# M100 Basic Manufacturing Implementation

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# Timing and Agenda

**April 12, 2021- 10 AM -11 AM**

**Day 1**

**Lesson 1: Preparing the System for Manufacturing Implementation**

**April 13, 2021 -10 AM -11 AM**

**Day 2**

**Lesson 2: Managing Production Cost Drivers**

**Lesson 3: Managing Work Centers**

**Lesson 4: Managing Bills of Material**

# Timing and Agenda

**April 14, 2021 -10 AM -11 AM**

**Day 3**

**Lesson 5: Configuring Production Order Types**

**Lesson 6: Configuring MRP**

# Day 1

# Lesson 1: Preparing the System for Manufacturing Implementation

**Learning Objectives**

In this lesson, you will learn how to do the following:

- Enable the needed set of features before you start implementing manufacturing

- Specify the required settings to prepare the system for implementing manufacturing

- Create stock items involved in manufacturing

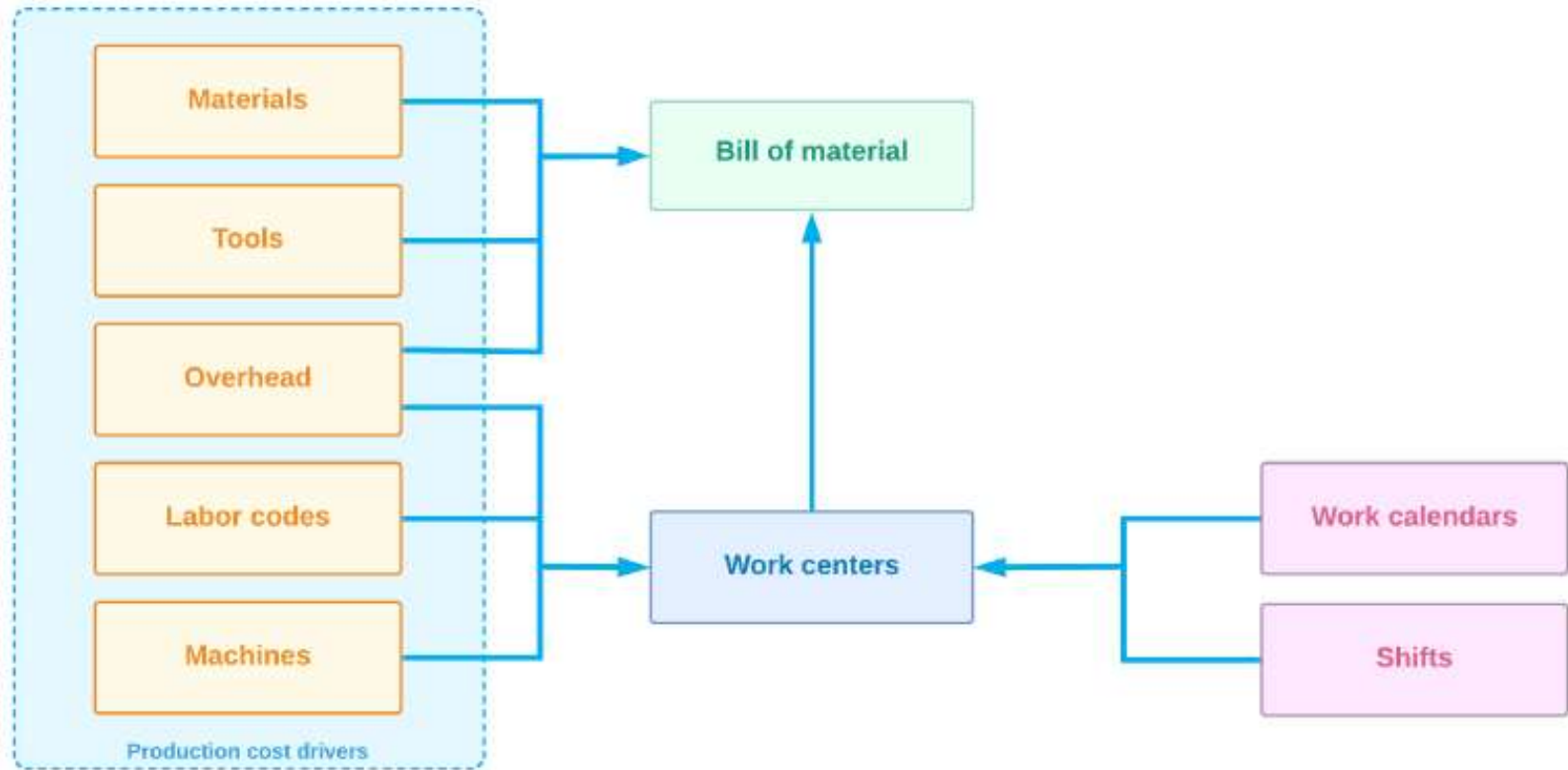# Lesson 1: Preparing the System for Manufacturing Implementation

**Story**

Suppose that based on requests from customers, SweetLife Fruits & Jams has decided to assemble customized juicers. The company has organized a work center where workers assemble juicers from parts bought from the Sqeezo Inc. vendor.

As an implementation manager, you need to prepare the system for the specification of manufacturing-specific settings.

# The order in which you create manufacturing entities

# Day 2

# Lesson 2: Managing Production Cost Drivers

**Learning Objectives**

In this lesson, you will learn how to do the following:

- Define the labor codes so that labor costs are included in the cost of a produced item

- Define the overhead entities so that overhead costs are included in the cost of a produced item

- Define the tools so that the tool costs are included in the cost of a produced item

- Define the machines so that the machine costs are included in the cost of a produced item

# Lesson 2: Managing Production Cost Drivers

**Story**

Suppose that SweetLife Fruits & Jams has decided to assemble customized juicers according to customers' needs. For accurate calculating of the cost of the juicer, the component costs, machine costs, tool costs, labor costs, and overhead costs must be considered. In the assembly process, such tools as a screwdriver and a hammer are used. For producing small plastic parts, the injection molding machine is used. Two workers are involved in the juicer assembly. The administrative costs, payroll costs, and floor setup costs must be included in the cost of the juicers as well.

As an implementation manager, you need to create records for a machine, tools, overhead, and labor codes so that these costs are included in the cost of the juicers. The costs for the components used in juicers have been specified when the stock items for these components were created in the system, so you will not specify these costs in this activity.

# Lesson 3: Managing Work Centers

**Learning Objectives**

In this lesson, you will learn how to do the following:

- Create a work calendar for overtime work

- Create shifts that will be used in work centers

- Create the work centers that will be involved in manufacturing

# Lesson 3: Managing Work Centers

**Story**

Suppose that SweetLife Fruits & Jams has decided to assemble customized juicers according to customers' needs. Assembly will take place in the Workhouse warehouse of the Service and Equipment Sales Center branch, in a specific work center. Two workers and a manager will be involved in the assembly process, and no machines will be used in this work center. Administrative and payroll overhead costs must be included in the production costs for this work center. Normally, workers will work in the standard shift, but sometimes overtime work will be required. Standard working hours are from Monday to Friday, 10:00 AM to 6:00 PM. Overtime work is from Monday to Friday, 6:00 PM to 9:00 PM.

In a separate work center, an injection molding machine has been installed, which will be used for producing small plastic parts required for juicers. The machine will be used during the standard schedule. One worker will operate the machine during the working hours.

As an implementation manager, you need to create a work calendar for overtime (a work calendar already exists for standard working hours), shifts for standard working hours and for overtime, and work centers for juicer assembly and for the injection molding machine.

# Lesson 4: Managing Bills of Material

**Learning Objectives**

In this lesson, you will learn how to do the following:

- Prepare the system for the creation of bills of material

- Create and activate a bill of material

# Example of calculating the required quantity of materials

| Material | Required Quantity | Batch Size | Total Quantity |
|---|---|---|---|
| Apples | 2 pounds | 1 | 20 pounds |
| Sugar | 5 pounds | 5 | 10 pounds |
| Dish-washing liquid | 0.8 liquid ounces | 0 | 0.8 liquid ounces |

# Lesson 4: Managing Bills of Material

**Story**

Suppose that SweetLife Fruits & Jams has decided to assemble customized juicers according to customers' specifications. Assembly will take place in the Workhouse warehouse of the Service and Equipment Sales Center branch, in a specific work center. The process of assembling a juicer consists of one assembly operation, and requires juicer parts as materials, and a hammer and screwdriver as tools. Overhead costs have been specified at the work center level; you do not need to specify them on the bill of material. In the work center, two workers are involved in juicer assembly. Each worker produces three juicers per hour.

As an implementation manager, you will create the bill of material for the assembly process of the configurable juicer for citrus fruits.

# Day 3

# Lesson 5: Configuring Production Order Types

**Learning Objectives**

In this lesson, you will learn how to create a production order type for each of the following categories of production orders: regular, planning, and assembly.

# Lesson 5: To Create a Regular Production Order Type

**Story**

Suppose that you are an implementation manager who needs to define production orders that will be used for producing items. You need to create the production order type that will generally provide the settings for these production orders, and define it as the default type for the orders.

# Lesson 5: To Create a Planning Production Order Type

**Story**

Suppose that you are an implementation manager who needs to define production orders that will be used to plan production. You need to create the order type that will generally provide the settings for these production orders, and define it as the default type for the orders.

# Lesson 5: To Create a Disassembly Production Order Type

**Story**

Suppose that you are an implementation manager who needs to define production orders that will be used for disassembly. You need to create the production order type that will generally provide the settings for these production orders, and define it as the default type for the orders.

# Lesson 6: Configuring MRP

**Learning Objectives**

In this lesson, you will learn how to do the following:

- Create a master production schedule (MPS) type

- Specify system settings for the material requirements planning functionality

- Create MRP buckets

- Set up the stock items that are involved in MRP

- Set up the warehouses that are involved in MRP

# Lesson 6: Configuring MRP

**Story**

Suppose that you are an implementation manager who needs to prepare the system for material requirements planning.

According to the business processes of SweetLife Fruits & Jams, exception messages must be generated for supply orders dated 7 days before the requested date of a demand order and supply orders dated 5 days after this date. The demand time fence and MPS time fence should be 30 days, the same as the grace period for supply orders. You will use the *Reorder Point* stocking method for replenishing materials. Sales orders, production orders, and purchase orders on hold must be considered by the system during planning. Also, the system should generate lead times dynamically for planned orders.

You need to create periods (or buckets) for MRP to aggregate demand and supply data. You will have 13 weekly periods, 1 monthly period, and 1 yearly past due period.

You need to make sure that the warehouse involved in manufacturing has been configured properly for MRP.

Also, for stock items that are used as materials, you need to specify replenishment settings, such as the safety stock quantity, the reorder point, the minimum order quantity, and the maximum order quantity.

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# Thank you

**Munsell Randall**