



User Manual (English)

The following are the various modules and domains offered by ERP+ from Technocom, covering a wide range of businesses. You can be a small distributor, a manufacturer, running an educational institute, or a healthcare organization. There is something for everyone.

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Module: **Manufacturing**

Module: Manufacturing

The Manufacturing module in ERP+ covers all necessary features a Manufacturing business would need. There are options to take a work order, enter stock of items, create a Production Plan, manage Bill of Materials, generate reports, and more.

1. Topics

1.1 Basics and Setup

1. Introduction
2. Manufacturing Settings

1.2 Bill of Materials

1. Bill of Materials
2. Workstation
3. Operation

1.3 Production

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2. Valuation Based on Field In BOM

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2. Customer Provided Items
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1.1 Topic: Basics and Setup

1. Introduction
2. Manufacturing Settings

1. Introduction

ERP+ comes batteries included for all requirements of a manufacturing business like Bill of Materials tracking, Production Order planning and execution, procurement and lot more.


BOM-iPhone 6-001
Menu ▾

Expand All

BOM-iPhone 6-00

BOM-iPhone 6-001

- 1 x Texas Instruments 3539 LED backlight Retina display driver
- 1 x Knowles KSM2 microphones
- 1 x Apple/Cirrus Logic 338S1285 Audio IC
- 1 x Apple 343S00014 3D Touch Controller?
- 1 x Apple A9 APL0898 application processor
- 1 x Apple/Cirrus Logic 338S00105 Audio IC
- 1 x Apple/Dialog 338S00120 Power Management IC
- 1 x Avago ACPM 7714 Multimode Power Amplifier
- 1 x Avago AFEM-8030 Power Amplifier Module
- 1 x Bosch Sensortec 367 LA 3-axis Accelerometer (likely BMA280)
- 1 x Bosch Sensortec barometric pressure sensor BMP280 ?
- 1 x Goertek GWM1 microphone
- 1 x InvenSense MP67B 6-axis Gyroscope and Accelerometer
- 1 x Micron D9SND (MT53B256M64D2NL) 2 GB LPDDR4 SDRAM



Description

The A9 features an Apple-designed 64-bit 1.85 GHz^[1] ARMv8-A dual-core^[7] CPU called **Twister**.^[4] The A9 in the iPhone 6S has 2

Bill of Material, Production Order and More

The Manufacturing module in ERP+ helps you to maintain multi-level Bill of Materials (BOMs) for your Items. It helps in product costing, production planning, creating work orders for your manufacturing shop floors and planning inventory by getting your material requirement via BOMs (also called Material Requirements Planning MRP).

BOM-iPhone 7-002 ● Default
Menu ▾ Cancel

ATTACHMENTS

Attach File +

TAGS

Add a tag...

SHARED WITH

+ 0

♥ 0

You edited this a few seconds ago

You created this a minute ago

Item Name
iPhone 7

Quantity
1

Quantity of item obtained after manufacturing / repacking from given quantities of raw materials

Manage cost of operations
Rate Of Materials Based On
Valuation Rate

OPERATIONS

Specify the operations, operating cost and give a unique Operation no to your operations.

<input type="checkbox"/>	Operation	Workstation	Description	Operating Cost (INR)	
<input type="checkbox"/>	1 Soldering	Soldering 1	Soldering	\$ 14.00	▾
<input type="checkbox"/>	2 Assembling	Assembling	Assembling	\$ 16.67	▾
<input type="checkbox"/>	3 Packaging	Packaging 1	Packaging	\$ 0.67	▾

You can also effectively track operations like:

- Production Orders against customer's Sales Order
- Material Planning
- Purchasing based on Material Planning a reorder level
- Track actual material transfer against a Production Order
- Dispatched manufactured items to the Customers
- View reports

ERP+ Manufacturing

Manufacturing	
Documents >	<p>Bill of Material 3 15 hours ago</p> <p>Bill of Materials (BOM)</p>
Tools	<p>Production Order 7 10 hours ago</p> <p>Orders released for production.</p>
Setup	<p>Time Log 12 10 hours ago</p> <p>Time Logs for manufacturing.</p>
Standard Reports	<p>Item 13 hours ago</p> <p>All Products or Services.</p>
	<p>Workstation 3 days ago</p> <p>Where manufacturing operations are carried.</p>
	<p>Operation 3 days ago</p> <p>Details of the operations carried out.</p>

Types of Production Planning

Broadly there are three types of Production Planning Systems

- **Make-to-Stock:** In these systems, production is planned based on a forecast and the Items are then sold to distributors or customers. All fast-moving consumer goods that are sold in retail shops like soaps, packaged water etc. and electronics like phones etc. are Made-to-Stock.
- **Make-to-Order:** In these systems, manufacturing takes place after a firm order is placed by a customer.
- **Engineer-to-Order:** In this case each sale is a separate project and has to be designed and engineered to the requirements of the customer. Common examples of this are any custom business-like furniture, machine tools, specialty devices, metal fabrication etc.

Most small and medium sized manufacturing businesses are based on a make-to- order or engineer-to-order system and so is ERP+.

For engineer-to-order systems, the Manufacturing module should be used along with the Project module.

Manufacturing and Inventory

You can track work-in-progress by creating work-in-progress Warehouses.

ERP+ will help you track material movement by automatically creating Stock Entries from your Work Orders by building from Bill of Materials.

2. Manufacturing Settings

Manufacturing Settings can be found at: Manufacturing > Setup > Manufacturing Settings

Manufacturing Settings
Menu ▼ Save

Comments 0

ASSIGNED TO

Assign +

ATTACHMENTS

Attach File +

TAGS

SHARED WITH

+

♥ 0

You edited this

Capacity Planning

Disable Capacity Planning and Time Tracking
Disables creation of time logs against Production Orders. Operations shall not be tracked against Production Order

Allow Overtime
Plan time logs outside Workstation Working Hours.

Allow Production on Holidays

Capacity Planning For (Days)

Try planning operations for X days in advance.

Time Between Operations (in mins)

Default 10 mins

Over Production Allowance Percentage

Default Work In Progress Warehouse

Backflush Raw Materials Based On

Default Finished Goods Warehouse

Disable Capacity Planning and Time Tracking

As per Capacity Planning feature, when Work Order is created for an item, for each Operation, Time Log is created. Based on actual Operation Time, Time Logs is updated. This also provides total Operations Cost against Work Order.

If you don't track actual operations time, and want to disable creation of Time Log based on Operations, you should check "Disable Capacity Planning and Time Tracking" in the Manufacturing Settings.

Allow Overtime

In the Workstation master, actual working hours are defined (say 101m to 6pm). As per the Capacity Planning, Time Logs are created against Workstation, for tracking actual operations hour. It also considers working hours of a Workstation when scheduling job (via Time Log).

Drilling
Menu ▼ Save

♥ 0

You edited this
a few seconds ago

You created this
9 months ago

69MB (0%) used

per hour 2.00

Wages per hour 0.00

Net Hour Rate
\$ 19.00

per hour

Working Hours

	Start Time	End Time	Enab...
1	08:00:00	12:00:00	✓
2	13:00:00	17:00:00	✓

Add new row

As per the standard validation, if Operation cannot be completed within working hours of Workstation, then user is asked to divide an Operation into multiple and smaller Operations. However, if Allow Overtime field is checked, while creating Time Logs for Operation, working hours of Workstation will not be validated. In this case, Time Logs for Operation will be created beyond working hours of Workstation as well.

Allow Production on Holidays

Holiday of a company can be recorded in the Holiday List master. While scheduling production job on workstation, system doesn't consider a day listed in the Holiday list. If you want production job to be scheduled on holidays as well, Allow Production on Holidays field should be checked.

The screenshot shows the configuration for a 'Drilling' operation. On the left, there are sections for 'Comments' (0), 'ASSIGNED TO' (Assign +), 'ATTACHMENTS' (Attach File +), 'TAGS' (Add a tag...), and 'SHARED WITH'. The main area contains a 'Description' field with 'Drilling' and a 'Holiday List' dropdown menu set to '2016'. Below this is the 'Operating Costs' section, which includes 'Electricity Cost' (5.00 per hour) and 'Rent Cost' (4.00 per hour). A red box highlights the 'Holiday List' dropdown menu.

Over Production Allowance Percentage

While making Work Orders against a Sales Order, the system will only allow production item quantity to be lesser than or equal to the quantity in the Sales Order. In case you wish to allow Work Orders to be raised with greater quantity, you can mention the Over Production Allowance Percentage here.

Back-flush Raw Materials Based On

When creating Manufacture Entry, raw-material items are back-flush based on BOM of production item. If you want raw-material items to be back-flushed based on Material Transfer entry made against that Work Order instead, then you should set Back-flush Raw Materials Based On "Material Transferred for Manufacture".

The screenshot shows the 'Manufacturing Settings' page. On the left is a sidebar with sections: Comments (0), ASSIGNED TO (Assign +), ATTACHMENTS (Attach File +), TAGS, SHARED WITH (+), and a heart icon (0). The main content area is titled 'Capacity Planning' and contains several settings:

- Disable Capacity Planning and Time Tracking** (checked): Disables creation of time logs against Production Orders. Operations shall not be tracked against Production Order.
- Allow Overtime** (checked): Plan time logs outside Workstation Working Hours.
- Allow Production on Holidays** (checked).
- Capacity Planning For (Days)**: Input field with value 15. Description: Try planning operations for X days in advance.
- Time Between Operations (In mins)**: Input field with value 10. Description: Default 10 mins.
- Over Production Allowance Percentage**: Input field with value 30.000.
- Default Work In Progress Warehouse**: Input field with value 'Work In Progress - WPL'.
- Default Finished Goods Warehouse**: Input field with value 'Finished Goods - WPL'.
- Backflush Raw Materials Based On**: A dropdown menu with 'BOM' selected and 'Material Transferred for Manufacture' highlighted.

Capacity Planning For (Days)

Define no. of days for which system will do production job allocation in advance.

Time Between Operations (in mins)

Time gap between two production operations.

Default Work in Progress Warehouse

This Warehouse will be auto-updated in the Work in Progress Warehouse field of Work Order.

Default Finished Goods Warehouse

This Warehouse will be auto-updated in the Work in Progress Warehouse field of Work Order.

1.2 Topic: Bill of Materials (BoM)

1. Bill of Materials (BoM)
2. Workstation
3. Operation

1. Bill of Materials

At the heart of the Manufacturing system is the **Bill of Materials** (BOM). The **BOM** is a list of all materials (either bought or made) and operations that go into a finished product or sub-Item. In ERP+, the component could have its own BOM hence forming a tree of Items with multiple levels. To make accurate Purchase Requests, you must always maintain correct BOMs. To make a new BOM: Manufacturing > Bill of Materials > New BOM

BOM/Wind Mill C Series/001 ● Default Menu - Cancel

Comments 0

ASSIGNED TO
Assign +

ATTACHMENTS
Attach File +

TAGS
Add a tag...

SHARED WITH
+

Item
Wind Mill C Series Is Active
Item to be manufactured or repacked Is Default
Item Name With Operations
Wind Mill C Series Manage cost of operations

Rate Of Materials Based On
Price List
Price List
Standard Buying

Update Cost

- To add Operations, select 'With Operation'. The Operations table shall appear.

BOM/Wind Turbine/001 ● Default Menu - Cancel

ASSIGNED TO
Assign +

ATTACHMENTS
Attach File +

TAGS
Add a tag...

SHARED WITH
+

You edited this 2 months ago

You created this 2 months ago

Item
Wind Turbine Is Active
Item to be manufactured or repacked Is Default
Item Name With Operations
Wind Turbine Manage cost of operations

Rate Of Materials Based On
Price List
Price List
Standard Buying

Operations
Specify the operations, operating cost and give a unique Operation no to your operations.

Operation	Workstation	Operation Description	Operating Cost
1 Prepare Frame	Drilling Machine 1	Prepare frame for assembly	\$ 23.50
2 Setup Fixtures	Assembly Station 1	Setup Fixtures for Assembly	\$ 9.25
3 Assembly Operation	Assembly Station 1	Assemble Unit as per Standard Operating Procedures	\$ 18.50
4 Wiring	Assembly Station 1	Connect wires	\$ 12.33
5 Testing	Packing and Testing Station	Final Testing Checklist	\$ 6.17
6 Packing	Packing and Testing Station	Final Packing and add Instructions	\$ 15.42

- Select the Item for which you want to make the BOM.
- Check 'Inspection Required' to make the 'Quality Inspection' mandatory for raw materials and the finished goods.
- Add the operations that you have to go through to make that particular Item in the “Operations” table. For each operation, you will be asked to enter a Workstation. You must create new Workstations as and when necessary.
- Workstations are defined only for product costing and Work Order Operations scheduling purposes not inventory.
- Inventory is tracked in Warehouses not Workstations.

Costing of a BOM

- The Costing section in BOM gives an approximate cost of producing the Item.
- Add the list of Items you require for each operation, with its quantity. This Item could be a purchased Item or a sub-assembly with its own BOM. If the row Item is a manufactured Item and has multiple BOMs, select the appropriate BOM. You can also define if a part of the Item goes into scrap.

BOM/Wind Turbine/001 ● Default Menu Cancel

Costing	
Operating Cost	Total Cost
\$ 85.17	\$ 224.17
Raw Material Cost	
\$ 139.00	

- This cost can be updated on by using the 'Update Cost' button.

BOM/Wind Turbine/001 ● Default Menu Cancel

Comments 0

ASSIGNED TO
Assign +

ATTACHMENTS
Attach File +

TAGS
Add a tag...

SHARED WITH
+

Update Cost

Item Is Active

Wind Turbine Is Default

Item to be manufactured or repacked With Operations

Item Name Manage cost of operations

Wind Turbine

Rate Of Materials Based On

Price List

Price List

Standard Buying

- User can select the currency in the BOM
- System calculates the costing based on the price list currency

I3/6/2012 ● Overdue Menu Cancel

+

♥ 0

You edited this
9 minutes ago

You created this
9 minutes ago

Customer **Raissyon Trading & Contracting Co** Date **08-04-2012**

Is POS Payment Due Date **08-04-2012**

Company **Raissyon Trading & Contracting Co**

ADDRESS AND CONTACT ▼

CURRENCY AND PRICE LIST ▼



Update Stock

	Item	Quantity	Rate (SAR)	Amount (SAR)	
1	R036: ORM3 0-10VDC - Delta Analog Input to 3...	3	SAR 500.00	SAR 1,500.00	▼
2	R2035: Intelligent ECU RFID	1	SAR 1,000.00	SAR 1,000.00	▼

Materials Required (exploded)

This table lists down all the Material required for the Item to be Manufactured. It also fetches sub-assemblies along with the quantity.

BOM/Wind Turbine/001 ● Default

  Menu

Materials Required (Exploded)

Item Code	Item Name	Description	Qty	Rate
1	Bearing Collar	Bearing Collar 1 in. x 3 in. x 1 ft. Multipurpose Al Alloy Bar	1	\$ 20.00
2	Base Plate	Base Plate 3/4 in. x 2 ft. x 4 ft. Pine Plywood	1	\$ 20.00
3	Base Bearing Plate	Base Bearing Plate 1/4 in. x 6 in. x 6 in. Mild Steel Plate	1	\$ 15.00
4	Blade Rib	Blade Rib 1/2 in. x 2 ft. x 4 ft. Pine Plywood	1	\$ 10.00
5	Shaft	Shaft 1.25 in. Diameter x 6 ft. Mild Steel Tubing	1	\$ 30.00
6	Wing Sheet	Wing Sheet 1/32 in. x 24 in. x 47 in. HDPE Opaque Sheet	2	\$ 22.00

2. Workstation

Workstation stores information regarding the place where the workstation operations is carried out. Data regarding the operation cost of the place can be stored here. We can also specify the workstation operation timings and a Holiday List.

You can also create a Workstation by: Manufacturing > Documents > Workstation > New

Packing and Testing Station Menu - Save

Comments 0

ASSIGNED TO
Assign +

ATTACHMENTS
Attach File +

TAGS
test x
Add a tag...

SHARED WITH
+
-

You edited this
10 hours ago

Demo User created this
2 months ago

Description

Packaging and Testing Station

Holiday List

2014

Operating Costs

<p>Electricity Cost</p> <p>per hour 5.00</p>	<p>Rent Cost</p> <p>per hour 2.00</p>
<p>Consumable Cost</p> <p>per hour 5.00</p>	<p>Wages</p> <p>Wages per hour 25.00</p>
<p>Net Hour Rate</p> <p>\$ 37.00</p> <p>per hour</p>	

Working Hours

	Start Time	End Time	Enabled
1	8:00:00	15:00:00	✓
Add new row			

In workstation specify the workstation working hours under the 'working hour' section. You can also specify the working hours based on shifts. While scheduling Work Order, system will check for the availability of the workstation based on the working hours specified.

Note: You can enable overtime for your workstation in Manufacturing Settings

3. Operation

Stores a list of all Manufacturing Operations, its description and the Default Workstation for the Operation.

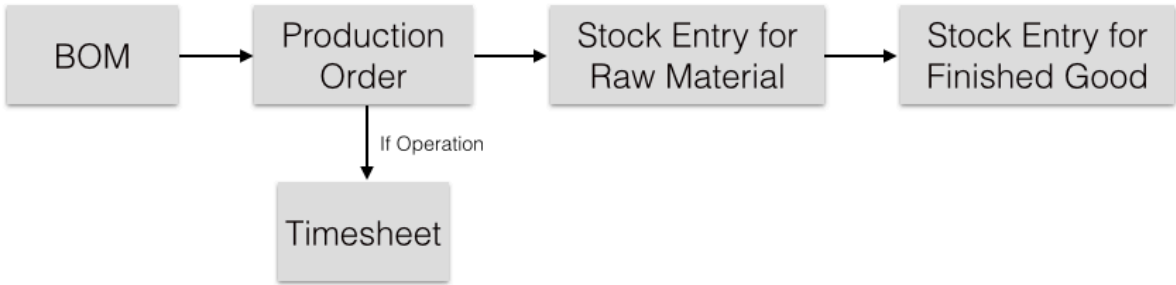
You can also create an Operation by: Manufacturing > Documents > Operation > New

The screenshot shows a software interface for creating a new operation. The title is "Lamination". On the right side, there are two buttons: "Menu" and "Save". Below the title, there is a "Default Workstation" section with a text input field containing "Store area". Below that is the "Operation Description" section, which contains a text area with the following text: "Lamination is the technique of manufacturing a material in multiple layers, so that the composite material achieves improved strength, stability, sound insulation, appearance or other properties from the use of differing materials. A laminate is usually permanently assembled by heat, pressure, welding, or adhesives." On the left side, there is a sidebar with several sections: "Comments" with a count of 0, "ASSIGNED TO" with an "Assign +" button, "ATTACHMENTS" with an "Attach File +" button, and "TAGS" with an "Add a tag..." button.

1.3 Topic: **Production**

1. Work Order
2. Production Plan
3. Job Card

1. Work Order



A Work Order is a document that is given to the manufacturing shop floor by the Production Planner as a signal to produce a certain quantity of a certain Item. The Work Order also helps to generate the material requirements (Stock Entry) for the Item to be produced from its Bill of Materials.

The Work Order is generated from the Production Planning Tool based on Sales Orders. You can also create a direct Work Order by: Manufacturing > Documents > Work Order > New

Macbook Pro ● Draft PRO-00015 Menu Submit

TAGS

- Add a tag ...

SHARED WITH

- +

♥

You edited this a few seconds ago

You created this a few seconds ago

Status: **Draft**

Item To Manufacture: **Macbook Pro**

BOM No: **BOM-Macbook Pro-001**

Use Multi-Level BOM
Plan material for sub-assemblies

Skip Material Transfer
Check if material transfer entry is not required

Qty To Manufacture: **2.000**

Sales Order:

Project:

WAREHOUSES

Work-in-Progress Warehouse: **Work In Progress - WP**

Scrap Warehouse: **Stores - WP**

Target Warehouse: **Finished Goods - WP**

REQUIRED ITEMS

<input type="checkbox"/>	Item Code	Source Warehouse	Required Qty	Transferred Qty	
<input type="checkbox"/>	1	_Test Item Home Desktop 100	All Warehouses - WP	2	0

Creating Work Orders

- Select the Item to be produced.
- The default BOM for that item will be fetched by the system. You can also change BOM.
- Enter the Qty to manufacture.
- If the selected BOM has operation mentioned in it, the system shall fetch all operations from BOM.
- Mention the Planned Start Date (an Estimated Date at which you want the Production to begin.)
- Select Warehouses:
 - Source Warehouses: The warehouse where you store your raw materials. Each required item can have separate source warehouse. Group warehouse also can be selected as source warehouse. On submission of Work Order, the raw material will be reserved in these warehouses for production usage.
 - Work-in-Progress Warehouse: The warehouse where your Items will be transferred when you begin production. Group Warehouse can also be selected as Work-in-Progress warehouse.
 - Target Warehouse: The warehouse where you store finished Items before they are shipped.
 - Scrap Warehouse: Scrap Items will be stored in this warehouse.
- Required Items: All the required items (raw materials) will be fetched from BOM and populated in this table. Here you can also change the default source warehouse for any item. And during the production, you can track transferred raw materials from this table.

Note: You can save a Work Order without selecting the warehouses, but warehouses are mandatory for submitting a Work Order

Reassigning Workstation/Duration for Operations

- By default, the system fetches workstation and duration for Work Order Operations from the selected BOM.

OPERATIONS					
	Operation	Status	Workstation	Operation Time	
1	● Prepare Frame	Pending	Drilling Machine 1	30	▼
2	● Setup Fixtures	Pending	Assembly Station 1	15	▼
3	● Assembly	Pending	Assembly Station 1	30	▼
4	● Wiring	Pending	Assembly Station 1	20	▼
5	● Testing	Pending	Packing and Testing..	10	▼
6	● Packing	Pending	Packing and Testing..	25	▼

- If you wish to reassign the workstation for a particular operation in the Work Order, you can do so before submitting the Work Order.

The screenshot displays the 'Editing Row #1' form for a 'Wind Turbine' work order. The form is in 'Draft' status. The operation being edited is 'Prepare Frame', which is currently 'Pending'. The operation description is 'Prepare frame for assembly'. The workstation is set to 'Drilling Machine 1'. The operation time is 30.000 minutes. The hour rate is 47, resulting in a planned operating cost of \$23.50. The actual operating cost is \$0.00. The form includes a 'Done' button in the top right corner.

- Select the respective operation, and change its workstation.
- You can also change the Operating Time for that operation

Capacity Planning in Work Order

- When a Work Order is submitted, based on the Planned Start Date and the availability of the workstations, system schedules all operations for the Work Order (if Work Order has operations specified).
- Drafts of Time Logs are also created based on the scheduled operations.

Transferring Materials for Manufacturing

- Once you have submitted your Work Order, you need to Transfer the Raw Materials to initiate the Manufacturing Process.
- This will create a Stock Entry with all the Items required to complete this Work Order to be added to the WIP Warehouse. (this will add sub-Items with BOM as one Item or explode their children based on your setting above).
- Click on 'Start'.

Wind Mill A Series ● Not Started PRO-00010 Menu Cancel

View ▼ Status ▼ Start Make Timesheet

Comments 0

ASSIGNED TO
Assign +

ATTACHMENTS
Attach File +

TAGS
Add a tag...

SHARED WITH
+

0 items produced

Status	Qty To Manufacture
Not Started	1
Item To Manufacture	Material Transferred for Manufacturing
Wind Mill A Series	
BOM No	Manufactured Qty
BOM-Wind Mill A Series-001	
<input checked="" type="checkbox"/> Use Multi-Level BOM	

- Mention the quantity of materials to be transferred.

Wind Mill A Series ● Not Started PRO-00010 Menu Cancel

View ▼ Status ▼ Start Make Timesheet

Comments 0

ASSIGNED TO
Assign +

ATTACHMENTS
Attach File +

TAGS
Add a tag...

SHARED WITH
+

0 items produced

Select Quantity Close Make

Qty for Material Transfer for Manufacture

Max: 1

Status	Qty To Manufacture
Not Started	1
Item To Manufacture	Material Transferred for Manufacturing
Wind Mill A Series	
BOM No	Manufactured Qty
BOM-Wind Mill A Series-001	
<input checked="" type="checkbox"/> Use Multi-Level BOM	

- Submit the Stock Entry

Material Transfer for Manufacture ● Draft Save

Purpose	Posting Time
<input type="text" value="Material Transfer for Manufacture"/>	<input type="text" value="09:33:22.266567"/>
Production Order	
<input type="text" value="PRO-00026"/>	
<input checked="" type="checkbox"/> From BOM	

BOM No	For Quantity
BOM/Tesla/001	<input type="text" value="4.000"/>
Additional Operating Cost	As per Stock UOM
<input type="text"/>	<input checked="" type="checkbox"/> Use Multi-Level BOM
	Including items for sub assemblies
	Get Items

Default Source Warehouse	Default Target Warehouse
<input type="text"/>	<input type="text" value="ddddd - WP"/>

Item	Warehouse	Qty	Amount
1 Caramel 60 Malt	Raw Materials - WP	2.222	\$ 3.73
	ddddd - WP	Kg	\$ 1.68

- Material Transferred for Manufacturing will be updated in the Work Order based on the Stock Entry.

Wind Mill A Series ● In Process PRO-00010 Menu Cancel

Comments 0

ASSIGNED TO
Assign +

ATTACHMENTS
Attach File +

TAGS
Add a tag...

SHARED WITH
+

♥ 0

View ▾ Status ▾ Finish Make Timesheet

0 Items produced. 1 Items in progress

<p>Status In Process</p> <p>Item To Manufacture Wind Mill A Series</p> <p>BOM No BOM-Wind Mill A Series-001</p> <p><input checked="" type="checkbox"/> Use Multi-Level BOM <small>Plan material for sub-assemblies</small></p>	<p>Qty To Manufacture 1</p> <div style="border: 1px solid #ccc; padding: 2px; margin: 5px 0;">Material Transferred for Manufacturing 1</div> <p>Manufactured Qty</p>
---	--

Material Transfer through Stock Entry

Use cases for this option are: * If material transfer is done in bulk and/or is not required to be tracked against a particular Work Order * If the responsibility for Material Transfer and Production Entry lies with two separate users. If this is the case, you can select the Skip Material Transfer check box, which will allow you to make the “Manufacture” Stock Entry directly by clicking on the ‘Finish’ button.

Making Time Logs

- Progress in the Work Order can be tracked using Timesheet
- Timesheet's time slots are created against Work Order Operations.
- Drafts of Timesheet are created based on the scheduled operations when a Work Order is Submitted.
- To create more Timesheets against an operation, click 'Make Timesheet' button.

Production Order
PRO-00010

	Activity Type	From Time	Hrs	Project	Bill	
1	Drilling	November 28th 201...	0.500	Wind Turbine Manuf...	⊙	▾
2	Assembly	November 28th 201...	0.250	Wind Turbine Manuf...	⊙	▾
3	Assembly	November 28th 201...	0.500	Wind Turbine Manuf...	⊙	▾
4	Assembly	November 28th 201...	0.333	Wind Turbine Manuf...	⊙	▾
5	Packing	November 28th 201...	0.167	Wind Turbine Manuf...	⊙	▾
6	Packing	November 28th 201...	0.417	Wind Turbine Manuf...	⊙	▾

Total Working Hours
2.167

Updating Finished Goods

- Once you are done with the Work Order you need to update the Finished Goods.
- This will create a Stock Entry that will deduct all the sub-Items from the WIP Warehouse and add them to the Finished Goods Warehouse.
- Click on 'Finish'.

Wind Mill A Series ● In Process PRO-00010 Menu Cancel

Comments 0

ASSIGNED TO
Assign +

ATTACHMENTS
Attach File +

TAGS
Add a tag...

SHARED WITH
+

♥ 0

View Status Finish Make Timesheet

0 Items produced. 1 Items in progress

Status	Qty To Manufacture
In Process	1
Item To Manufacture	Material Transferred for Manufacturing
Wind Mill A Series	1
BOM No	Manufactured Qty
BOM-Wind Mill A Series-001	
<input checked="" type="checkbox"/> Use Multi-Level BOM	
Plan material for sub-assemblies	

- Mention the quantity of materials to be transferred.

Tip: You can also partially complete a Work Order by updating the Finished Goods stock creating a Stock Entry.

Stopping a Work Order

- When you stop a Work Order its status is changed to Stop indicating that all production process against that Work Order is to be ceased.
 - To stop the Work Order, click on the 'Stop' Button
1. On Submitting the Work Order, the system will reserve a slot for each of the Work Order Operations serially after the planned start date based on the workstation availability. The Workstation availability depends on the Workstation timings, holiday list and if some other Work Order Operation was scheduled in that slot. You can mention the number of days for the system to try scheduling the operations in the Manufacturing Settings. This is set to 30 Days by default. If the operation requires time exceeding the available slot, system shall ask you to break the operations. Once the scheduling is done system shall create Time Logs and save them. You can Modify them and submit them later.

2. You can also create additional time logs against an Operation. For doing so select the respective operation and click on 'Make Time Log'
3. Transfer Raw Material: This will create a Stock Entry with all the Items required to complete this Work Order to be added to the WIP Warehouse. (this will add sub-Items with BOM as one Item or explode their children based on your setting above).
4. Update Finished Goods: This will create a Stock Entry that will deduct all the sub-Items from the WIP Warehouse and add them to the Finished Goods Warehouse.
5. To check all Time Logs made against the Work Order click on 'Show Time Logs'

Wind Mill A Series ● Not Started PRO-00010 🖨️ Menu Cancel

View ▾ Status ▾ Start Make Timesheet

0 Items produced Stop

Status Not Started	Qty To Manufacture 1
Item To Manufacture Wind Mill A Series	Material Transferred for Manufacturing
BOM No BOM-Wind Mill A Series-001	Manufactured Qty
<input checked="" type="checkbox"/> Use Multi-Level BOM Plan material for sub-assemblies	

You edited this

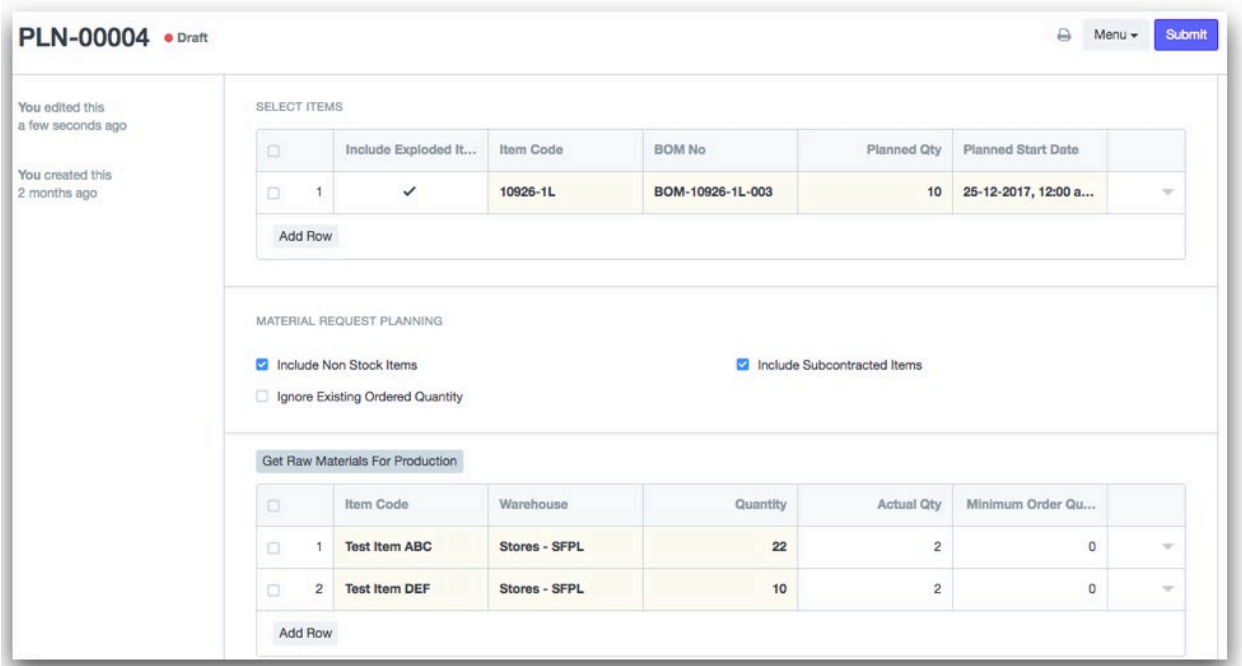
- You can also re-start a stopped Work Order.

Note: In order to make a Work Order against an Item you must specify 'Yes' to "Allow Work Order" on the Item form.

2. Production Plan

Production Plan helps user to plan production against multiple sales orders or the material requests. Also, it helps in Material Procurement planning for the raw-material item, based on the quantity of finished product to be manufactured.

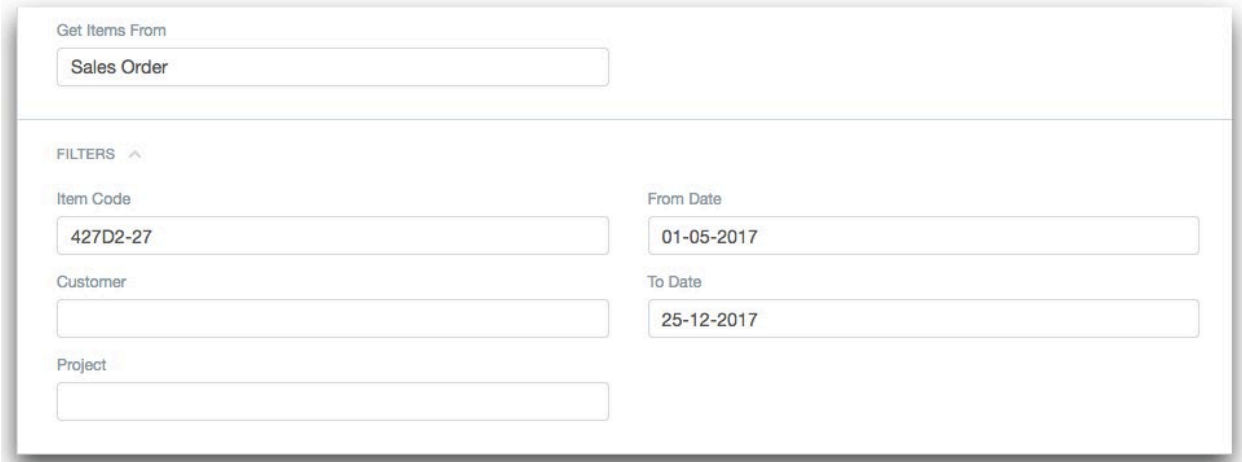
To use the Production Plan, go to: Manufacturing > Production > Production Plan



Planning for Production

Production Against Sales Orders

- Select option as Sales Order from the drop-down list of get items from. System will show the filters, using that we can pull the sales orders for the production.



- Click on Get Sales Orders to fetch sales orders based on above filters

SALES ORDERS DETAIL ^

Get Sales Orders

<input type="checkbox"/>	Sales Order	Sales Order Date	Customer	Grand Total	
<input type="checkbox"/> 1	SO-00023	25-12-2017	Balaji Wafers		▼

Add Row

- Click on Get Items for Work Order to fetch the items from the above sales orders.

SELECT ITEMS

Get Items For Production Order

<input type="checkbox"/>	Include Exploded It...	Item Code	BOM No	Planned Qty	Planned Start Date	
<input type="checkbox"/> 1	✓	10926-1L	BOM-10926-1L-003	10	25-12-2017, 12:00 a...	▼

Add Row

* Include Exploded Items: To include subassembly items of raw materials in the production.

Production Against Material Requests

- Select option as Material Request from the drop-down list of get items from. System will show the filters, using that we can pull the material requests for the production.

Get Items From

Material Request

FILTERS ^

Item Code

Warehouse

From Date

To Date

- Click on Get Material Request to fetch material requests based on above filters

MATERIAL REQUEST DETAIL ^

Get Material Request

<input type="checkbox"/>	Material Request	Material Request Date	
<input type="checkbox"/> 1	MREQ-00125	27-11-2017	▼

Add Row

- Click on Get Items for Work Order to fetch the items from the above material requests.

SELECT ITEMS

Get Items For Production Order

<input type="checkbox"/>	Include Exploded It...	Item Code	BOM No	Planned Qty	Planned Start Date	
<input type="checkbox"/> 1	<input checked="" type="checkbox"/>	427D2-27	→ BOM-10926-1L-003	20.000	25-12-2017 00:00:00	▼

Add Row

Planning for Material Requests

- Click on get raw materials for production button to fetch raw materials required in the production.

MATERIAL REQUEST PLANNING

Include Non Stock Items Include Subcontracted Items

Ignore Existing Ordered Quantity

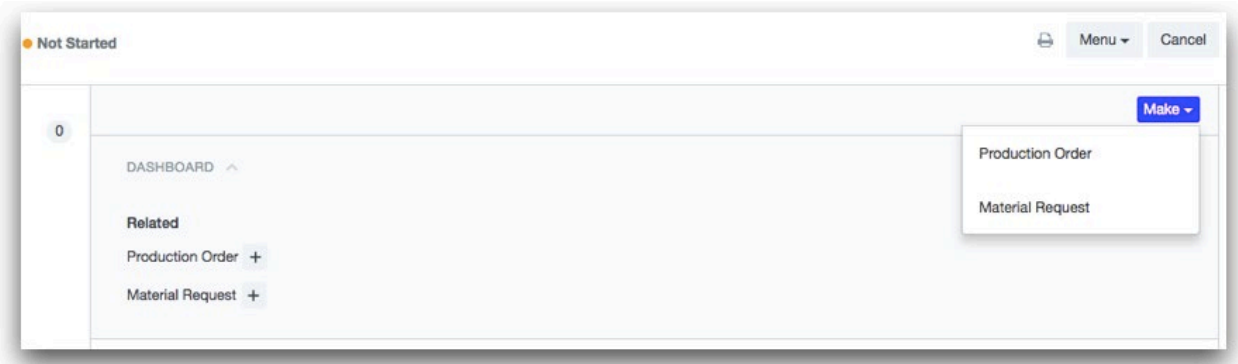
Get Raw Materials For Production

<input type="checkbox"/>	Item Code	Warehouse	Quantity	
<input type="checkbox"/> 1	10307-A: MS Flat 40 X 5MM	Stores - SFPL	1	▼

Add Row

- Include Non-Stock Items: To add non stock items in the material request planning.
- Include Subcontracted Items: To add subcontracted item's raw materials if include exploded items is disabled
- Ignore Existing Ordered Quantity: If enabled then system will not check the projected quantity to make material request.

Options to Make Work Order and Material Request



3. Job Card

A Job Card is created from the Work Order and given to each of the workstation in the manufacturing floor to start the production of an item with a certain quantity in each of the operations defined in the Work Order.

The Job Card extends the functionality of the Work Order in the manufacturing process by adding/defining phase of operations in work orders and assigning each operation into their respective workstation.

Job Card allows each operation's workstation to issue a “Material Request” and “Stock Transfer to Manufacture” for raw material required against a “Job Card” order assigned to them.

Job Card completion will change the production status in Work Order, we can track completion of production progress for each of the operations defined in the work order. Manufacturing > Work Order > Create Job Card

Job Card creation based on BOM

In the Work Order, the Operations and Workstations are fetched from the BOM of an Item. Hence, you should ensure that Routing (master of Operations and Production) is configured in the BOM. Here are the steps for the same.

- Define the Item BOM for production, select “With Operations” on the checklist.

BOM-Fabric-Black-SportShoes-001 ● Default Menu Cancel

Update CostBrowse BOMDuplicate

<p>Comments 0</p> <p>Help</p> <p>ASSIGNED TO</p> <p>Assign +</p> <p>ATTACHMENTS</p> <p>Attach File +</p> <p>TAGS</p> <p>Add a tag ...</p> <p>SHARED WITH</p> <p>+</p> <p>♥</p> <p>You edited this an hour ago</p> <p>You created this a day ago</p>	<p>Item: Fabric-Black-SportShoes <input checked="" type="checkbox"/> Is Active</p> <p>Item to be manufactured or repacked: Fabric-Black-SportShoes <input checked="" type="checkbox"/> Is Default</p> <p>Item Name: Fabric-Black-SportShoes <input checked="" type="checkbox"/> With Operations</p> <p>Quantity: 1 Manage cost of operations</p> <p>Quantity of item obtained after manufacturing / repacking from given quantities of raw materials: <input type="text" value="Valuation Rate"/></p> <p>Item UOM: Centimeter <input checked="" type="checkbox"/> Set rate of sub-assembly item based on BOM</p> <p><input type="checkbox"/> Allow Alternative Item</p> <p><input type="checkbox"/> Transfer Material Against Job Card</p> <p>Currency: IDR</p>
---	---

- Define the production flow by selecting operations in BOM.

OPERATIONS

Specify the operations, operating cost and give a unique Operation no to your operations.

Routing

Shoe Making Process

<input type="checkbox"/>	Operation	Workstation	Description	Operation Time	Operating Cost	
<input type="checkbox"/>	1 Leather Cutting	Cutting	Cutting	20	Rp 2.166,67	▼
<input type="checkbox"/>	2 Leather Sewing	Leather Sewing	Sewing Front & Pac...	40	Rp 4.346,67	▼
<input type="checkbox"/>	3 Stock Fit	Sole Stock Fit	Stock Fit	20	Rp 2.166,67	▼
<input type="checkbox"/>	4 Assembly	Assembly	Assembly	50	Rp 5.416,67	▼
<input type="checkbox"/>	5 Finishing	Finishing	Finishing	30	Rp 2.000,00	▼

- Select Item required for production, assign each of the Item into Operations.

Item Code

Shoe Leather-Cokelat-FullGrain-RawMaterial

Item Name

Shoe Leather-Cokelat-FullGrain-RawMaterial

DESCRIPTION ▼

QUANTITY AND RATE

Qty

20

Stock Qty

20

UOM

Square Centimeter

Stock UOM

Square Centimeter

Conversion Factor

1

RATE & AMOUNT

Rate (IDR)

Rp 1.400,06

Amount (IDR)

Rp 28.001,20

Scrap %

0

Allow Transfer for Manufacture

Item operation

Leather Cutting

You can select “Transfer Material Against Job Card” to transfer raw material for production based on the Job Card, and not by Work Order.

Define “Operations” cycle/flow involved in the Item Select the Item required and assign material to operations for manufacturing.

OPERATIONS

Specify the operations, operating cost and give a unique Operation no to your operations.

Routing

Shoe Making Process

<input type="checkbox"/>	Operation	Workstation	Description	Operation Time	Operating Cost	
<input type="checkbox"/>	1 Leather Cutting	Cutting	Cutting	20	Rp 2.166,67	▼
<input type="checkbox"/>	2 Leather Sewing	Leather Sewing	Sewing Front & Pac...	40	Rp 4.346,67	▼
<input type="checkbox"/>	3 Stock Fit	Sole Stock Fit	Stock Fit	20	Rp 2.166,67	▼
<input type="checkbox"/>	4 Assembly	Assembly	Assembly	50	Rp 5.416,67	▼
<input type="checkbox"/>	5 Finishing	Finishing	Finishing	30	Rp 2.000,00	▼

You can select “Transfer Material Against Job Card” on the Bill of Material to transfer Material for Production based on Job Card.

Routing in Work Order

Job Card will be created upon submission of the Work Order based on the Operations defined in the Bill of Material. Each Job Card represents job order for each Workstations on the manufacturing floor.

Select Work Order with Item to Manufacture

In the Work Order, define if you want to transfer material against a Job Order or no.

Fabric-Black-SportShoes ● Not Saved
MFG-WO-2018-00008 🖨 Menu Save

ASSIGNED TO
Assign +

ATTACHMENTS
Attach File +

TAGS
Add a tag ...

SHARED WITH
+

♥

You edited this an hour ago

You created this an hour ago

DASHBOARD ↕

Stock Entry

Job Card

Status
Draft

Item To Manufacture
Fabric-Black-SportShoes

BOM No
BOM-Fabric-Black-SportShoes-001

Use Multi-Level BOM
Plan material for sub-assemblies

Allow Alternative Item

Company
PT Manufaktur Indonesia

Qty To Manufacture
2,00

Sales Order

Project

Skip Material Transfer
Check if material transfer entry is not required

Transfer Material Against Job Card

Job Card Creation

On submission of Work Order, Job Cards will be auto-created based on the values in the Routing table.

The screenshot displays a software interface for job card creation. A modal dialog box titled "Message" is centered on the screen, listing five job cards that have been created:

- Job card PO-JOB00020 created
- Job card PO-JOB00021 created
- Job card PO-JOB00022 created
- Job card PO-JOB00023 created
- Job card PO-JOB00024 created

The background interface shows the following details:

- Header:** Fabric-Black-SportShoes
- Table:** A table with a column labeled "Consumed Qty" and values of 0.
- TIME Section:** Planned Start Date: 24-10-2018 17:06:28; Expected Delivery Date: 31-10-2018; Location: Asia/Jakarta
- OPERATIONS Table:**

Operation	Status	Workstation	Operation Time
1 Leather Cutting	Pending	Cutting	40
2 Leather Sewing	Pending	Leather Sewing	80
3 Stock Fit	Pending	Sole Stock Fit	40
4 Assembly	Pending	Assembly	100
5 Finishing	Pending	Finishing	60

Job Card

Each Job Card created will have Workstation & Operations assigned. Raw material required from each source warehouse will be calculated based on quantity required for production.

Employee assignment and timing detail will also be defined in Job Card.

Leather Sewing ● Not Saved
PO-JOB00016 🖨️ Menu ▾ Save

Start Job

Comments 0

ASSIGNED TO
Assign +

ATTACHMENTS
Attach File +

TAGS
Add a tag ...

SHARED WITH
+

♥

You edited this
3 hours ago

You created this
3 hours ago

DASHBOARD ^

Transactions

Material Request

Stock Entry

00 : 00 : 00

Work Order
MFG-WO-2018-00007

Workstation
Leather Sewing

Operation
Leather Sewing

WIP Warehouse
Gudang Work In Proses - PMI

Posting Date
24-10-2018

Company
PT Manufaktur Indonesia

For Quantity
1,00

Transferred Qty
0

TIMING DETAIL

Employee
HR-EMP-00003

Time In Mins
0

Actual Start Date
26-10-2018 18:04:58

Asia/Jakarta

Actual End Date
27-10-2018 16:34:40

Asia/Jakarta

RAW MATERIALS

<input type="checkbox"/>	Item Code	Source Warehouse	Required Qty	
<input type="checkbox"/>	1 Thread/Benang-Brown	Toko - PMI	200	▾
<input type="checkbox"/>	2 Shoe Glue	Gudang Bahan Baku Penunjang - PMI	20	▾

Material Request against Job Card

A Material Request will be raised from the Job Card as a basis/order to prepare raw-material required for manufacturing process. The Material Request raised will have its reference to the original Job Card number.

Material Transfer for Thread/Benang-Brown,... ● Pending

MAT-MR-2018-00003 Menu Cancel

Comments 0

ASSIGNED TO
Assign +

ATTACHMENTS
Attach File +

TAGS
Add a tag ...

SHARED WITH
+

♥

You edited this an hour ago

You created this an hour ago

Make Stop

DASHBOARD ^

Related

Request for Quotation

Supplier Quotation

Purchase Order

Stock Entry

Manufacturing

Work Order

Type
Material Transfer

Required Date

<input type="checkbox"/>	Item Code	Quant...	UOM	For Warehouse	Required Date	
<input type="checkbox"/>	1 ● Thread/Benang-Brown	200	Centi...	Gudang Work In Proses - PMI	26-10-2018	▼
<input type="checkbox"/>	2 ● Shoe Glue	20	Gram	Gudang Work In Proses - PMI	26-10-2018	▼

MORE INFORMATION ^

Requested For
PO-JOB00016

Status
Pending

Transaction Date
24-10-2018

% Ordered
0%

PRINTING DETAILS ▼

REFERENCE ^

Job Card
PO-JOB00016

Track the Manufacturing Progress in The Work Order by The Completion of Each Operations defined in Work Order.

Job Card completion allow us to track the manufacturing progress inside the Work Order by looking of the completion of each Operations that are related in the Work Order.

Fabric-Black-SportShoes ● In Process

MFG-WO-2018-00007  Menu 

REQUIRED ITEMS

<input type="checkbox"/>	Item Code	Source Warehouse	Required Qty	Transferred Qty	Consumed Qty	
<input type="checkbox"/>	1 Shoe Leather-Cokel...	Gudang Bahan Baku...	20	20	0	▼
<input type="checkbox"/>	2 Thread/Benang-Bro...	Toko - PMI	200	200	0	▼
<input type="checkbox"/>	3 Shoe Glue	Gudang Bahan Baku...	20	20	0	▼
<input type="checkbox"/>	4 Shoe Sole-White-Fu...	Toko - PMI	1	0	0	▼

TIME

Planned Start Date

24-10-2018 16:24:04

Asia/Jakarta

Actual Start Date

25-10-2018, 4:29 pm WIB

Asia/Jakarta

Actual End Date

27-10-2018, 4:34 pm WIB

Asia/Jakarta

Expected Delivery Date

OPERATIONS

<input type="checkbox"/>	Operation	Status	Workstation	Operation Time	
<input type="checkbox"/>	1 Leather Cutting	Completed	Cutting	20	▼
<input type="checkbox"/>	2 Leather Sewing	Completed	Leather Sewing	40	▼
<input type="checkbox"/>	3 Stock Fit	Pending	Sole Stock Fit	20	▼
<input type="checkbox"/>	4 Assembly	Pending	Assembly	50	▼
<input type="checkbox"/>	5 Finishing	Pending	Finishing	30	▼

OPERATION COST

Planned Operating Cost

Rp 16.096,67

Actual Operating Cost

Rp 274.307,54

Additional Operating Cost

Rp 0,00

Total Operating Cost

Rp 274.307,54

1.4 Topic: Advanced

1. Subcontracting
2. Item Alternative
3. BoM Update Tool

1. Subcontracting



Subcontracting is a type of job contract that seeks to outsource certain types of work to other companies. It allows work on more than one phase of the project to be done at once, often leading to a quicker completion. Subcontracting is practiced by various industries. For example, manufacturers making a number of products from complex components subcontract certain components and package them at their facilities.

If your business involves outsourcing certain processes to a third-party Supplier, where you buy the raw material from, you can track this by using the sub-contracting feature of ERP+.

Setup Sub-Contracting:

1. Create separate Items for the unprocessed and the processed product. For example, if you supply unpainted X to your Supplier and the Supplier returns you X, you can create two Items: “X-unpainted” and “X”.
2. Create a Warehouse for your Supplier so that you can keep track of Items supplied. (you may supply a month’s worth of Items in one go).
3. For the processed Item, in the Item master, set “Is Sub Contracted Item” to “Yes”.

Motherboard • Enabled

 Menu 

MANUFACTURING 

Supply Raw Materials for Purchase
If subcontracted to a vendor

Step 1: Make a Bill of Materials for the processed Item, with the unprocessed Items as sub-items. For example, If you are manufacturing a pen, the processed pen will be named under Bill of Materials (BOM), whereas, the refill, knob, and other items which go into the making of pen, will be categorized as sub-items.

BOM-Lenovo K6-001 ● Default

Menu Cancel

19.39MB (0%) used

MATERIALS

<input type="checkbox"/>	Item Code	Qty	Rate (INR)	Amount (INR)	Scrap %	
<input type="checkbox"/>	1 Motherboard	1	₹ 390.28	₹ 390.28	0	▼
<input type="checkbox"/>	2 Mobile Display 5"	1	₹ 301.61	₹ 301.61	0	▼
<input type="checkbox"/>	3 Mobile Outer Body	1	₹ 96.37	₹ 96.37	0	▼
<input type="checkbox"/>	4 5 MP Camera	2	₹ 200.00	₹ 400.00	0	▼

COSTING

Operating Cost (INR)	₹ 34.33	Operating Cost (INR)	\$ 0.53
Raw Material Cost (INR)	₹ 1,188.26	Raw Material Cost (INR)	\$ 18.50
Scrap Material Cost (INR)	₹ 0.00	Scrap Material Cost (INR)	0

Step 2: Make a Purchase Order for the processed Item. When you “Save”, in the “Raw Materials Supplied”, all your un-processed Items will be updated based on your Bill of Materials. You can also select the warehouse from which the material would be reserved for sub-contracting.

Apple Union Square ● To Receive and Bill

PO-00003 Menu Cancel

SUPPLIED ITEMS

	Item Code	Raw Material I...	Supplied Qty	Rate	Reserve Ware...	
5	Lenevo K6	Mother Board	1	₹ 390.28	Stores - IOT	▼
6	Lenevo K6	5 MP Camera	1	₹ 100.00	Stores - IOT	▼
7	Lenevo K6	Mobile Display ...	1	₹ 301.61	Stores - IOT	▼
8	Lenevo K6	Mobile Outer B...	1	₹ 96.37	Stores - IOT	▼

Once the PO is submitted, you can view the reserved quantity of the item from the item dashboard as well.

Mother Board ● Enabled

Menu Save

Stock Levels

Stores - IOT	Mother Board	1 100	Move Add
--------------	--------------	---------	----------

Step 3: Make a Stock Entry to deliver the raw material Items to your Supplier.

Material Transfer • Submitted STE-00020 Menu Cancel

ATTACHMENTS
Attach File +

TAGS
Add a tag...

SHARED WITH
+
0

You edited this
a few seconds ago

You created this
2 minutes ago

20.43MB (0%) used

Company: **Gadget Technologies Pvt. Ltd.** Posting Time: **15:53:41**

Purchase Order: **PO-00017**

From BOM

BOM No: **BOM-Lenovo K6-001** Use Multi-Level BOM
Including items for sub assemblies

For Quantity: **1**

As per Stock UOM

Default Target Warehouse
Central Warehouse - GTPL

<input type="checkbox"/>	Source Warehouse	Target Warehouse	Item Code	Qty	
<input type="checkbox"/>	1 Stores - GTPL	Central Warehouse - ...	● Mobile Display 5"	1	▼
<input type="checkbox"/>	2 Stores - GTPL	Central Warehouse - ...	● 5 MP Camera	2	▼

Step 4: Receive the Items from your Supplier via Purchase Receipt. Make sure to check the “Consumed Quantity” in the “Raw Materials” table so that the correct stock is maintained at the Supplier’s end.

Apple Union Square • To Bill PREC-00010 Menu Cancel

RAW MATERIALS SUPPLIED ^

Raw Materials Supplied: **Yes**

Supplier Warehouse: **Central Warehouse - GTPL**

	Item Code	Raw Material Item Code	Description	Required Qty	
1	Lenovo K6	Motherboard	Motherboard	1	▼
2	Lenovo K6	Mobile Outer Body	Mobile Outer Body	1	▼
3	Lenovo K6	5 MP Camera	5 MP Camera	2	▼
4	Lenovo K6	Mobile Display 5"	Mobile Display 5"	1	▼

Note 1: Make sure that the “Rate” of processed Item is the processing rate (excluding the raw material rate).

Note 2: ERP+ will automatically add the raw material rate for your valuation purpose when you receive the finished Item in your stock.

Note 3: ERP+ will automatically default the Reserve Warehouse in the PO from the BOM. If not found in the BOM, it would default it from the default warehouse setup in the Item.

2. Item Alternative

Item alternative feature is very useful in manufacturing industries, if the raw material defined in the BOM is not available during the production process then their respective available alternative item used to complete the production process.

To make item alternative for an item, kindly enable the "Allow Alternative Item" in the item.

CRCA IS 513D Matt 1.5mm Enabled 101V8-4 Menu Save

CI

Comments 0

Help

DASHBOARD ▼

Second Item Group

Item Name 📌
CRCA IS 513D Matt 1.5mm

Barcode

Disabled

Allow Alternative Item

Maintain Stock

Valuation Rate

Is Fixed Asset

- To make item alternative, go to module Stock > Items and Pricing > Item Alternative

101V8-4 a48c533b05 Menu Save

Comments 0

ASSIGNED TO

Assign +

ATTACHMENTS

Attach File +

Item Code

Alternative Item Code

Two-way

Item Name **CRCA IS 513D Matt 1.5mm**

Alternative Item Name **CRCA 1.2mm thick**

The user can enable Two-Way between an item and their alternative item if both can be used as an alternative to each other

Item Alternative for work order

To allow to use alternative items in the manufacturing process user can configure allow an alternative item in the BOM/Work Order

Provision to allow alternative item in the BoM

BOM-Test Supply RAW Material-001 ● Default Menu ▼ Cancel

Comments 0

Help

ASSIGNED TO
Assign +

ATTACHMENTS
Attach File +

TAGS
◦ Add a tag ...

SHARED WITH
+

♥

You edited this a month ago

Update Cost Browse BOM Duplicate

Item	<input checked="" type="checkbox"/> Is Active
Test Supply RAW Material: Test HKJH	<input checked="" type="checkbox"/> Is Default
Item to be manufactured or repacked	<input type="checkbox"/> With Operations
Item Name	Manage cost of operations
Test HKJH	Rate Of Materials Based On
Quantity	<input type="text" value="Valuation Rate"/>
1	<input checked="" type="checkbox"/> Set rate of sub-assembly item based on BOM
Quantity of item obtained after manufacturing / repacking from given quantities of raw materials	<input checked="" type="checkbox"/> Allow Alternative Item
<input type="checkbox"/> Inspection Required	

Company	Currency
Sheth Fabricators Private Limited	INR

Provision to allow alternative item in the work order

User can also enable/disable allow alternative item in the work order

DASHBOARD ^

0 items produced

Stock Entry 1 1

Timesheet +

Status	Qty To Manufacture
Not Started	2
Item To Manufacture	Material Transferred for Manufacturing
Test Supply RAW Material	0
BOM No	Manufactured Qty
BOM-Test Supply RAW Material-001	0

Use Multi-Level BOM
Plan material for sub-assemblies

Allow Alternative Item

Skip Material Transfer
Check if material transfer entry is not required

Item Alternative for subcontract

In subcontract, the user has to transfer raw materials to the subcontracted supplier to get finished good from them. If the raw material is not available in the stock, with this feature, the user can transfer the alternate item of the subcontracted raw material to the supplier.

2.1 Article: **Production**

1. Production Planning Subassembly
2. Capacity Planning
3. Open Work Orders

1. Production Planning & Subassembly

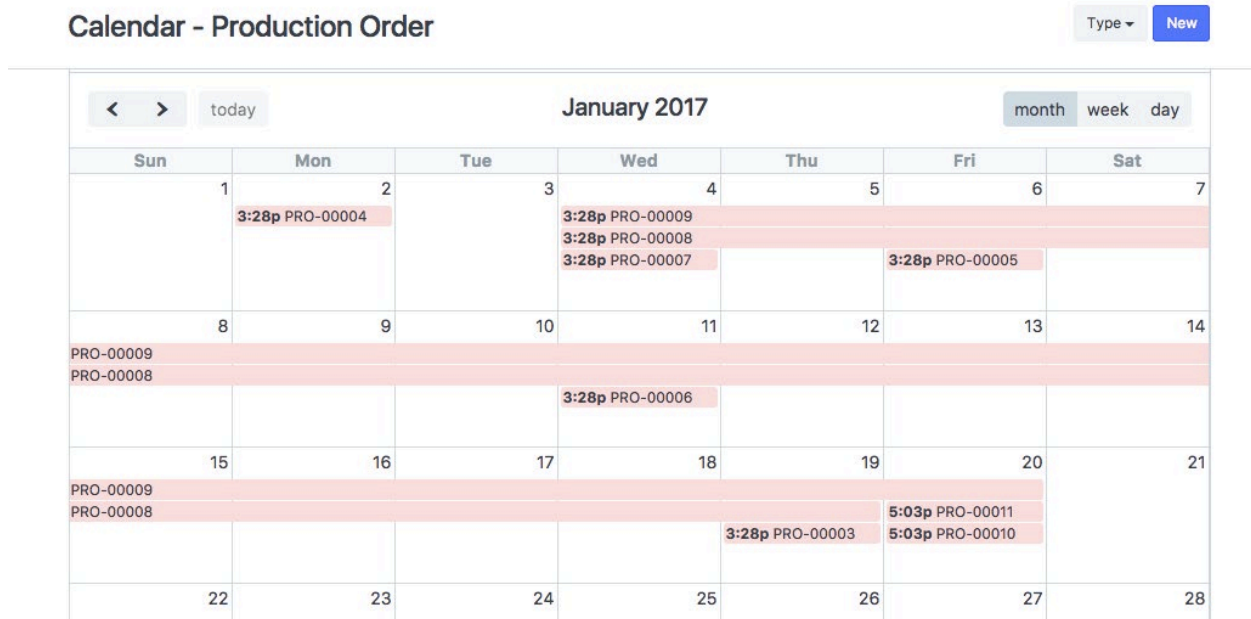
if you need Production Planning Tool to consider raw-materials required for the manufacturing of sub-assembly items selected in the BOM, please check following instructions to achieve the same.

Production Planning Tool has field called "Use Multi-Level BOM", checking which will consider raw-material of sub-assemblies as well in the material planning. If this field is not checked, then it will consider sub-assembly as an item, and won't consider raw-material required for the manufacturing of that sub-assembly.

Use Multi-Level BOM field is also there in the Work Order and Stock Entry. If checked, raw-materials of sub-assembly item will be consumed in the manufacturing process, and not the sub-assembly item itself.

2. Capacity Planning based on Work Order

Capacity Planning functionality helps you in tracking production jobs allocated on each Workstation.



Follow are the steps to use Capacity Planning Feature in your ERP+ account.

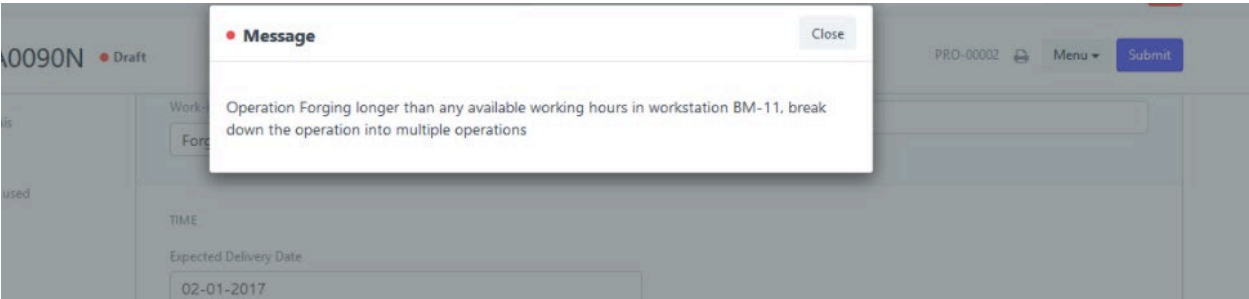
1. Operations: To add operations, go to: Manufacturing > Bill of Materials > Operations
2. Workstation: Add each Workstation in your ERP+ account from: Manufacturing > Bill of Materials > Workstation

In the Workstation master, you can define which operations will be performed on it, what are the cost associated with it, and what are the working hours of that Workstation.

3. Bill of Materials (BOM): In a BOM, with the list of raw material needed, for manufacturing, you can also list operation and workstations through which those raw materials will be processed.
4. Work Order: On submission of Work Order, Timesheet for Operations. This helps you allocate production jobs on each Workstation, as well as you can update actual time taken for each Operation.

Error due to Capacity Planning

Question: On Submission of Work Order, we are getting following error message.



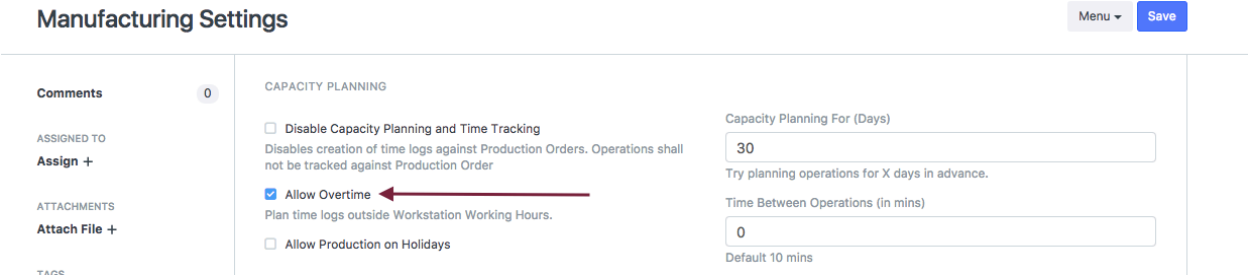
Answer: Please check if you have updated Working Hours in the Workstation master? If not, then please update it and then try to submit Work Order.

On submission of Work Order, Operations (as added in the BOM) are allocated on the workstation. Each operation should start and end on the same day. If a system is not able to schedule that operation in a day, then system request you to divide that Project, so that system can allocate smaller operations in a day.

If you have update working hours in the Workstation, but still getting this issue, that because one of your operation is taking too long, and cannot be completed in a day. Please divide that operation into smaller operations, so that it can be allocated on Workstation and completed on the same day.

Avoid Working Hours of Workstation

If you want to ignore above validation and allow scheduling of production job beyond the working hours of the Workstation, enable Overtime in the Manufacturing Settings.



If you want to complete disable Capacity Planning feature, in the Manufacturing Settings, check field "Disable Capacity Planning and Time Tracking".

3. Open Work Order Report

We can easily identify the progress of manufacturing of certain items in our organizations using Open Work Orders in ERP+.

Open Work Orders Menu ▾ Refresh

Set Chart

	Work Order	Date	Item	To Produce	Produced	Company
1	MFG-WO-2018-00005	24-10-2018 13:3...	Fabric-Black-SportSh...	2	0	PT Manufaktur Indonesia
2	MFG-WO-2018-00008	24-10-2018 15:5...	Fabric-Black-SportSh...	2	0	PT Manufaktur Indonesia

In this report, users are able to see what items need to be produced, total quantity to be produced and also any produced items before. To further detail, users can proceed to click on the work order e.g.; MFG-WO-2018-00005.

With this report, we are able to know what items to be produced, in this report qty to manufacture is 2.

The important information is the warehouses which warehouses to store our in-progress items and the finished manufactured items. This should enable us to track our stocks inventory and translate to efficiency in costing.

We can prepare our manufacturing in mannerly order based on the required items in source warehouse where the items been stored. See figure 3.

Manufacturing operations Certain items required certain manufacturing processes and steps. The open work orders will be able to tell us the manufacturing steps and their status if done or not yet done. It definitely will help in organizing the jobs in better way.

This report is helping to calculate the operation cost required in the manufacturing. This is to give us certain information required to make the business decision. See below for more details.

2.2 Article: **Bill of Materials (BoM)**

1. Nested BoM Structure
2. Valuation Based on Field In BoM

1. Nested BOM Structure

Question: Our manufacturing process involves producing sub-assembly items before final product. How should we manage BOM master in this scenario?

Answer: You should create BOM for item in the order of their production. BOM for the sub-assembly item should be created first. BOM for the Product Order item should be created last. Let's consider an example to understand this better.

A computer assembler is creating a BOM for PC. They also manufacture Hard Disk and DVD Drive themselves. They should first create BOM for Hard Disk and DVD Drive. After that BOM for the PC should be created. BOM of PC will have all the raw-material items selected in it. Hard Disk and DVD Drive (sub-assemblies) will also be selected as raw-material items. For the sub-assembly items, respective BOM no. will be fetched as well.

The screenshot shows the BOM/PC/001 interface. The main area displays the BOM structure for 'Personal Computer'. The 'Materials' table lists the following items:

Item Name	BOM No	Qty	Rate	Amount
1 Mother Board		1	₹ 0.00	₹ 0.00
2 Hard Disk	BOM/Hard Disk/001	1	₹ 0.00	₹ 0.00
3 DVD Drive	BOM/DVD Drive/001	1	₹ 0.00	₹ 0.00
4 SMTF		1	₹ 0.00	₹ 0.00
5 Accessories and wires		1	₹ 0.00	₹ 0.00

Following is how the structure of nested BOM will look:

-Personal Computer (FG Item)

---- Mother Board

---- SMTF

---- Accessories and wires

----**Hard Disk (sub-assembly)**

----- Item A

----- Item B

----- Item C

----**DVD Drive (sub-assembly)**

----- Item X

----- Item Y

----- Item Z

2. Valuation Based On in BOM

Question: What are for various options in Valuation Based on in the Bill of Materials (BOM)?

Answer: There are 3 available options in the *Valuation Based On* field:

BOM/Wind Mill Base Tower/002 ● Draft Menu Submit

Update Cost Browse BOM

Comments 0

Help

ASSIGNED TO

Assign +

ATTACHMENTS

Attach File +

TAGS

Add a tag...

SHARED WITH

+ 0

You edited this a few seconds ago

Item

Wind Mill Base Tower

Item to be manufactured or repacked

Item Name

Wind Mill Base Tower

Rate Of Materials Based On

- Valuation Rate
- Last Purchase Rate
- Price List

Is Active

Is Default

With Operations

Manage cost of operations

Materials

Item Code	Item Name	Qty	Rate	Amount
1	Metal Sheet	3	\$ 80.00	\$ 240.00
2	Spray Paint	1.500	\$ 30.00	\$ 45.00

Add new row Add multiple rows

Valuation Rate: Item valuation rate is defined based on its purchase or manufacture value.

For Purchase Item, it is defined based on charges entered in the Purchase Receipt. If you don't have any Purchase Receipt made for an item or a Stock Reconciliation, then there won't be any Valuation Rate for that item.

Price List Rate: This option allows to pull item rates from Price List.

Last Purchase Rate: It will be the last Purchase (Order) Rate of an item.

2.3 Article: **Others**

1. Material Consumption
2. Customer Provided Items
3. Scrap Management

1. Material consumption

Material Consumption functionality allows you to have multiple consumption Stock Entry against a Work Order. To enable this, go to Manufacturing > Manufacturing Settings.

Manufacturing Settings Menu ▼ Save

You edited this
4 hours ago

You created this
17 days ago

Allow Multiple Material Consumption
Allow multiple Material Consumption against a Work Order

Update BOM Cost Automatically
Update BOM cost automatically via Scheduler, based on latest valuation rate / price list rate / last purchase rate of raw materials.

Once enabled, a Material Consumption button will be available in Work Order once started.

TB1 ● In Process WO-00023 🗑️ Menu ▼ Cancel

Comments 0

ASSIGNED TO
Assign +

ATTACHMENTS
Attach File +

TAGS
◦ Add a tag ...

Status ▼
Make Timesheet
Material Consumption
Finish

DASHBOARD ^

0 items produced. 1 items in progress

Stock Entry 1

Timesheet +

When button is clicked, it will do the following:

1. It will create Stock Entry with purpose Material Consumption for Manufacture.

New Stock Entry 1 ● Not Saved Save

Make Material Request
Get items from ▼

Series
STE-

Purpose
Material Consumption for Manufacture

Work Order
WO-00023

From BOM

Inspection Required

BOM No
BOM-TB1-001

For Quantity
1.000

Posting Date
29-03-2018

Posting Time
17:01:37

Edit Posting Date and Time

Use Multi-Level BOM
Including items for sub assemblies

Get Items

1. If the "Backflush Raw Materials Based On" in the Manufacturing Settings is set to BOM, it will propose to consume all required qty for manufacture.
2. If the "Backflush Raw Materials Based On" in the Manufacturing Settings is set to Material Transferred for Manufacture, it will propose to consume all transferred qty for manufacture.
3. Once submitted, it will update Consumed Qty column in the Work Order.

TB1 ● In Process WO-00023 Menu Cancel

Target Warehouse
Finished Goods - EE

REQUIRED ITEMS

<input type="checkbox"/>	Item Code	Source Warehouse	Required Qty	Transferred Qty	Consumed Qty	
<input type="checkbox"/>	1 CH1: Chocolate Chips	Stores - EE	3	3	3	▼
<input type="checkbox"/>	2 MK: Milk	Stores - EE	3	3	3	▼
<input type="checkbox"/>	3 SG: Sugar	Stores - EE	4	4	4	▼

1. In succeeding Material Consumption, it will suggest unconsumed qty.
2. Once "Finish" button is clicked in Work Order, it will take into account consumed qty.

Validations

- If "Allow Multiple Material Consumption" is not set in Manufacturing Settings but "Material Consumption for Manufacture" is use in Stock Entry.
- Cannot cancel "Material Consumption for Manufacture" for completed Work Order.

2. Customer Provided Items

In Contract Manufacturing, in some cases Customer provides specific items as one or few of the BOM components. These items cannot be received using a Buying Cycle since that will mean making Customer as a Supplier at the same time and it will go through each doctype in the cycle.

In this feature, Customer Provided Item is received through Stock Entry from a Material Request with type Customer provided. Here are the steps on how to setup a Customer Provided item.

1. Got to Item Doctype and add a new Customer Provided item. Stock > Item >
2. In the Purchase, Replenishment Details section, check Is Customer Provided and set a default Customer.

Motherboard ● Not Saved Menu ▼ Save

PURCHASE DETAILS ^

Is Purchase Item

Minimum Order Qty

Safety Stock

Lead Time in days

Average time taken by the supplier to deliver

Default Buying Cost Center

Default Expense Account

Last Purchase Rate

How to receive a Customer Provided Items?

1. If Production Plan is used, Material Request for this item can be auto created.
2. Once a component in a BOM is set as Customer Provided and Material Request is created from Production Plan, it will create both Material Request with type Purchase and Customer Provided. From there, a Stock Entry with purpose Material Receipt can be created.
3. A Material Request can have multiple Stock Entry - Material Receipt. It will reflect it in the status.
4. Customer will be able to track their Material Requests in a Web Portal Material Requests. The portal is filtered to show only the Material Request of the customer.

3. Production Scrap Management

Scrap means waste that either has no economic value or only the value of its basic material content recoverable through recycling.

Scrap is generally availed at the end of the manufacture process. Also, you can find some products that are damaged or that are unusable due to expiry or for some other reason, which needs to be scrapped. In ERP+, at the end of manufacturing process, scrap items are accounted in the scrap warehouse.

Scrap in Bill of Materials

You can update estimated scrap quantity of an item in the BOM, Scrap table. If required, you can reselect a raw-material item as scrap.

BOM-Samsung On5 Pro (Gold)-003 ● Default Menu Cancel

<input type="checkbox"/>	2	Mobile Display 5"	1	Unit	₹ 1,054.40	₹ 1,054.40	▼
<input type="checkbox"/>	3	Mobile Outer Body	1	Unit	₹ 171.51	₹ 171.51	▼
<input type="checkbox"/>	4	Battery 2300 mAh	1	Unit	₹ 500.00	₹ 500.00	▼
<input type="checkbox"/>	5	5 MP Camera	2	Nos	₹ 759.21	₹ 1,518.42	▼

SCRAP ^

<input type="checkbox"/>	Item Code	Item Name	Qty	Rate	
<input type="checkbox"/>	1	Aluminium Waste	20	₹ 10.00	▼

Scrap in Manufacture Entry

When production is completed, Finish / Manufacture Entry is created against a Production Order. In this entry, scrap item is fetched in the Item table, with only Target Warehouse updated for it. Ensure that Valuation Rate is updated for this item for the accounts posting purposes.

Scrap from the BOM will only work if Manufacture Entry is created based on BOM, and not based on Material Transfer. This is configurable from Manufacturing Settings.

Manufacturing Settings Menu Save

ATTACHMENTS

Attach File +

TAGS

SHARED WITH

+ 0

You edited this 7 minutes ago

not be tracked against Production Order

Allow Overtime
Plan time logs outside Workstation Working Hours.

Allow Production on Holidays

Over Production Allowance Percentage:

Backflush Raw Materials Based On:

- BOM
- Material Transferred for Manufacture
- Update BOM Cost Automatically

Update BOM cost automatically via Scheduler, based on latest valuation rate / price list rate / last purchase rate of raw materials.

Try planning operations for X days in advance.

Time Between Operations (in mins):
Default 10 mins

Default Work in Progress Warehouse:

Default Finished Goods Warehouse: