Thanks

1. Select the **Factory Manager** Menu.
2. Select **Issue Maintenance**.
3. Select **New**.
4. Select **Performance** from the **Type** lookup.
5. Select **Minor Stops** from the **Category** lookup.
6. Enter *Power Outage* in the **Classification** field.
7. Enter *Power Outage* in the **Description** field.
8. Select **Save**.

#8 -Track the reasons when we scrap product

(i.e. add scrap reason codes)

MOM provides your organization with a number of pre-defined scrap reason codes for reporting and analytical purposes. Additional scrap reason codes can be created to meet the reporting and analytical requirements of the organization. For integration of scrap to Work in Progress, scrap reason codes must be created in MOM with matching code values.

Pre-configured Scrap Reason Codes

Scrap Code	Scrap Description
DC	Dust contamination
DG	Damaged goods
ES	Early supply
LS	Late supply
RM	Raw material quality problem
Scrap	Scrap

Adding a scrap reason code

The following steps describe how to add a scrap reason code.

Hi Colin,

We would like to add a new scrap reason code in MOM for tracking incorrect assembly. The reason code (Incorrect) has already been setup in Work in Progress for this purpose.

Please action at your earliest convenience.

Thanks

1. Select the **Advanced Settings** Menu.
2. Select **Definitions**.
3. Select **Dropdowns**.
4. Select **New**.
5. Select **Scrap** from the **Type** lookup.
6. Select **Scrap** from the **Dropdown** lookup.
7. Enter *Incorrect* in the **Value** field.
8. Enter *Incorrect* in the **Description** field.
9. Select **Save**.

#9 - Reduce the time required to review transactions

(i.e. apply transaction rules for exception based management)

Transaction rules are used to control how generated transactions will behave by default. Transactions rules can be defined by transaction type, condition, diversion, employee or equipment. Once configured, the default transaction status will be assigned based on the default status value set in the transaction rule. This feature can be configured to help streamline the review and approval process within your organization.

MOM includes 3 approval transaction statuses:

Approval Status Value

Transaction Status	Meaning
Submitted	Submitted transaction that requires approval before posting to WIP
Approved	Approved transaction that is ready to post to WIP
Excluded	Excluded from posting to WIP

MOM includes 3 pre-configured transaction rules.

Pre-configured Transaction Rules

Rule	Rule Description	Type	Approval Status
Exclude Equipment	Do not post equipment transactions	Equipment Time	Excluded
Excluded	Exclude diversion transactions	All default diversions	Excluded
Issue/Reject	Approve Material/Issue/Reject Transactions	Material Issue and Material Reject	Approved

Note:

Transaction rules only apply to transactions generated from the Workbench.

Creating transaction rules

The following steps describe how to create transaction rules.

Hi Colin, We would like to automatically approve all quantity transactions where the quantity is less than 1000.

This would help us streamline the approval process.

Please action at your earliest convenience.

Thanks

1. Select the **Advanced Settings** Menu.
2. Select **Rules**.
3. Select **New.**
4. Enter *Quantity < 1000* in the**Code** field.
5. Enter *Quantity < 1000* in the**Description** field.
6. Select **Approved** from the **Approval Status** lookup.
7. Select the **Type** tab.
8. Untick **Labor Time**.
9. Select the **Conditions** tab.
10. Tick **If Quantity is**.
11. Enter *1000* in the **than specified value** field.
12. Select **Save**.

#10 - Set transaction management rights

(i.e. who can edit or delete transactions)

MOM provides the ability to control who can edit or delete transactions created when collecting data from the shop floor. These permissions are often set as part of the configuration. For more information on Transactions please refer to Workbench Step #9 Review Transactions.

The permissions to edit or delete transactions can be set either:

1. Globally, from the **General** Advanced Settings.
2. Within the **My Time** On-Screen Element
3. Within the **Timesheet Terminal Entry** On-Screen Element

Preventing Transactions from being edited or deleted

The following steps describe how to prevent transactions from being edited or deleted.

Hi Colin,

We would like to prevent employees who access the Assembly terminal from editing or deleting transactions through the My Time On-Screen Element.

Please action at your earliest convenience.

Thanks

1. Select the **Advanced Settings** Menu.
2. Select **Workbench**.

3. Select **Elements**.
4. Check **My Time (Small)**.
5. Select **Copy**.
6. Enter *My Time (Assembly)* in the **Code** field.
7. Select **Settings** on the Sequence 20 (timesheet) function.
8. Deselect the general options:
   a) Allow transactions to be deleted
   b) Allow transactions to be edited
9. Select **Save**.
10. Select **Save**.
11. Select **Workbench**.
12. Select **Terminals**.
13. Double Click on the **Assembly** Terminal.
14. Deselect the **My Time (Small)** On Screen Element.
15. Select the **My Time (Assembly)**.
16. Select **Save**.

Collect and Track - Processing

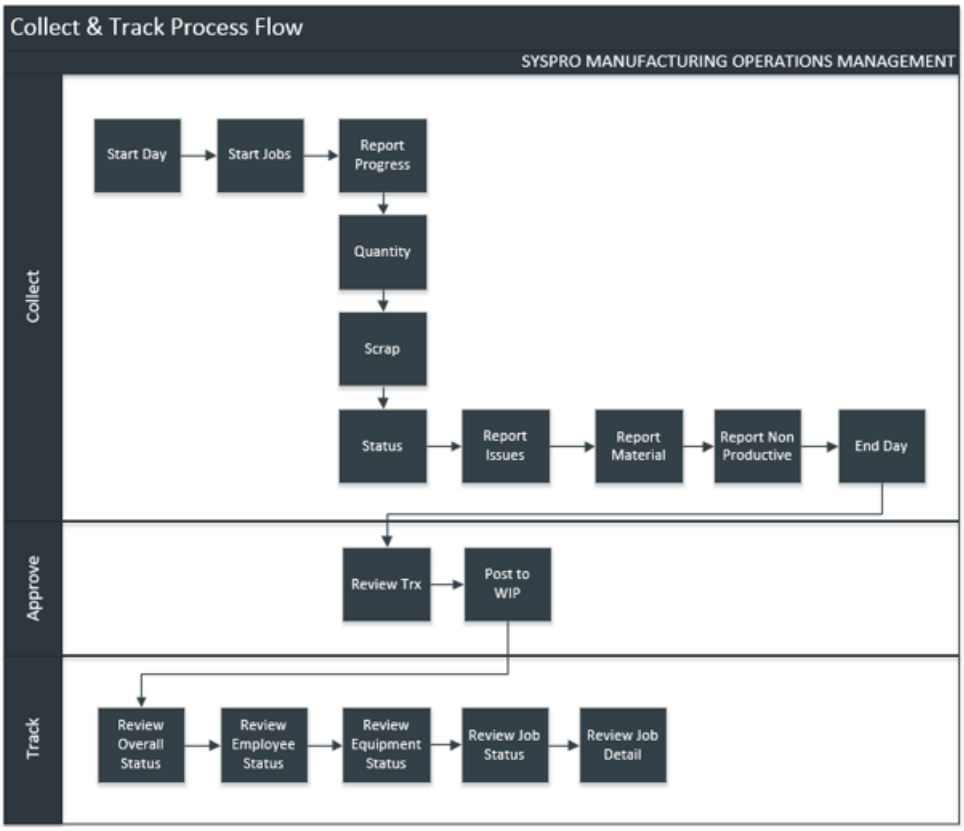
Frontline managers need complete visibility and control of the shop floor to prevent problems such as overruns, downtime, poor employee or machine performance and excessive scrap from occurring. Collecting this data by conventional methods can be complicated, time-consuming and expensive.

MOM incorporates shop floor data collection (SFDC) from your employees and equipment with options to automatically connect your machines in order to read data without manual inputs, helping to digitize your factory (Industry 4.0).

The solution provides manufacturers with real-time shop floor visibility , helping to eliminate manual processes and increase productivity. It enables you to execute production plans while simply and accurately capturing and measuring activities on the factory floor such as labor hours, materials issued, quantities reported, scrap and more.

Process Flow

The Workbench feature is an essential part of Workforce Manager. Designed to interact with manufacturing workers and equipment on the shop floor, the Workbench typically runs on portable devices such as tablets and iPads but can still be run on computers and laptops. As Workforce Manager is a fully web enabled application, users can access the Workbench from any remote location. Whether this is from a separate factory location or whilst on the move from a mobile device, the Workbench is a scalable and flexible data collection solution.



Collecting Data

Recording labor against a job

The following steps describe how to record labor against a job.

1. Select the **Workforce** Menu.
2. Select **Timesheet Entry**.
3. Click […] in the **Employee** field.
4. Select **Employee**.
5. Select **OK**.
6. Click […] in the **Task** field.
7. Select **Task**.
8. Select **OK**.
9. Click […] in the **Equipment** field.
10. Select **Equipment**.
11. Select **OK**.
12. Enter *8* in the **Hours** field.
13. Click the **+** symbol.
14. Select **Save**

    You can use the +/- symbol to create or remove lines to submit multiple lines of data which are then saved to the Transactions Review.

    The layout and default values provided in Timesheets can be customized by Administrators within Advanced Settings.

Automatically approving transactions

The following steps describe how to automatically approve transactions.

> Hi Colin
>
> It has been noticed that it is very labor intensive to manually approve each timesheet entry.
>
> Is it possible set these to approve automatically? Please action at your earliest convenience.
>
> Thanks

1. Select the **Advanced Settings** Menu.
2. Select **Timesheet**.
3. Select **Approved** from the **Set default approval status as dropdown.**
4. Select **Save**.

Workbench

Login

The steps describe how to login each day.

Hi Colin,

Dan Fisherman has started working for the company today and will need to be shown how to clock in to the Entrance Terminal.

His employee ID is 110

Please action at your earliest convenience.

Thanks

1. Select **Workforce Manager**.
2. Select **Workbench**.
3. Select **Terminals**.
4. Select **Entrance**.
5. Enter *110* in the **ID** field.
6. Select **Login**.

Login at a terminal

The following steps describ how to login at a terminal.

Hi Colin,

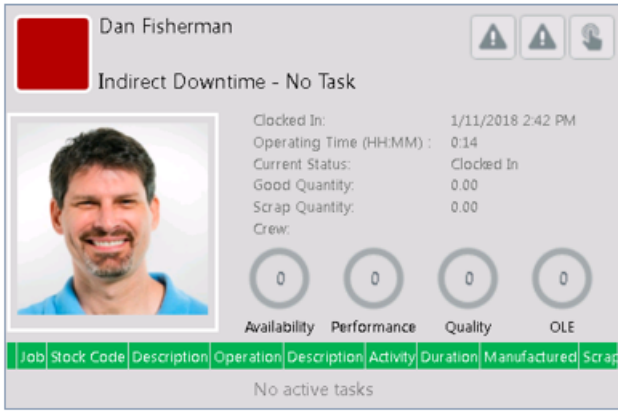
Dan Fisherman has started working for the company today and will need to be shown how to clock in to the Assembly Terminal and use all available functions. His employee ID is 110.

Please action at your earliest convenience.

Thanks

1. Select **Workforce Manager**.
2. Select **Workbench**.
3. Select **Terminals**.
4. Select **Assembly**.
5. Enter *110* in the **ID** field.
6. Select **Login**

   Once the employee has clocked in, their status will change from Clocked Out to Clocked In. This can be seen from the employee status screen.



Sending messages

The following steps describe how to send messages.

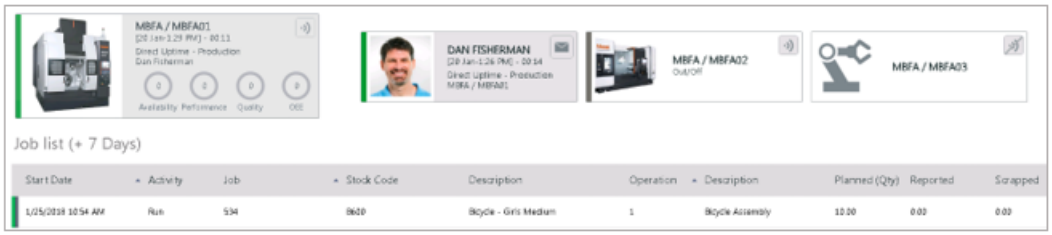
1. Select **Message**.
2. Select **New**.
3. Enter *Meeting Today* in the **subject** field.
4. Enter *Unfortunately I will unable to make today's meeting* in the **message body** field.
5. Select **Send.**

The message will be sent automatically to Dan's line manager. The message center indicator will change color on the line manager's screen to indicate they have a new message.

Starting a schedule task

The following steps describe how to start a scheduled task.

1. Select **Equipment - MBFA01** in the workbench header area.
2. Select **Turn On**.
3. Select Activity **Run** for Job **534** Operation **1**.
4. Select **Start**.



Once the task has been started, the employee and equipment status indicators change to a green bar which means **Run** activity is in progress. In addition, the job status indicator changes to a green and grey bar. Meaning both employee (green bar) and equipment (grey bar) are running the task.

Starting an un-scheduled task

The following steps describe how to start an ub-scheduled task.

1. Select **Add Task**.
2. Select **Job 538**.
3. Select **Activity Setup for Job 538 Operation 1**.
4. Select **OK**.

Once the task has been started, the employee and equipment status indicators change from a single green bar to a green and yellow bar. Meaning both **Run** and **Setup** activity is in progress. In addition, the job status indicator changes to a green and grey bar. Meaning both employee (green bar) and equipment (grey bar) are running the task.

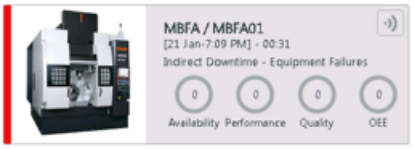
Manually raising a production issue

The following steps describe how to manually raise a production issue.

1. Select **Job 538** from the employee workbench.
2. Select **Production Issue**.
3. Select **Health & Safety** .
4. Select **Accident**.
5. Select **538.1.Setup** from the **Task** lookup field.
6. Select **MBFA01** from the **Equipment** lookup field.
7. Select **Dan Fisherman** from the **Employee** lookup field.
8. Enter *0.5* in the **Hours** field.
9. Enter *Cut finger during assembly* in the **Comments** field.
10. Select **OK**.

As soon as the production issue is raised, the **Issue Indicator** will turn red to highlight there is an issue to resolve.

Automatically raising a production issue



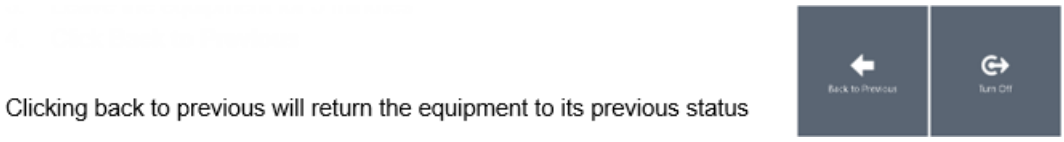
In the earlier lesson 'Configuring Clock-in/out Terminals', you were taught how to create an alert to notify the supervisor if there were any equipment failures in the MBFA Work Center. The alert was configured to generate a production issue if down for more than 5 minutes.

Raising a production issue based on status of equipment

The following steps decribe how to raise a production issue based on the status of equipment.

1. Click on equipment **MBFA/MBFA01**.

2. Select **Equipment Failure**.
3. Leave the equipment for 5 minutes
4. Click **Back to Previous**.

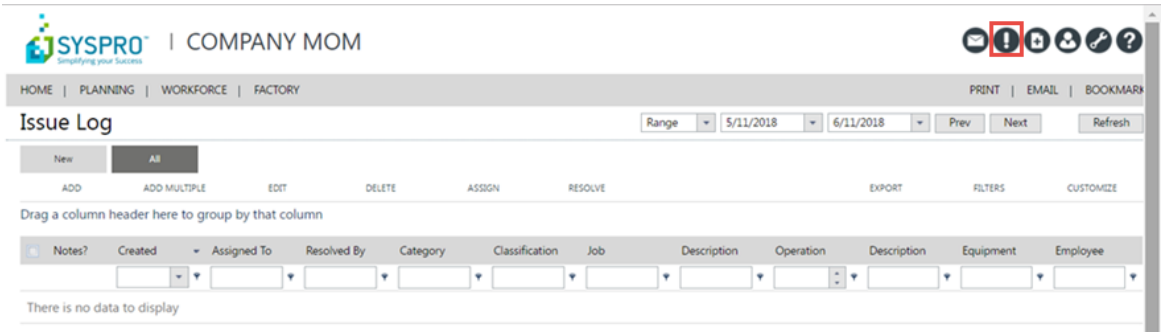


Assigning and resolving production issues

The following steps describe how to assign and resolve production issues.

Production issues can be assigned to users to investigate and resolve.

1. Click on the **Issue Log**.
2. Tick **Issue to assign**.
3. Select **Assign**.
4. Select **Manager**.

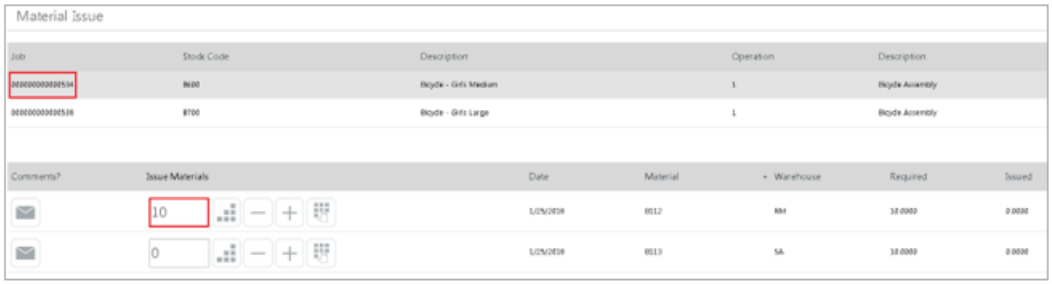


Once production issues are marked as resolved, the Issue Indicator will no longer display red.

Issuing material

The following steps describe how to issue materials to a job.

1. From the **Workbench Job List**, click on **Job 534** .
2. Select **Issue Materials**.
3. Click on **Job 534** in the header section.
4. Enter *10* in the **Job Qty** field for Material **B112**.
5. Select **OK**.



Kit issue of material

The following steps describe how to kit issue material to a job.

1. From the **Workbench Job List**, click on **Job 534**.
2. Select **Kit Issue**.
3. Enter *10* in the **Job Qty** field.
4. Select **OK**.

Additional information must be entered if the material is serialized, lotted or being issued from a binned warehouse. This is achieved from the Material Issue screen by clicking on the button to the right of the quantity field.

Fields will appear for the data that is required. You must split the entry by quantity if the lot number, serial number or bin is a unique value.

Enabling material backflushing

The following steps describe how to enable material backflushing.

1. Select **Settings**.
2. Select **Advanced Settings**.
3. Select the **Workbench** Tab.

4. Select the **Elements** Tab.
5. Locate the **Workbench (Employee)** on screen element.
6. Double click to edit the **Workbench (Employee)** on screen element.
7. Select **Settings**.
8. Select **Reporting Options**.
9. Select the option to **Backflush Materials**.
10. Select **OK**.
11. Select **Save**.
12. Select **Close**.

Reporting on non-productive time

The following steps describe how to report on non-productive time.

1. Select the **Employee** workbench.
2. Select **Staff Development**.
3. Select **Back to Previous**.

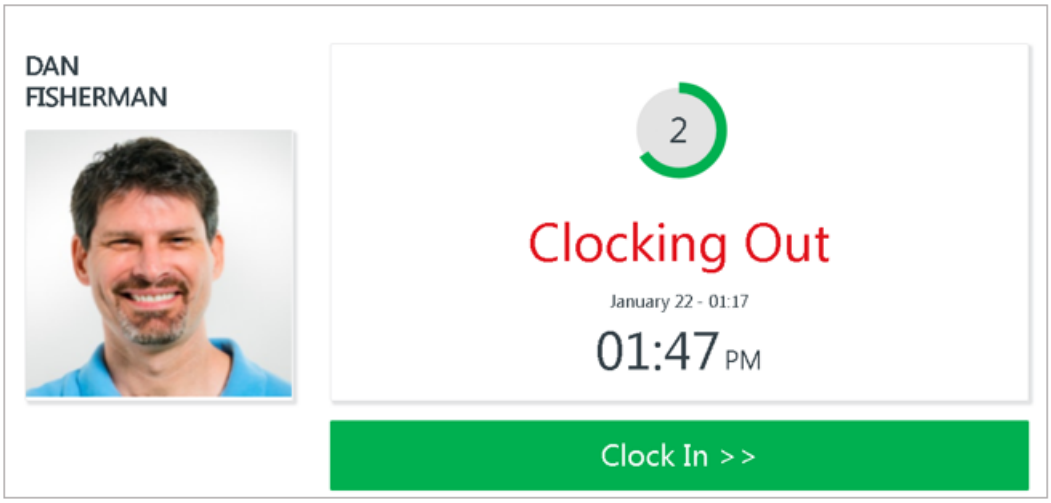
   During the earlier lesson 'Terminals', you also created a new Non-Productive Task for **Cleaning** which is to be posted to the CLEAN non-productive code in Work in Progress.

4. Select the **Employee** workbench.
5. Select **Cleaning**.
6. Select **Back to Previous**.

End of Day - Clocking out

The following steps describe how to end the day for an employee by clocking out.

1. Click on the **Employee** workbench.
2. Select **End Day**.



Tracking labor and issued materials

The following steps describe how to print a report of the labor tracked and materials issued.

> Hi Colin
>
> Please provide a report of the labor tracked and materials issued for job 534.
>
> Please action at your earliest convenience.
>
> Thanks

1. Select **Workforce Manager**.
2. Select **Job Status**.
3. Double click on **Job 534**.
4. Select **Export** in the **Operations** Section.
5. Select **Export** in the **Materials** Section.

Tracking Process

Printing Dashboards

The following steps describe how to print dashboards.

> Hi Colin
>
> Please provide a print out of the Dashboard for this week for all employees and all equipment.
>
> Please action at your earliest convenience.
>
> Thanks

1. Select **Workforce Manager**.
2. Select **Dashboard**.
3. Click **Select Employee**.
4. Tick **all** Employees.

5. Select **OK**.
6. Click **Select Equipment**.
7. Tick all **Equipment**.
8. Select **OK**.
9. Select **Week** from period dropdown.
10. Select the **week** that is current.
11. Click **Refresh**.
12. Select **Print**.

Printing Employee Status

The following steps describe how to privide a card print out of the current employee statuses for all employees.

> Hi Colin
>
> Please provide a card print out of the current Employee Status for all employees.
>
> Please action at your earliest convenience.
>
> Thanks

1. Select **Workforce Manager**.
2. Select **Employee Status**.
3. Click **Select Employee**.
4. Tick **all** Employees.
5. Select **OK**.
6. Set the **Productive** Slider to **ON**.
7. Set the **Non-Productive** Slider to **ON**.
8. Set the **Out** Slider to **ON**.
9. Select **Print**.

Clocking an Employee out

The following steps describe how to clock off an employee.

> Hi Colin
>
> Please can you clock off employee Dan Fisherman (ID 110). He appears to be clocked in but had to leave the office for an emergency meeting.
>
> Please action at your earliest convenience.
>
> Thanks

1. Select **Settings**.
2. Select **Advanced Settings**.
3. Select the **General** Tab.
4. Tick the option to **Open Workbench from Current Status** if not already ticked.
5. Select **Save**.
6. Select the **Workforce Manager** menu.

7. Select **Employee Status**.
8. Click **Select Employee**.
9. Select **Dan Fisherman**.
10. On the **Employee Card** view click on **Open Workbench**.
11. Select **End Day**.

Printing equipment status

The following steps describe how to print the current equipment status for all equipment.

> Hi Colin
>
> Please provide a card print out of the current Equipment Status for all equipment.
>
> Please action at your earliest convenience.
>
> Thanks

1. Select **Workforce Manager**.
2. Select **Equipment Status**.
3. Click **Select Equipment**.
4. Tick **all** Equipment.
5. Select **OK**.
6. Set the **Running** Slider to **ON**.
7. Set the **Not Running** Slider to **ON**.
8. Set the **Off** Slider to **ON**.
9. Select **Print**.

Exporting current job status

The following steps describe how to export the current job status for all jobs.

> Hi Colin
>
> Please provide an export of the current job status for all jobs.
>
> Please action at your earliest convenience.
>
> Thanks

1. Select **Workforce Manager**.
2. Select **Job Status**.
3. Set the filter to **(Select All)**.
4. Select **Export**.

Tracking labor and issued materials

The following steps describe how to print a report of the labor tracked and materials issued.

> Hi Colin
>
> Please provide a report of the labor tracked and materials issued for job 534.

Please action at your earliest convenience.

Thanks

1. Select **Workforce Manager**.
2. Select **Job Status**.
3. Double click on **Job 534**.
4. Select **Export** in the **Operations** Section.
5. Select **Export** in the **Materials** Section.

Analyze and Improve

Attaching a static file to a job

The following steps describe how to attach files such as assembly instructions and/or drawings to a job record.

1. Select the **Document Library** roundel.
2. Select **Orders** and then select the specific job record/s.
3. Select **Add File** and select **Add File to Job**.
4. **Drag and drop** or **click to browse** to attach your files to the selected jobs.
5. Select **Save**.
6. Select **Close** to return to the document library.
   Attached files can be viewed from the **Workbench** and the **Job Card**.

Attaching a static file to an employee

The following steps describe how to attach files such as skills matrix to an employee record.

1. Select the **Document Library** roundel.
2. Select **Employee** and then select the specific job record/s.
3. Select **Add File** and select **Add File to Employee**.
4. **Drag and drop** or **click to browse** to attach your files to the selected jobs.
5. Select **Save**.
6. Select **Close** to return to the document library.
   Attached files can be viewed from the **Employee** record and from **Employee Performance**.

Attaching a static file to equipment

The following steps describe how to attach files such as maintenance guide or service schedule to an equipment record.

1. Select the **Document Library** roundel.
2. Select **Equipment** and then select the specific job record/s.
3. Select **Add File** and select **Add File to Equipment**.
4. **Drag and drop** or **click to browse** to attach your files to the selected jobs.
5. Select **Save**.
6. Select **Close** to return to the document library.
   Attached files can be viewed from the **Equipment** record and from **Equipment Performance**.

Attaching a simple form to a job

The following steps describe how to attach a simple forms such as a checklist to a job record.

1. Select the **Document Library** roundel.
2. Select **Orders** and then select the specific job record/s.
3. Select **Add Form** and select **Add Form to Job**.
4. Create your form or checklist in the WYSIWYG Editor

   Note: You can copy and paste from Excel or Word (formatting may change).

5. Select **Save**.
6. Click **Close** to return to the document library

   Note: Attached forms can be viewed from the **Workbench** and the **Job Card**.

Linking to an online document library for a specific job

The following steps describe how to link to a document library for a specific job.

1. Select the **Document Library** roundel.
2. Select **Orders** and then select the specific job record.
3. Select **Add Link** and select **Add URL to Job**.
4. Place your cursor in the **Link** field.
5. Copy and paste the URL from your document management system library.
6. Place your cursor in the **Link Description** field.
7. Enter a description for the link (e.g. Shop Packet).
8. Select **Save**.
9. Click **Close**.

   Note: Links can be accessed from the **Workbench** and the **Job Card**. Ensure that the tablet or panel PC device has been setup to view all of your file types and formats.

Conclusion

Helping you to become a World Class Manufacturer

Appendices

Assessment: Users

1. Which authentication methods are supported for users connecting to Visual APS?

   A. SQL and Windows authentication

   B. SQL Authentication

   C. Windows Authentication

   D. None required

2. What authentication methods are supported for users connecting to the MOM Website?

   A. SQL Authentication

   B. Windows Authentication

   C. SQL and Windows authentication

   D. None required

3. What must you assign to a user so they can receive rights to the access functionality within the MOM Website?

   A. Seat

   B. Group

   C: Role

   D. All of the above

4. Which application requires SQL security to be configured before a user can logon?

   A. MOM

   B. Visual APS

   C. SmartLYNQ

5.
   > Hi Colin
   >
   > Please can you create a new role for finance and assign the management reports rights to this role.
   >
   > Please action at your earliest convenience.
   >
   > Thanks

   Access User Maintenance via either Planning or workforce Manager. Select New and enter a name & Description for this Role. Tick Management Reports and Select Save.

Assessment: Resources

1. Explain the steps required to add a new employee to MOM from Work In Progress?

   A. User Maintenance > Seats > New > New Employee

   B. User Maintenance > Seats > Activate

   C. User Maintenance > Seats > Import > Import Employees

   D. Resource Maintenance > Employee > Employee Maintenance

2. Explain the steps required to add a new machine to MOM?

   A. User Maintenance > Seats > New > New Equipment

   B. User Maintenance > Seats > Activate

   C. Resource Maintenance > Equipment > Equipment Maintenance

   D. User Maintenance > Seats > Import > Import Equipment

3. Which feature on the Home Menu in Visual APS should be used to configure variations in time factors?

   A. Machines

   B. Alternatives

   C. Constraints

   D. Mapping

4. During the implementation of MOM all resources must be created in Work In Progress and imported into MOM where appropriate.

   A. True

   B. False

5.

   Hi Colin

   We have a new worker 'Frank Lee' who will be the operator of a special drill we have purchased for the drilling Work Center. The drill will arrive next week and both his employee account and equipment record must be setup in Working in Progress and MOM.

   Employee Code: 123457 Equipment Code: DRIL07

   Please action at your earliest convenience.

   Thanks

   Use the Work in Progress module in SYSPRO under Setup to create a new Employee and Machine. Use either Planning manager or Workforce Manager to access User Maintenance. Select Import. Select Import Employee. Tick Frank Lee and Select OK. Tick Frank Lee and Select Activate. Repeat the same steps to Import and Activate the Equipment. The equipment will need to be imported into Visual APS separately after refreshing the data. Use Home > Import to Import for scheduling.

Assessment: Shifts

1. What are working, non-working and downtime hour types?

   A. Shifts

   B. Activities

   C. Mapping

   D. Resources

2. Why are shifts required?

   A. To define the available capacity of a Machine

   B. To define the available capacity of an Employee

   C. To define available capacity of a Resource

   D. Shifts are not required

3. Shifts contain different activity types to identify working time from non-working time and downtime.

   A. True

   B. False

4. Shift changes can be made to

   A. Single Resource

   B. Multiple Resources

   C. Entire Factory

   D. All the above

5.

> Hi Colin,
>
> Some MBFA & MBQA Work Centers will be working overtime Monday to Friday from September 1 to December 18.
>
> We will need a shift defined as follows:
>
> - 08:00 to 12:00 Working Time
> - 12:00: 13:00 Lunch Time
> - 13:00 to 17:00 Working Time
> - 17:00 to 20:00 Overtime
> - 20:00 to 21:00 Maintenance Time
> - The entire Factory will also be shut down on Nov 22 for Thanksgiving.
>
> Please action at your earliest convenience.
>
> Thanks

Visual APS> Home> Changes. Add new, enter Shift change code & define activities as above. Select OK. Tick Work Centers MBFA & MBQA. Select on Ungrouped to see newly created Shift. Right Select on the Shift and Select Copy. Highlight dates as above & Right Select and Select Paste. Repeat for the company shutdown remembering to select all Machines.

Assessment: Terminals

1. Which field on the Create Terminal screen controls which equipment is available from the Workbench?

   A. Linked equipment

   B. Default Equipment

   C. Equipment Terminal

   D. Access Control

2. Additional Terminals can be added by copying an existing Terminal.

   A. True

   B. False

3. Which 2 methods could be used to restrict which stock codes are visible to the terminal users?

   A. Apply access control

   B. Edit Add Tasks on Screen element

   C. Apply a Terminal data filter

   D. Set Default equipment

4. How are you able to control which users can access a terminal?

   A. Declare linked equipment

   B. Apply data filters

   C. Enable access control

   D. Assign crew

5.

Hi Colin
We require a new terminal for the Bicycle Brake Assembly Work Center.
The terminal should be configured for the equipment codes MBBA01, MBBA02 and MBBA03.
Employees will require all elements of advanced terminal except for the Add Tasks Element.
Please action at your earliest convenience.
Thanks

   Workforce Manager > Terminal Maintenance. Tick Advanced Terminal and Select copy. Enter a Terminal name & Description. Untick Active Tasks on screen elements. Use the Linked equipment field to select machines MBBA01, MBBA02 and MBBA03 and Select OK. Select Save.

Assessment: Scheduling

1. From which 2 screens could you modify the planning interval?

A. Select Autoshift

B. Edit Settings

C. Home > Shift Changes

D. Schedule > Interval Planning

2. How is a marker applied to a job?

   A. Highlight Job and select Manage > Markers

   B. Right Select Job and select Markers from the menu

   C. Review > Pin

3. How is material availability updated?

   A. Schedule > Recalculate

   B. Home > Refresh

   C. Home > Recalculate

   D. Plan > Recalculate

4. You are ready to firm your plan for a period of time, how would you prevent any changes being made to the schedule?

   A. Save and Publish

   B. Add Markers

   C. Pin advanced

   D. Deadlines

5.

> Hi Colin,
>
> Job 520 is currently in dispute with the customer could you please place this job on hold.
>
> Please action at your earliest convenience.
>
> Thanks

Find Job by using a filter on the Job column. Unpin, unschedule, and remove Critical Marker for this Job. Create a New Marker 'On hold' and apply to the Job.

Assessment: Factory Performance

1. Where should you go to find information of actual current activity to gain insight into how individual resources (employees and equipment) are performing today and your actual product output (parts count)?

   A. Planning

   B. Workforce

   C. Factory

   D. All of the above

2. You have been asked to provide details of planned equipment utilization for the month ahead. Where should you go to see this information.

   A. Planning > Dashboard

   B. Factory > Availability then select equipment

   C. Workforce > Equipment Performance

   D. Planning > Equipment Plan

   E. Factory > Equipment Analysis

   F. Workforce > Equipment Status

3. How is equipment performance calculated?

   A. Good Quantity / Produced (Total) Quantity

   B. Planned Run Time x Production Quantity / Actual Run Time

   C. Availability x Performance x Quality

   Actual Productive Time / Planned Busy Time

4. You want to see what each employee is working on in the "final assembly" area right now. Where can you find this information?

   A. Workforce > Employee Status

   B. Workforce > Employee Performance

   C. Factory > Employee Analysis

   D. All of the above

5.
   > Hi Colin,
   >
   > We would like to start monthly performance reviews with our shop floor operatives. Can you provide detail of our best performing employees for last month based on their OLE?
   >
   > If you can, please send me the detail in Excel so that I can incorporate into our management pack.
   >
   > Thanks

   Factory > Employee Analysis > List (By Employee). Select the period you are reviewing and Select the "OLE" column to sort the list descending leaving your best performers at the top. Select "EXPORT" to send this list to Excel.

Assessment: Continuous Improvement

1. Select three (3) types of unplanned availability loss form the list below:

   A. Tooling failure

   B. In process damage

   C. Component jam

   D. Equipment breakdown

   E. Operator shortage

F. Operator inefficiency

G. Rough running

2. Select what is commonly known to be the Six Big losses from the list below:

A. Breakdowns

B. Idle time

C: Minor Stops

D: Planned changeover tie

E: No Shift

F: Loading loss

G: Setup and adjustments

H: Reduced speed

I: Startup rejects

J: Production rejects

3. How does SYSPRO Manufacturing Operations Management help with resolving loss from operator shortages related to documentation?

A. it provides the ability to classify and quantify lost hours from missing documentation.

B. It provides support for a paperless shop floor environment to ensure the right documents are always there when you need them.

It provides links to document management system for version control and audit trails.

All of the above.

4. When should you consider linking to a document management system?

A. When you need to provide audit trails to meet regulatory requirements.

B. When you need to show CAD files online.

C. When you need to provide simple forms and/or checklists for operators to complete.

D. When you need to provide version control around your documents.

E. When you need to provide long term archiving control of your documents.

F. When you want to show assembly instruction videos.

5.

> Hi Colin,
>
> The continuous improvement team has now completed their FMEA (failure mode and effects analysis) as a result of the loss we have been experiencing over the past few months from equipment breakdowns. As a result, new equipment has been bought and has been in place since last month. Preventative maintenance schedules have also been revised.
>
> Can you provide detail to show what impact that this has had in reducing our loss from equipment breakdowns? You know the guys like charts and details so anything you can provide here would be great!

Thanks

Factory > Availability. Run reports for this month. Use the tree map to show the number of hours lost from "general breakdowns". Drill into the tree map to get to the detail for general breakdowns. Export the detail to Excel.

Repeat for the comparative period and export to Excel. Create charts to map one against the other to show improvement.

Epilogue

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