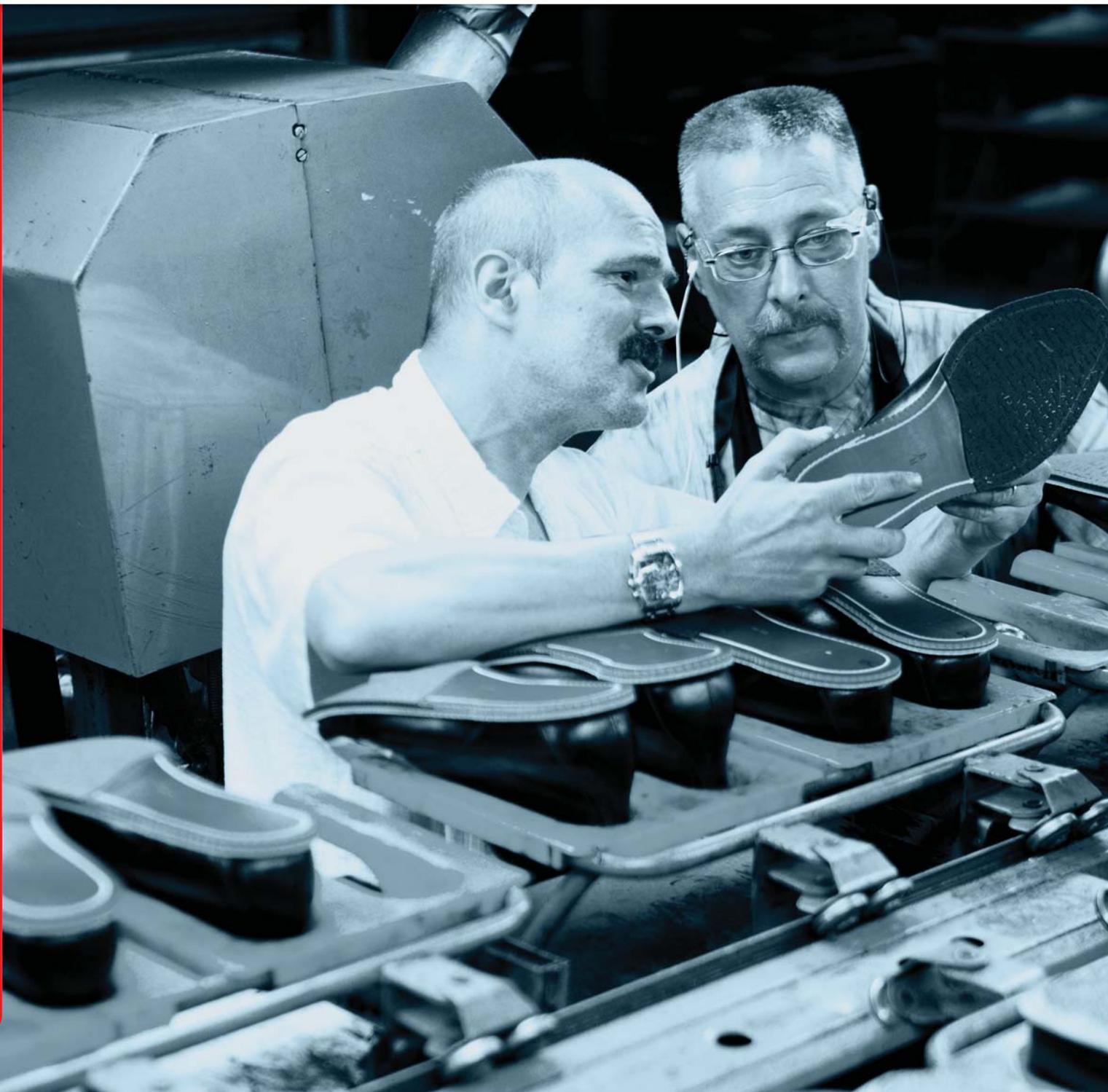


**= exact**

And it all comes together.

## **Exact Globe Next | Manufacturing**

User Guide





A group of four people are seated around a table in a meeting. A woman in a red long-sleeved top is smiling and gesturing with her hands. To her right, a woman in a blue top is also smiling. To the left, a woman with glasses is looking towards the center. In the foreground, the back of a man's head and shoulders in a light blue shirt is visible. The background is a bright, modern office space with a person standing in the distance.

**Exact Globe Next**  
Manufacturing

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# Welcome to

# Exact Globe Next!

This guide provides the information you need to work effectively with Exact Globe Next. It is part of the series of user guides for Exact Globe Next. The goal of this documentation is to help you to get quickly acquainted with the product and the possibilities it offers. It will help all users, especially those without much experience with our software, to get started with and benefit from the product straightaway. Exact Globe Next is an integrated software solution; its modules of related business processes function together in an integrated manner. Besides the user guides, there are several information sources, related to the software, available to you. You can access online help documents on Exact Globe Next functionalities while working with the software by just pressing the F1 key. The list of help document also contains release notes related to the product. They inform you of the improvements and functional additions in the various releases of the product.

You can also access the help documents, release notes and other related documents online through the Exact Customer Portal on [www.exact.com](http://www.exact.com). The Customer Portal is a protected part of the Exact Software internet site, which has been specially developed to provide you with information and to help you get the maximum yield from your software. This portal informs you about our contacts, downloads, FAQs, and the latest product news. We invite you to use the portal as often as you wish!

Thank you for using Exact Globe Next and this user guide!

# Introduction

Exact Globe Next enables you to direct the production process centrally. The information system monitors planning, production, and stock regardless of whether you make to order, contract out subprocesses, or work with various Bills of Materials and production scenarios. Information is stored and linked in a single central database - from purchasing and logistics to cost price calculation and MRP. Orders are automatically processed in your logistics and financial accounts. Reports are based on current, complete information.

The Master Production Planning is based on real-time company information and shows the machines, methods, employees, materials, and means you need on a project-by-project basis. A single screen contains information on resource availability and reservations. From the planning, you can click directly through to underlying information.

Bills of Materials (BOM) and price management give you control over product versions. A BOM also contains an active link between all information and underlying entities, such as delivery times, price lists for raw materials and semi-finished products, and price agreements with suppliers.

Stock management provides real-time insight into your stock levels, with direct updates on purchases and sales. Linking it to the Master Production Planning allows your purchasing staff to see which materials and raw materials are required in order to guarantee continuity at any given moment.

This user manual will cover the following chapters:

- Chapter 1: Setting Up
- Chapter 2: Cost Calculation
- Chapter 3: Materials Management
- Chapter 4: Planning
- Chapter 5: Production Management
- Chapter 6: Management Information

# Contents

<b>Welcome</b>	<b>III</b>
<b>Introduction</b>	<b>IV</b>
<hr/>	
<b>Chapter 1: Setting Up</b>	<b>3</b>
1.1 Manufacturing Settings	4
1.2 Numbers Settings	9
1.3 Documents Settings	10
1.4 General Ledger Settings	12
1.5 Project Settings	14
1.6 Creating and Maintaining Items	16
1.7 Creating and Maintaining Labor Hour Items	37
1.8 Creating and Maintaining Machine Hour Items	43
1.9 Creating and Maintaining Extra Charges Items	44
1.10 Creating and Maintaining Outsourced Items	49
1.11 Creating and Maintaining Operations	51
1.12 Creating and Maintaining BOMs (Bills of Materials)	55
1.13 Creating and Maintaining Scenarios	65
1.14 Creating and Maintaining Reason Codes	68
1.15 Inventory Settings	70
<hr/>	
<b>Chapter 2: Cost Calculation</b>	<b>75</b>
2.1 Calculating Cost for BOMs	75
2.2 Calculating Cost for Production Orders	78
<hr/>	
<b>Chapter 3: Materials Management</b>	<b>89</b>
3.1 Managing Materials at Factory or Warehouse Level	90
3.2 Managing Materials at Order or Item Level	103
<hr/>	
<b>Chapter 4: Planning</b>	<b>113</b>
4.1 Planning at Factory or Warehouse Level	113
4.2 Planning at Order Level	114

<b>Chapter 5: Production Management</b>	<b>127</b>
5.1 Creating Production Orders	128
5.2 Authorizing Production Orders	136
5.3 Releasing Production Orders	138
5.4 Printing Production Orders	135
5.5 Managing Operations	138
5.6 Issuing Production Orders	141
5.7 Receiving Production Orders	143
5.8 Setting Production Orders to the Finished status	144
5.9 Completing Production Orders	146
5.10 Outsourcing Production Orders	147
<hr/>	
<b>Chapter 6: Management Information</b>	<b>153</b>
6.1 Profit Calculation Reports	153
6.2 Production Order Status Reports	154
6.3 Production Waste Reports	155
6.4 ABC Analysis Reports	156
6.5 Project Overview Reports	157
6.6 Work in progress (WIP)	158
6.7 Actual usage and costs	159
<hr/>	
<b>Chapter 7: Appendix</b>	<b>163</b>





## Chapter 1

# Setting Up





# 1 Setting Up

Setting up is a must prior to using Exact Globe Next. Before you can actually process any information, you must first define the relevant settings and master data which will serve as the backbone for your business processes. The settings and master data in your administration reflect the policies, work procedures, products, and businesses of your company, its internal and external legislations, and the methods of your company's business processes. It is important that a one-time setting up is done with careful selections in your central administration as this will standardize the entire business process for all users within your company.

Setting up administrative configurations and master data enables users to use Exact Globe Next effectively. The following are the system settings and master data relevant to Manufacturing:

- Manufacturing settings
- Numbers settings
- Documents settings
- General ledger settings
- Project settings
- Creating and maintaining items
- Creating and maintaining labor hour items
- Creating and maintaining machine hour items
- Creating and maintaining extra charges items
- Creating and maintaining outsourced items
- Creating and maintaining operations
- Creating and maintaining BOMs (Bills of Materials)
- Creating and maintaining scenarios
- Creating and maintaining reason codes

## 1.1 Manufacturing Settings

Before using the **Manufacturing** module, you must first define the manufacturing settings to standardize the business processes involved in the manufacturing environment. To define the settings, go to System → General → Settings, and then click **Manufacturing settings**.

**Manufacturing settings**

**General**

Default WIP method: Production

Use production result:

GL for extra material issue: Production waste

**Production order status**

Use authorise:  Release: Required:

Print: Required:  Use finish:

**Print**

Receipt labels:  Use multiple layouts:

**Backflush**

Items:  Machine hours:

Labour hours:  By-products:

**Planning**

Planning Person: Hour planning

**Material: Allocation**

Allocate: on: None

Automatic allocation method: Allocation

Allocation: Copy project:

**Operations**

Operations:

Percentage complete calculation basis: Hours realized

Remaining hours calculation basis: Estimates

**Recalculate APP**

Receipts: Recalculate APP:

**Engineering change**

Use engineering change management:  Generate project:

Engineering change for new BOM:

Logbook Save Close

### General section

#### Default WIP method

Select the work in progress (WIP) method you want to use in the manufacturing environment for production costing. Select one of the following:

- **Production** — Select this option to use the WIP method in production costing. This means the WIP general ledger account will be used to record actual issues or receive financial transactions during the production process.
- **No: WIP** — Select this option if you do not want to use the WIP method in production costing. This means all the actual issues or financial transactions received will be recorded directly in the production cost general ledger account.

### Use production result

Select this check box to use the production result general ledger account to book the balance of the production cost, revenue, and waste general ledger accounts. If this check box is not selected, the production result general ledger account will not be used when the production is completed. Therefore, the balance of the production cost, revenue, and waste general ledger accounts will remain in the three accounts.

### GL for extra material issue

Select **Production cost** to book the extra issue of material costs to the production cost G/L account or **Production waste** to book the extra issue of material costs to the production waste G/L account.

### Production order status section

#### Use authorise

Select this check box to enable the authorization of production orders before the orders are released and printed. When this check box is selected, the authorization of production orders is mandatory in the production order process. If this check box is not selected, the production orders can be released and printed without authorization.

#### Print: Required

Select this check box to ensure that every production order is printed after it has been released. When this check box is selected, the printing of production orders is mandatory in the production order process. If this check box is not selected, the printing of production orders is not required.

#### Release: Required

Select this check box to enable the release of production orders before the orders can be printed. When this check box is selected, the release of production orders is mandatory in the production order process. If this check box is not selected, the production orders can be printed without being released.

#### Use finish

Select this check box to require production orders to be set to the **Finished** status before they can be completed.

### Print section

#### Receipt labels

Select this check box to print labels after receiving production items.

### **Use multiple layouts**

Select this check box to enable the printing of production orders in multiple layouts. For example, you can print production orders with different layouts for the production floor, production planning, and warehouse. In addition to this, you can also print more than one copy of the same layout.

If you enable this function, you can maintain the multiple layouts linked to specific collective layouts via System → Logistics → Layouts → Multiple layouts for production sheets. This menu path will not be available if this check box is not selected.

When this check box is selected, the **Collective layout** field will be available for you to specify a multiple layout in the **Print: Production order** screen during the printing or processing of the production orders.

### **Backflush section**

Backflushing is defined as an automatic issuance or realization of components, parts, and hours used to produce an end product. Thus, manual realization is not necessary when making extra receipts of the end product.

#### **Items**

Select this check box to enable backflushing of items during extra receipts of finished goods. This will set the standard items to backflush automatically in the BOM maintenance for an end product (manufactured or make item).

#### **Machine hours**

Select this check box to enable backflushing of machine hours during extra receipts of finished goods. This will set the machine hour items to backflush automatically in the BOM maintenance for an end product (manufactured or make item).

#### **Labor hours**

Select this check box to enable backflushing of labor hours during extra receipts of finished goods. This will set the labor hour items to backflush automatically in the BOM maintenance for an end product (manufactured or make item).

#### **By-products**

Select this to enable the selection of check boxes in both the **Backflush** and **By-product** columns under the **BOM** tab in the **BOMs maintenance** screen and the **Production orders** entry screen.

### **Planning section**

#### **Planning Person**

This is the default phantom person used to perform unlimited labor hour planning and realization in projects and manufacturing. By default, the ID of the phantom person is set to “-3”.

## Material: Allocation section

### Allocate: on

Select one of the following options to perform the automatic allocation of materials for production orders:

- **None** — Select this option if you do not wish to perform the allocation of materials automatically.
- **Authorised** — Select this option to automatically allocate materials when the production order is authorised.
- **Released** — Select this option to automatically allocate materials when the production order is released.

**Note:** Automatic allocation method is enabled once **Authorised** or **Released** is selected.

### Automatic allocation method

Select one of the following methods to perform the automatic allocation of materials for production orders:

- **Allocation** — Select this option to perform automatic stock allocation only. By default, this option is selected.
- **Enrichment** — Select this option to perform automatic stock allocation together with the automatic enrichment method.

The automatic stock enrichment functionality is enabled only when you select **Enrichment** at **Automatic allocation method**, and when you select the **Check stock** check box in the **Fulfillment** section under **Order settings**. With automatic enrichment, the serial or batch numbers, as well as warehouse locations, will be assigned during the authorization or issuance of production orders based on the option selected at **Allocate: on**.

**Note:** This is enabled only if you select **Authorised** or **Released** at **Allocate: on**.

## Operations section

### Operations

Select this check box to enable the **Operations** functionality within the **Manufacturing** module. If this function is enabled, you can create and maintain the operations that are used to produce the finished goods at Manufacturing → Setup → Operations. This menu path will not be available if this check box is not selected. By selecting the **Operations** check box, the Manufacturing → Entries → Operations menu path will be enabled.

### Percentage complete calculation basis

Select **Manually**, **Hours realized**, or **Operation quantity completed** to define how the percentages of completion for operations are calculated. This field is enabled only if the **Operations** check box is selected.

### Remaining hours calculation basis

Select **Estimates** or **Actuals** to define how the remaining set up and labor hours for operations are calculated. This field is enabled only if the **Operations** check box is selected.

## Recalculate APP section

### Receipts: Recalculate APP

Select this check box to enable recalculation of the average purchase price of the end product by dividing the total stock value with the total quantity of the stock at the completion of a production order.

**Note:** The **Receipts: Recalculate APP** check box is enabled only if you select **Average purchase price (APP)** at **Valuation method** in the **Entry** section, at System → General → Settings, under **Inventory settings**.

## Engineering change section

### Use engineering change management

Select this check box to enable the engineering change management (ECM) functionality within the **Manufacturing** module. This will enable the Manufacturing → Entries → Engineering change menu path. With this function enabled, any changes to the existing BOM will create an ECM activity workflow. This workflow will need to be approved or rejected. In addition, a Microsoft Excel report will be created to record the changes in the BOM. The BOM which is undergoing changes and pending for approval cannot be used to create a production order.

### Engineering change for new BOM

Select this check box to use the ECM function via Manufacturing → Entries → Engineering change to create a BOM. This check box is enabled when you select the **Use engineering change management** check box.

### Generate project

Select this check box to generate an internal project whenever there is an engineering change in the BOM.

## 1.2 Numbers Settings

You can define default numbers for various orders created in Exact Globe Next under **Numbers settings**. You can configure a pattern of numbers as a starting sequence number for the various applications, such as financial journals, financial accounts, and logistics orders such as quotations, sales orders, delivery notes, interbranch transfers, invoices, purchase orders, production orders, RMA, and RTV orders.

Before using the **Manufacturing** module, you must define a starting sequence number, which will be used by default when you are creating production orders. You can still create production orders without defining the default sequence number, but you will then be required to type in the production order numbers manually whilst creating the production orders.

You can define the numbers for production orders in the **Logistics** section at System → General → Settings, under **Numbers settings**.

### Numbers settings

**General**

Use external numbering

**Financial**

	First	Free	Last	Qty. free	
General/Cash/Bank journal	10000001	10000788	10010001	9214	
Purchase journal	20000001	20000034	20010001	9968	

**Accounts**

Range: Start

Range: End

**Logistics**

Quotation number	<input type="text" value="4007"/>	<input type="checkbox"/>	Order number
Sales order number	<input type="text" value="20066"/>		
Recurring sales order number	<input type="text" value="29001"/>		
Delivery note number	<input type="text" value="10034"/>		
Interbranch transfer number	<input type="text" value="15004"/>	<input type="checkbox"/>	Delivery note number
Invoice number	<input type="text" value="1"/>		
Purchase order number	<input type="text" value="50033"/>		
Blanket purchase order number	<input type="text" value="55001"/>		
Blanket sales order number	<input type="text" value="25001"/>		
▶ Production order number	<input type="text" value="PROD"/> <input type="text" value="1"/>		
▶ Kanban order number	<input type="text" value="KANB"/> <input type="text" value="1"/>		
RMA order number	<input type="text" value="22002"/>		
RTV order number	<input type="text" value="52003"/>		
Group internal use number	<input type="text" value="27000"/>		
Allow change entry number		<input checked="" type="checkbox"/>	

**Production order number**

Type the default prefix for production orders in the first box using up to four alphanumeric characters. Type the starting number for the production order sequence number in the second box using up to eight digits. When creating a production order, the running sequence number will start from this number.

**Kanban order number**

Type the default prefix for kanban orders in the first box using up to four alphanumeric characters. Type the starting number for the kanban order sequence number in the second box using up to eight digits. When creating a kanban order, the running sequence number will start from this number.

## 1.3 Documents Settings

Whenever a process is executed, there will be documents printed as an output of the process. Printouts are a form of acknowledgement that the process has taken place and that the content details have been verified. Printouts also serve the purpose of confirming various requests and transactions. These printouts are kept for black and white distribution or filed for future reference.

In manufacturing, a production order confirmation document will be printed out upon processing the production order, which takes place after the authorization. It is important that this production order confirmation document contains all relevant and important information so that a valid acknowledgement and confirmation can take place amongst all parties involved.

When operations are specified within a BOM for a make item and a production order is quoted for that particular make item, you can record the progressive status of every operation which is taking place within the production order. You can also print the operation slips for the production order which contain instructions for each process step, hours, and materials involved for each operation. The operation slips serve as information to the production floor personnel who are coordinating the production process for each operation.

You can define layouts and select a default document layout for the production order confirmation documents and the operation slip documents at System → General → Settings, under **Documents settings**. Therefore, every time you process a production order or print an operation slip for a production order, the selected default document layout, which contains all relevant data fields for the contents of the production order or the operation slip, will be used when printing and processing.

Documents settings	
<b>General</b>	
Store attachment as	PDF
PDF generator	Exact PDF
Covering letter (Format)	Image
<b>Financial</b>	
Reminder	Debitur herinnering layout 1
Debtor labels	Debtor labels
Creditor labels	Creditor labels
Debtor statements	
<b>Cash flow</b>	
Payment	
Payment specification	Payment specification
Receipt	
Deposit report	
<b>CRM</b>	
Quotations	Offerte
Letter	
<b>HRM</b>	
Payroll slips	Layout 5
Jaaropgaven	
Arbeidsovereenkomst	
People labels	Resource label
Letter	
<b>Service</b>	
Service slips	Service order
<b>Logistics</b>	
Item labels	Item labels
Purchase order	Bestelbon
Blanket SO	
Blanket PO	
Receipt	
Receipt labels: Purchase	Receipt label
Returns: Supplier	Return
Returns: Employee	Return
IBT delivery note	Interbranch Transfer Note
Confirmation	Orderbevestiging
RMA order confirmation	Confirmation
Picking list	Pick list
Collective picking list	Collective pick list
Fulfillment	Fulfillment
Delivery note	Pakbon
Invoice	Factuur layout
Direct invoice	
Credit note	
Direct credit note	
POS	POS
POS (Receipts)	
Giro collection slips	Giro collection slip
Returns: Customer	Return
Production order	Production order
Operation	Operation Slip
Receipt labels: Production	

### **Production order**

Click  to display the **Layout** screen. Select an appropriate document layout for the production order and click **Select**.

### **Operation**

Click  to display the **Layout** screen. Select an appropriate document layout for the operation slip and click **Select**.

### **Receipt labels: Production**

Click  to display the **Layout** screen. Select an appropriate document layout for the receipt labels and click **Select**.

## **1.4 General Ledger Settings**

Before using Exact Globe Next, you must configure the settings for the financial and logistics entries, and assign the relevant general ledgers and journals to various financial and logistics transactions according to your company's conduct of business (internal requirements), and also according to the country's legislation (external requirements).

To use the **Manufacturing** module effectively, you must take into account the various transactions that take place during the production of an end product, such as the production cost, production revenue, production results or profit, production waste, production scrap, and costs incurred during work in progress. To do this, you need to assign the relevant general ledger accounts and journals to the settings for production at System → General → Settings, under **General ledger settings**.

When you are processing the production order, issuing items to the production order, recording the work in progress for the production order, receiving the end products from the production order, and finally completing the production order, the amount incurred will be recorded in the journals and general ledger accounts which you have configured in **General ledger settings**.

Later, when you make inquiries on the production order reports, production order actuals reports, pegging reports, and others, the amount recorded in these general ledger accounts and journals will be reflected in the reports. Therefore, you can distinguish the information in relation to the planning, actual, costs, revenue, profit, waste, scrap, and work in progress percentages.

## General ledger section

Section	Account Number	Description
General ledger	9300	Bankkosten
	9300	Bankkosten
	9300	Bankkosten
	012	EPF
	9300	Bankkosten
Journal	70	Verkoopboek
	10	Kasboek
	90	Memoriaal
	50	General journal
Landed costs	9300	Bankkosten
	7510	cost of production
	8500	Revenue : Produc
	7520	waste
	9500	Production Result
		Production : WIP
		Production : Scrap

### Production : Costs

Type or select a general ledger account of type **Profit & Loss** to record the production cost, such as the cost of materials and hours which incur when issuing materials to the production order.

### Production : Revenue

Type or select a general ledger account of type **Profit & Loss** to record the production revenue when receiving the finished goods from the production order.

### Production : Waste

Type or select a general ledger account of type **Profit & Loss** to record the cost of production waste when items are rejected in the production order.

### Production : Results

Type or select a general ledger account of type **Profit & Loss** to record the final results of the production order whereby it balances the **Production : Costs**, **Production : Revenue**, and **Production : Waste** accounts when the production order is completed.

### Production : WIP

Type or select a general ledger account of type **Profit & Loss** to record the production cost and production revenue when the production order is in progress. Upon completion of the production order, the recorded production cost and production revenue will be transferred to the **Production : Costs** general ledger account and **Production : Revenue** general ledger account.

### Production : Scrap

Type or select a general ledger account of type **Profit & Loss** to record the cost of production scrap which incurs during the production process. Scrap is a form of waste material which is not planned for in the production order.

**Note:** To select general ledger accounts at **Production : Costs**, **Production : Revenue**, **Production : Waste**, **Production : Results**, **Production : WIP**, and **Production : Scrap**, click  to display the **General ledger accounts** screen. Define the relevant information at **General ledger account number** and **Description**, and then click **Search**. Select the relevant general ledger account and click **Select**. Click **Save** to save the selected general ledger account. Click **Close** to exit.

## Journal section

### Work in progress

Type or select a journal to record the financial entries when you generate work in progress amount for the production order project.

**Note:** To select a journal at **Work in progress**, click , select the relevant journal, and then click **Select**. Click **Save** to save the selected journal. Click **Close** to exit.

## 1.5 Project Settings

**Project settings** allow you to define the settings for the **Projects** module. In relation to the **Manufacturing** module, the Work In Progress (WIP) method determines how cost is recorded for the production orders, provided the production orders are treated as projects within Exact Globe Next. If you select the **Generate project** check box in the **Engineering change** section at System → General → Settings, under **Manufacturing settings**, then a production project will be created in the **Projects** module every time a production order is created. This production project will serve to monitor and manage the production order.

In this case, you can opt to register the work in progress amount for production orders by selecting the appropriate option at **Default WIP method** in the **General** section, at System → General → Settings, under **Manufacturing settings**. If you select **Production** at **Default WIP method**, you have to determine whether to consume the revenue or cost of budgets, actuals, or forecasts for the production orders by selecting the appropriate method in Project settings. The WIP method you choose in **Projects settings** will be the default WIP method used to record the progressive work of production orders by including or excluding certain figures of amount of the production orders using a certain formula and calculation.

To record the work in progress amount for production orders, select a default **WIP method** at **WIP method** in the **WIP method** section at System → General → Settings, under **Project settings**.

### WIP method section

Select one of the following WIP methods:

- **Percentage of completion cost recognition (POCCR)** — Select this method if the production project is by the order of third parties and remains active for several financial periods. The profit is calculated proportionate to the actual realization of work. In order to take into account the WIP for several production projects for a specific period of time and to determine the changes to the WIP, you must determine the percentage of completion based on the cost of actual realization and forecast for the production project.
- **Percentage of completion revenue recognition (POCRR)** — This method is similar to POCCR except that the WIP is based on the revenue of the production project. You must determine the percentage of completion based on the revenue of actual realization and forecast for the production project.

- **Completed contract method** — This method is also known as the zero profit method. Select this method if the production project is executed by order of third parties. The profit is determined once the production project is completed. In order to take into account the WIP for several production projects in a specific period of time, the revenue should be recognized to the extent of recoverable expenses. The outcome of some production projects cannot be estimated reliably but it is possible to expect the overall project to be profitable. If the production project is not completed, the profit and loss amount will not be included in the financial results. Upon generating the WIP using this method, the profit and loss statement for the production project should show zero results. When the production project is completed, the WIP and the project results will be released. The percentage of completion in this method is based on the revenue of actual realization and forecast. However, the forecast value is not used in the WIP calculation.
- **No : WIP** — Select this method if you do not want to use any WIP method to calculate the profit of the project. By selecting this, the corresponding production projects will not be listed in the **Projects** module at Projects → Projects → Work in progress.
- **To be invoiced** — Select this method if the production project often has changes in pricing. Selecting this method allows you to register the differences in pricing whenever there is a change of price for the production project. The new WIP entry will provide the outstanding billable amount to the customer and an overview of the amount that has to be invoiced. The WIP calculation is based on the realized hours that are Authorised but yet to be invoiced (invoice not processed), and multiplied by a sales rate. The percentage of completion is not applicable and forecast value is not used in this method. The rates used are based on the project rate structure.
- **Percentage of completion cost recognition (budget) (POCCR budget)** — This method is similar to POCCR but the percentage of completion is based on the actual and budgeted cost of the production project.
- **Percentage of completion revenue recognition (budget) (POCRR budget)** — This method is similar to POCRR but the percentage of completion is based on the actual and budgeted revenue of the production project.
- **WIP cost and revenue transfer** — Select this method to book the WIP revenue and WIP cost to the balance sheet accounts. When the project has completed, the WIP revenue and WIP cost can be released as generated WIP revenue and WIP cost to the profit & loss accounts.
- **WIP cost and revenue** — Unlike **WIP cost and revenue transfer**, this method does not transfer costs and revenues to the WIP accounts. Instead, the original cost and revenue general ledgers will be adjusted. This allows you to have an insight to the work in progress position based on the original cost and revenue accounts.

**Note:** The **POCCR budget** and **POCRR budget** WIP methods are available only if you have the **SE1050 E-Budget** license in Exact Globe Next. If you select any WIP method other than **POCCR** or **POCRR**, you will see **Percentage complete** next to **Status** in the **MRP** section. Type the percentage of completion of the production project at **Percentage complete**. You can type a numeric value from “0.00” to “100.00”.

## 1.6 Creating and Maintaining Items

Items are used extensively in Exact Globe Next. Items can be raw materials, products, or services that a company produces, sells, or purchases. You must define all the standard tangible items ranging from raw materials to end products that are involved in the manufacturing process.

You can create items by recording basic details of items or services produced, sold, serviced, or purchased. Information such as cost, sales prices, and linkage of general ledger accounts that record the transactions of the items when the items are produced, sold, serviced, or purchased can be defined. You can also indicate the attributes of an item whether the item is for sales, purchase, service, or production.

The following topics are relevant to this section:

- Creating, editing, deleting, and copying items
- Updating item details in batches
- Adding, editing, and deleting suppliers
- Selecting main suppliers
- Adding, editing, and deleting warehouses
- Selecting main warehouses
- Viewing warehouse maintenance
- Transferring items within warehouses
- Viewing item transactions
- Creating and editing serial or batch numbers
- Deleting BOMs and selecting main BOMS
- Editing where-used BOMs
- Replacing where-used items in BOMs

### 1.6.1 Creating items

In order to use the **Manufacturing** module effectively, you must register the items, such as raw materials, part items, accessories, subassembly items, and finished products accordingly. To register these various items which are used in the **Manufacturing** module, you can create these items and define basic and detailed information about these items at Manufacturing → Setup → Items, and then by clicking **New**. Creating items via this menu path is a must and because this serves as the foundation in order to register these items not only in the production order but also in the structure of a finished product, such as the Bill of Materials (BOM), which serves as the primary planning of components in producing an end product.

The screenshot shows the '001 Items - Exact' window with the following fields and values:

- Item code:** CY01-009
- Description:** monitor
- Search code:** CY01-009
- Type:** Standard
- Status:** Active
- From:** 13/03/2012
- Sls. unit, Price:** - 850.000 EUR
- Classification ESL:** Goods
- Sales VAT code:** 1 (BTW 6% excl.)
- Cost price:** 0.000 EUR / -
- Markup:** %
- Purchase price:** 0.000 EUR / -
- Assortments:** Product Line, Market Segment, Target Group, Internal products, Assortment 6
- Attributes:** Text, Divisible
- Description AE:** (empty text box)

At the bottom, it shows 'Created:13/3/2012 By:Jeffrey M.andrew Modified:13/3/2012 By:Jeffrey M.andrew' and a toolbar with buttons for Graph, MRP, Card, Production ord..., Purchase orders, Sales orders, Save, New, and Close.

### Item code

Type the code of the item. This box allows up to 30 alphanumeric characters to be filled. This is mandatory.

### Description

Type the description of the item. This box allows up to 50 alphanumeric characters to be filled. This is mandatory.

### Search code

Type a search code for the item. This code can be used in the search criteria at Manufacturing → Setup → Items to search for the item. By default, the search code is automatically defined after the item code is defined.

### Type

Select the item type:

- **Standard** - Select this type for physical goods or service that can be purchased, sold, or used for service.
- **Bulk issue** - Select this type for items that are purchased and issued in production in mass volumes.

### Status

You can define the status of the item by selecting one of the following options:

- **Active** — This option refers to items which can be sold, purchased, manufactured, received, and delivered. This is the default status.
- **Blocked** — This option refers to items which can only be used in stock counts, sales, creating BOMs, budget scenarios, and sales orders but not in fulfilling the sales orders.
- **Discontinued** — This option refers to items which can be used in stock counts, sales, creating BOMs, and budget scenarios but not in purchase.
- **Inactive** — This option refers to items which can only be used in stock counts.
- **Future** — This option refers to items which are not yet active.

### From, to

Type or select the dates in the **From** and **to** fields to define when the status of the item is activated. For example, if the status of Item A is **Active** from January 1, 2008 to December 31, 2008, this indicates that Item A is active only during the specified period. The **to** date does not have to be defined unless the validity period of the inactive, blocked, or discontinued date of the item is known. By default, the **From** date is based on the current date.

### Basics tab

#### Sls. unit, Price

Type or select the unit of measurement of the item at **Sls. unit**, which refers to the sales unit. The unit of measurement can be created and modified at System → Logistics → Unit. Type the sales price of the item at **Price**. The default currency will be shown next to it. The default currency, defined at **Default currency** in the **Standard** section at System → General → Settings, under **General settings**, cannot be changed once it has been defined.

#### Sales VAT code

Type or select the value-added tax (VAT) code if tax is applicable to the item. If the item is not taxable, you can create a tax code with zero percentage. This is mandatory. You can create and maintain tax codes at System → General → Countries → Tax codes.

#### Cost price

Type the standard cost price of the item. A cost price is usually lower than a sales price so that you have a positive profit margin.

#### Markup/Margin

With only the **E-Invoice** license, **Markup** will be automatically displayed. The amount in this box will be automatically calculated by using the markup calculation (gross profit divided by the cost price) and displayed. This information cannot be edited. If you have the **E-Sales Order** license, **Markup** is replaced by **Margin** if you have selected **Margin** at **Profit calculation** at System → General → Settings, under **Order settings**. If you have both the **E-Sales Order** and **E-Invoice** licenses, then **Markup** is displayed.

#### Purchase price

The amount displayed is derived from the price specified in the **Purchase** section when you edit the

information of the item by supplier in the **Purchase/ Sales** tab. However, if you have last purchased this item at a price different than the amount stated at **Price**, the new amount will be displayed. This information cannot be edited from this box.

#### Picture

To insert a picture of the item, click  **Insert**. Click  **Delete** to delete an existing picture. You can only insert picture with a bmp (Bitmap), jpg/jpeg (Joint Photographic Experts Group), or gif (Graphics Interchange Format) extension.

#### Extra description

To fill in extra description of the item, click  **Extra description**. Every description created is linked to the **Extra item description code**. This code can then be linked to a debtor. An extra description is useful if you want to use a different item description for each debtor. When an invoice is printed for the particular debtor, the description printed on the invoice will follow the extra description linked for that debtor.

**Note:** You can link the extra description to a debtor at **Extra description** in the **General** section under the **Logistics** tab of the debtor maintenance at Finance → Accounts receivable → Maintain.

**User rights:** You can only create, edit, or delete the extra item description code if you have the function right **To maintain extra items description codes** defined at System → HR & Security → User rights, under Functions → Rights → Sales.

### Assortments section

#### Assortment 1/2/3

Select the assortment(s) that the item is linked to. You can use this function to group or categorize different types of items that have certain properties in common. With this, you can sort and update groups of items based on the various assortments assigned.

**Note:** The **Assortment** fields displayed depend on the number of assortments defined at Invoice → Items → Assortments, or at System → General → Settings, under **Item data settings**. For example, if three assortments are defined, three **Assortment** fields will be displayed.

### Attributes section

#### Text

Select this check box to allow the text entered in the **Text** section to be displayed under the **Long description** column when the item is selected in the invoice. The text will then be printed in quotations, orders, or invoices.

#### Divisible

Select this check box to allow the entry of the quantity of this item in decimals.

**Note:** This check box is enabled only if the item is not a serial item.

### Text section

If you have additional text description for the item, you can type the text description in the box to be displayed in the **Long description** column in quotations, orders, or invoices. This additional text will also be printed in quotations, orders, or invoices (replacing the text entered at **Description** for the item at Invoice → Items → Maintain) if the **Text** check box is selected.

### Description NL/FR

Type the description of the item in other languages in the respective boxes, if required. You can type the description of the item in up to four languages other than the description at **Description**. For example, you would type the item description in Dutch at **Description NL**, and French at **Description FR**.

**Note:** The **Description** fields displayed depend on the descriptions defined at System → General → Settings, under **General settings**, under the **Descriptions in list boxes** section. For example, if **Netherlands** is defined at **Description field 2** and **France** is defined at **Description field 3**, **Description NL** and **Description FR** fields will then be displayed.

### Purchase/ Sales tab

**Caution:** Once you click the **Purchase/ Sales** tab, the item code cannot be edited.

### Attributes: Sales section

#### Sales

Select this check box to allow the item to be used in the sales and invoice entries.

#### No discount

Select this check box if you do not want to give a discount on the item while recording sales and invoices.

**Note:** This check box is enabled only if you have selected the **Sales** check box. Also, you will not be able to create a price list for an item with the **No discount** attribute.

### Explode - Fulfillment

If the **Make** check box under the **Manufacturing** tab is selected, then **Explode - Fulfillment** represents the part items or components registered in the BOM of the main item instead of the item itself at sales order fulfillment. This attribute activates the possibility to add conditions to the fulfillment of the item. Instead of having each assembled item on stock, the individual parts are gathered or assembled at the moment of fulfillment. The individual parts and delivery conditions for the item can be registered in the BOM.

**Service**

Select this check box to enable the use of the item in the **Service** module. This determines whether the item can be selected in the **Service** module.

**From stock**

Select this check box to prohibit users from quoting a higher order quantity than the available quantity in stock in the sales order entry. Selecting this check box also indicates that the item is not a back-to-back order item and you will not be allowed to generate sub-orders for an existing production order. If this check box is not selected, then you can generate sub-orders for the production order and generate back-to-back orders for the production order.

**Sales prices**

Click  **Sales prices** to define the price details of an item, such as the sales price and quantity discount.

**Repl. items**

Click  **Replacement items** to specify replacement item(s) for the particular item and add priorities for the replacement(s).

**Variant**

Click  **Variant** to define the variant item(s) for the particular item and define the relation type for each of the variant item.

This allows structuring additional accessories to an item that enables the user to select or remove additional accessories or complimentary items when making entries to a request or activity. For instance, in the sales order functionality, quoting an item with variants triggers the selection of additional or complimentary items based on the defined variant structure and conditions.

**Attributes: Purchase section****Buy**

This check box is automatically selected if you have specified a supplier in the **Suppliers** section under the **Purchase/ Sales** tab. This check box must be selected in order to allow the item to be purchased. If there is no supplier specified, this check box is not selected and disabled.

**Requires approved supplier**

Select this check box to allow purchases of the item to be done only from a supplier that has been linked in the **Suppliers** section under the **Purchase/ Sales** tab and has been approved. To approve a supplier, select a supplier that has been linked to the item, and then click **Edit**. The **Items by supplier** screen will then be displayed. Select the **Approved supplier** check box and click **Save**. A green check mark will be displayed under the **Approved supplier** column for the approved supplier.

**Purchase prices**

Click **Purchase prices** to define the price agreements per supplier, such as the percentage discount and amount discount. The supplier will automatically be linked and displayed under the Suppliers section in the **Purchase/ Sales** tab if the supplier selected has not been linked to the item.

## Suppliers section

Suppliers linked to the item will be displayed in the **Suppliers** section. You can link one supplier or more to the item created and specify a supplier as the main supplier. This function is available when you have the **E-Purchase** license. It is also possible to make changes to the details of the items by the supplier such as changing the supplier, purchase price of the item, and time of delivery for the item by the supplier. Besides this, you can also remove the supplier linkage from the item. For procedures related to the **Suppliers** section, see *1.6.6 Related procedures - Suppliers section*.

## Financial tab

### Financial section

#### Item group

Type or select the item group of the item. Item groups are used to group items for ease of identifying and managing items, and can be created at System → Logistics → Item groups. When creating an item group, it is mandatory to specify the revenue and stock accounts for a particular item group. Thus, when an item group is selected, the **Revenue** and **Stock** boxes will be automatically filled in according to the respective general ledger accounts specified. However, you can select a different general ledger account other than the one indicated.

#### Revenue

Type or select the general ledger account where the sales revenue will be automatically credited when the invoice with this item listed is processed. By default, the revenue account specified when creating the item group selected will be automatically filled in.

#### Stock

Type or select the general ledger account where the stock will automatically be credited when the item is sold or fulfilled, and automatically debited when the item is purchased or received. By default, the stock account specified when creating the item group selected will be automatically filled in.

#### Cost of goods sold

Type or select the general ledger account where the sales transactions will automatically be debited when the item is sold or fulfilled, and automatically credited when the item is purchased or received. By default, the cost of goods sold account specified when creating the item group, which is selected here, will be automatically filled in.

#### Asset account

Type or select the general ledger account where the logistic transactions for an asset are recorded.

#### Discount account

Type or select the general ledger account to register the sales discounts provided.

### Valuation method

To define the valuation method for the item, select one of the following options:

- **Standard cost price** — This method calculates the standard cost price based on the accumulation of estimated purchase price, estimated direct purchase cost, and certain percentage of indirect purchase cost. The period differences between the SCP (Standard Cost Price) and the estimated purchase price development will be booked in the price difference general ledger account.
- **Standard cost price (Classic)** — This method calculates the cost price of the item by booking the price differences in the WIP or cost ledger accounts when the manual cost price is used in the BOM and production order entry cost calculations.
- **Average purchase price** — This method recalculates the cost price to find the average price between the purchase price of the received goods and goods on stock.
- **LIFO** — This method calculates the cost price based on the accounting principal that the latest received goods will be delivered first.
- **FIFO** — This method calculates the cost price based on the accounting principal that the first received goods will be delivered first.
- **Actual costing** — This method calculates the cost of item by obtaining the original purchase price of the serial or batch item. This option is available only if you select the **Serial** or **Batch** check box in the **Attributes** section under the **Inventory** tab of the item maintenance screen.

**Note:** The **Valuation method** field is available only if you select the **Valuation method per item** check box at System → General → Settings, **under Inventory settings**.

### Attributes section

#### Assets

This check box is not enabled. However, this check box is automatically selected if the item has asset-related transactions.

### Activity tab

#### Transactions section

The transaction(s) that matches the defined criteria will be displayed in the **Transactions** section after you have clicked **Refresh**.

#### Type

Select the type of transactions to display the documents that the item is listed in. The following options are available:

- **Quotation** — This option refers to quotations that have been Authorised but not processed.
- **Sales order** — This option refers to sales orders that have been Authorised or processed.
- **Invoices** — This option refers to invoices that have been generated, but not processed.
- **Sales order history** — This option refers to sales orders that have been completed.
- **Invoice history** — This option refers to invoices that have been processed.

- **Production orders** — This option refers to production orders that are open, Authorised, released, printed or processed, and completed.
- **Transfer** — This option refers to transfers that have been fulfilled and processed.
- **Fulfillment** — This option refers to sales orders that have or have not been fulfilled.
- **Counts** — This option refers to the number of items for each item count entry and warehouse.
- **Purchase order** — This option refers to purchase orders that have been Authorised, processed, received, paid, and completed.
- **Blanket PO** — This option refers to blanket purchase orders that have been Authorised, processed, received, paid, and completed.
- **Blanket order** — This option refers to blanket sales orders that have been Authorised or processed.

#### Status

Select **Open** or **All** to display the type of transactions with the selected status.

**Note:** If you have selected **Fulfillment** at **Type**, you have the option to select **Fulfilled** or **All** to display the type of transactions with the selected status.

#### Warehouse

Click **Select** and the **Warehouses** screen will be displayed. Select the relevant warehouse(s), click **Select**, and then click **Close**. The transactions that belong to the selected warehouse(s) will be displayed.

#### Date : From, to

Type or select a date or a date range to display the transaction(s) created on the selected date(s).

#### Refresh

Click **Refresh** to display the results based on the defined criteria.

#### Details

Click  **Details** to view the sales invoices or invoice history depending on the type of transaction selected at **Type**.

#### Inventory tab

##### Attributes section

##### Total stock(On hand)

This cannot be edited. Total quantity of stock is automatically displayed by accumulation of stocks from all the linked warehouses.

## Warehouses section



Warehouse	Date last counted	Stock	To be received	To be delivered	Available	Quantity Purchase	Quantity Allocated
1 - Centraal magazijn	30/9/2010	79	0	2	77	0	0

The warehouses which are linked to the item (the warehouses where the item is fulfilled and received) are displayed in this section. You can also link one warehouse or more to the item and specify one warehouse as the main warehouse. It is possible to make changes to the items by changing the warehouse information, such as changing the default location, minimum and maximum stock quantity, counting cycle, order policy code, time of delivery, and the planner for the item. For procedures related to the **Warehouses** section, see *1.6.6 Related procedures - Warehouses section*.

## Serial/batch tab

The **Serial/batch** tab is enabled when you select the **Serial** or **Batch** check box in the **Inventory** tab.

### Batch/Serial numbers

Select **All** to display all existing serial or batch numbers for the item. Select **Available** to display the serial or batch numbers that are only available in stock.

### From, to

Type or select a range of serial numbers to display the serial or batch numbers within the specified range.

### Lot number: From, to

Type or select a range of lot numbers to display the serial or batch numbers within the specified range of lot numbers.

### Warehouse

Select a warehouse to display the serial or batch numbers that belong to the selected warehouse. Select **All** to display the serial or batch numbers that belong to all warehouses.

### Refresh

Click this to display the serial or batch numbers that match the selected criteria.

## Serial/batch numbers section

Serial number	Warehouse	Lot number	Description	Received	Used	Reserved	Available	Unit	Start date	End date	Status	Classification
OFF-551-#005	1		Office Equipment	0	0	0	0	-	1/1/2012	1/12/2012	Active	Fixed assets
OFF-554-#007	1		Office Telephones	0	0	0	0	-	1/1/2012	1/2/2012	Active	Fixed assets

You can define serial or batch numbers for the item. You can also make changes to the information of the serial or batch number which is linked to the item.

For procedures related to the **Serial/batch numbers** section, see *1.6.6 Related procedures - Serial/batch numbers section*.

## Manufacturing tab

### Attributes section

#### Make

Select this check box to indicate that the item is a make item. Hence, the item can be selected as the main item in the BOM. This can be an end product which is produced and entered in the production order as the main item.

#### Part

Select this check box to indicate that the item is a part item. Hence, the item can be selected as a component in the BOM.

#### Level

This information cannot be edited. By default, this level is set to the highest level of BOM for the item that is being used in any other BOM. If the item does not have a BOM, then the level is set to “0” by default. If the item is used in the first level of the BOM, then the level is set to “1”.

## BOM section

Main version	Version	Description	Effective date	Expiry date	Batch quantity	Calculated cost price	Warehouse	Cost center	Status	Lead time
<input checked="" type="checkbox"/>	1		14/3/2005		1.00000000	31.000			Active	
<input type="checkbox"/>	2	1	23/3/2005		1.00000000	7.000			Active	
<input type="checkbox"/>	3	1	23/3/2005		1.00000000	7.000			Active	
<input type="checkbox"/>	4	1	23/3/2005		10.00000000	150.000			Active	

All existing BOMs for the item will be displayed in this section. It is possible to create a BOM for the item in this section. You can also make changes or delete an existing BOM from this section. Besides this, you can set a BOM as the main BOM for the item, whereby the main BOM will be selected by default in the production order. For procedures related to the **BOM** section, see *1.6.6 Related procedures - BOM section*.

### Where-used section

The information where the BOM is used is also automatically shown in this tab. The information is basically the listing of BOMs in which the item has been used as a component. You can edit the other BOMs in which the item has been used as a component in this section. Besides this, you can also replace the current item in the other BOMs with a different item in this section.

For procedures related to the **Where-used** section, see *1.6.6 Related procedures - Where-used section*.

### Doc. tab

#### Documents section

The documents created and attached to the item will be displayed in the **Documents** section.

#### Group by

Group the documents by **None**, **Type**, or **Date**.



**New**

Click **New** to attach new documents to the item.

**Note:** This button is enabled only if you have clicked **Save** to save the details of the item.



**Edit**

Click **Edit** to modify the details of the document or to replace the existing document.

**Note:** This button is enabled only if you have selected a document and grouped the document by **None**, or when you zoom in on the underlying document that you have grouped by **Type** or **Date**.



**Delete**

Click **Delete** to delete the selected document.

**Note:** This button is enabled only if you have selected a document and grouped the document by **None**, or when you zoom in on the underlying document that you have grouped by **Type** or **Date**.



Click **Zoom** to zoom in on the underlying document.

**Note:** This button is enabled only if you have selected a document and grouped the document by **Type** or **Date**.

## Analysis tab

### Financial year

By default, the current year is selected to display the logistics information for 12 periods of the selected year. However, you can select another year to display the logistics information of the selected year.

**Note:** The default year displayed at **Financial year** follows the default financial year indicated in the **Default** box at **Financial year** at System → General → Settings, under **General settings**, under the **Period and year control** section, while the other years displayed depend on the range of financial years indicated in the **Lowest** and **Highest** boxes.

## Extra tab

### Extra section

#### Person

Type or select the ID of the person that handles or uses the item. By default, the person displayed is the person that created the item.

### Free values section

#### Free value 1, 2

Two free value boxes are available for additional information (numerical values only) of the item. These values are mainly used in layouts defined by users.

#### Free fields section

You can fill in additional information of the item in the free fields defined. The descriptions of free fields can be changed according to your needs. For example, you can label the field as “Maintenance charges” and fill in the maintenance cost of the item.

**Note:** You can modify the labels or descriptions of the free fields via System → General → Free fields.

## Log tab

### Log section

This section keeps a log of all changes made to the item in the item maintenance, such as the person who modified the details of the item, the date and time when the modifications were made, and its old and new values, or details of the item.

## 1.6.2 Editing items

Once items have been created, it is possible to make changes to the information of the items, such as changing the cost or sales prices of the items, adding or removing pictures to or from the items, and other modifications at the item maintenance.

### To edit items:

1. Go to Manufacturing → Setup → Items.
2. Select the item to be edited, and then click **Open**.
3. In the **Items** screen, make the necessary changes to the item.
4. Click **Save**.
5. Click **Close** to exit.

## 1.6.3 Deleting items

It is possible to delete items that have been created. When you do this, the items will be deleted permanently and cannot be retrieved from the system. Items that are in use in invoices that have been created or Authorised cannot be deleted.

### To delete items:

1. Go to Manufacturing → Setup → Items.
2. Select the item to be deleted, and then click **Delete**.
3. In the **Maintain** screen, click **Yes** to confirm the deletion.
4. Click **Close** to exit.

## 1.6.4 Copying items

To create an item which will contain the same details as an existing item, it is possible to copy the details of the existing item to the new item. This process makes creating an item faster and easier as it saves you time from filling in the same information all over again.

> New: Item code	FRB0003
> Description	Celsus Max Havelaar fresh brew
> Search code	FRBMAX
Supp. item code	FRB0003
<b>Copy</b>	
Attachments	<input type="checkbox"/>
Extra description	<input type="checkbox"/>
Suppliers	<input checked="" type="checkbox"/> <input checked="" type="radio"/> Main <input type="radio"/> All
Warehouse	<input checked="" type="checkbox"/> <input checked="" type="radio"/> Main <input type="radio"/> All
BOM	<input type="checkbox"/>

### To copy items:

1. Go to Manufacturing → Setup → Items.
2. Select the item to be copied, and then click **Copy**.
3. In the **Copy item** screen, type the item code and description of the new item at **New: Item code** and **Description** respectively. These are mandatory. Once the item code is defined, the codes at **Search code** and **Supp. item code** will be automatically defined. Type a new search code if required. The **Supp. item code** field is enabled only if the **Main supplier** check box in the **Copy** section is selected.
4. Click **OK** to save the new item code.
5. In the **Items** screen, make the necessary changes and click **Save**.
6. Click **Close** to exit.

## 1.6.5 Updating item details in batches

Item details can be updated in batches, whereby the details of more than one item can be updated at the same time. However, this function is used only if you want to update the items with the same details.

### To update item details in batches:

1. Go to Manufacturing → Setup → Items.
2. Click **Batch updates**. The **Update items - Maintain** screen will be displayed.
3. In the **Range** section, define the relevant criteria of the items to be updated.
4. In the **Change** section, select one or more check boxes to update the selected details. For example, to increase the cost price of the items by 10%, select the **Cost price** check box. The **New value**, and % fields will then be enabled. In the **New value** field, select **Cost price**, and type “10.00” in the % field.
5. Click **Show list** and a report of the items to be updated with the new details will be displayed in Microsoft Excel.
6. In Microsoft Excel, click  **Exact Globe Next : Update** (under the **Add-Ins** menu bar) to update the changes. A message “Save changes?” will then be displayed.
7. Click **OK**, and a message “Completed: Update items” will be displayed.
8. Click **OK**.

## 1.6.6 Related procedures

### Suppliers section

#### To add suppliers to items:

1. Go to Manufacturing → Setup → Items.
2. Select the item that you want to add a supplier to, and then click **Open**.
3. In the **Items** screen, click the **Purchase/ Sales** tab.
4. Click  **Add**. The **Items by supplier** screen will be displayed.

5. At **Supplier**, type or select a supplier for the item. This is mandatory.
6. Type the code of the item that is used by the supplier at **Supp. item code**. By default, the item code defined under the **Basics** tab of the item maintenance is automatically filled in.
7. At **Warranty period**, type the number of days that the item is under warranty.
8. Type the bar code of the item used by the supplier at **Bar code**. This field can be left blank.
9. In the **Purchase** section at **Purchase unit**, type or select the unit of measurement of the item that is purchased from the selected supplier.
10. Type the purchase price of the item at **Price**. This amount will be displayed at **Purchase price** under the **Basics** tab.
11. Type or select the tax code at **Tax** if tax is applicable to the item.
12. Type an amount at **PO size** to specify the minimum purchase order quantity from the supplier at one time.
13. At **Time of delivery**, type the number of days that the supplier will take to deliver the items ordered.
14. At **Country of origin**, type or select the country where the item comes from.
15. Click **Save** to save the changes.
16. Click **Close** to exit.

#### To edit details of items by suppliers:

1. Go to Manufacturing → Setup → Items.
2. Select the item for which you want to edit the details by supplier, and then click **Open**.
3. In the **Items** screen, click the **Purchase/ Sales** tab.
4. Select the supplier to be edited and click  **Edit**.
5. In the **Items by supplier** screen, make the necessary changes.
6. Click **Save**.
7. Click **Close** to exit.

#### To delete suppliers from items:

1. Go to Manufacturing → Setup → Items.
2. Select the item that you want to remove its linked supplier from, and then click **Open**.
3. In the **Items** screen, click the **Purchase/ Sales** tab.
4. Select the supplier to be removed and click  **Delete**. A message “Supplier Delete?” will be displayed.
5. Click **Yes** to delete the supplier from the item.
6. Click **Close** to exit.

#### To select main suppliers for items:

1. Go to Manufacturing → Setup → Items.
2. Select the item for which you want to select a main supplier, and then click **Open**.
3. In the **Items** screen, click the **Purchase/ Sales** tab.
4. Select a supplier, who is currently not the main supplier (no green check mark displayed under the **Main sup.** column), and click  **Select: Main supplier**. This supplier will then have a green check mark displayed under the **Main sup.** column.
5. Click **Save** to save the changes.
6. Click **Close** to exit.

**Note:** Selecting a main supplier indicates which supplier is the initial default choice that you would like to purchase the item from. If you only have one supplier linked to the item, then that supplier will automatically be selected as the main supplier of the item.

## Warehouses section

### To add warehouses to items:

1. Go to Manufacturing → Setup → Items.
2. Select an existing item and click **Open**.
3. Define the general and basic details of the item and click the **Inventory** tab.
4. In the **Warehouses** section, click  **New** to link a warehouse to the item.
5. In the **Items per warehouse** screen, type or select the warehouse at **Warehouse**. This is mandatory.
6. Type or select a default location of the selected warehouse at **Default: Location**.
7. In the **Stock** section, type the minimum purchase order quantity that can be accepted in the warehouse at **Minimum PO level**.
8. Type the maximum quantity of item that can be accepted in the warehouse at **Maximum**.
9. Type the number of days for the counting cycle at **Counting cycle**.
10. Select how the advice quantity will be calculated for production and purchase at **Order policy code**.  
Select any one of the following:
  - **Fixed** — This option means the advice quantity is calculated based on the shortage quantity including batch size (make or production) or PO size (purchase).
  - **Period order** — Selecting this enables the **Period** field. The advice quantity is calculated based on the shortage quantity including batch size (production) or PO size (purchase) for the number of days defined at **Period**.
  - **Reorder point** — This means the advice quantity is calculated based on the shortage quantity including batch size (produce) and PO size (purchase), and also including the maximum stock level per linked main warehouse. Selecting this will require defining the maximum stock level at **Maximum**.
11. In the **Sales** section, type the number of days that will be taken for delivery at **Time of delivery**.
12. Type or select the person who is the planner at the warehouse for the item at **Planner**.
13. Click **OK** to save.
14. Click **Close** to exit.

### To edit details of items by warehouses:

1. Go to Manufacturing → Setup → Items.
2. Select the item for which you want to edit the details by warehouse, and click **Open**.
3. In the **Items** screen, click the **Inventory** tab.
4. Select the warehouse to be edited and click  **Edit**.
5. In the **Items per warehouse screen**, make the necessary changes.
6. Click **OK** to save and exit from the screen.
7. Click **Close** to exit.

### To delete warehouses from items:

1. Go to Manufacturing → Setup → Items.
2. Select the item for which you want to remove its linked warehouse from, and then click **Open**.
3. In the **Items** screen, click the **Inventory** tab.
4. Select the warehouse to be removed and click  **Delete**. A message “Deleting a warehouse for this item will result in recoding of all item transactions to the main warehouse. Continue?” will be displayed.
5. Click **Yes** to delete the warehouse from the item.
6. Click **Close** to exit.

#### To select main warehouses for items:

1. Go to Manufacturing → Setup → Items.
2. Select the item for which you want to select a main warehouse, and then click **Open**.
3. In the **Items** screen, click the **Inventory** tab.
4. Select a warehouse, which is currently not the main warehouse (no green check mark displayed in the **Main wrh.** column), and click  **Select: Main warehouse**. This warehouse will then have a green check mark displayed under the **Main wrh.** column.
5. Click **Close** to exit.

#### To view warehouse maintenance:

1. Go to Manufacturing → Setup → Items.
2. Select the item for which you want to view the details of the warehouse, and then click **Open**.
3. In the **Items** screen, click the **Inventory** tab.
4. Select a warehouse, and click **Warehouse**. The **Maintain warehouses** screen will be displayed. You can view the warehouse information, such as address and contact information, warehouse locations, purchase orders and sales orders in the warehouse, incoming and outgoing logistics transactions, all items linked to the warehouse, serial and batch numbers linked to the warehouse, and manage roles and rights for the warehouse.
5. Click **Close** to exit from the **Maintain warehouses** screen.
6. Click **Close** to exit.

#### To transfer items within warehouses:

1. Go to Manufacturing → Setup → Items.
2. Select the item for which you want to transfer within warehouses, and click **Open**.
3. In the **Items** screen, click the **Inventory** tab.
4. Click  **Warehouse: Move** and the **Warehouse transfers** screen will be displayed.
5. Select the relevant warehouses at **Issuing warehouse** and **Receiving warehouse**.
6. Type or select the relevant project code at **Project**.
7. Type a description at **Description**.
8. Type or select the appropriate dates at **Reference date** and **Fulfillment date**.
9. Select **Sales unit** or **Purchase unit** at **Unit** to indicate the unit of measurement used for the warehouse transfer.
10. Under the **Item** column, type or select the item code (by pressing the F2 key).
11. Specify the quantity to be transferred in the **Move** column. However, if the **Warehouse locations** option is used (in the **Fulfillment** section at System → General → Settings, under **Inventory Settings**) you must click  under the **Loc.** column to specify the quantity to be transferred for each listed location. Then, click **OK** to return to the **Warehouse transfers** screen.
12. Click **Save** to save the changes.
13. Click **Fulfilled**. The **Print** screen will be displayed.
14. Define the document layout for the warehouse fulfillment slip at **Layout**.
15. Click **Start** to print the warehouse fulfillment slip.
16. Click **Received** and define the document layout for the warehouse receipt slip at **Layout**.
17. Click **Start** to print the warehouse receipt slip.
18. Click **Close** to exit from the **Warehouse transfers** screen.
19. Click **Close** to exit.

**To view item transactions:**

1. Go to Manufacturing → Setup → Items.
2. Select the item for which you want to view the transactions, and click **Open**.
3. In the **Items** screen, click the **Inventory** tab.
4. Select a warehouse, and click  **Item transaction card**.
5. The **Item transaction card** screen will be displayed, showing the list of financial transactions of the item.
6. Click **Close** to exit from the **Item transaction card** screen.
7. Click **Close** to exit.

**Serial/batch numbers section****To create serial/batch numbers for items:**

1. Go to Manufacturing → Setup → Items.
2. Select an existing item and click **Open**.
3. Click the **Serial/batch** tab.
4. Click  **Add** to display the **Serial/batch numbers** screen.
5. Type a serial or batch number at **Number**. This information is mandatory.
6. Type a description at **Description**.
7. To block the serial or batch number from being used in any planning, select the **Blocked** check box. Otherwise, clear the check box.
8. The item code at **Item code** in the **General** tab will be automatically pre-filled based on the item code in the item maintenance.
9. Type or select a lot number at **Lot number**.
10. By default, the current date is displayed at **Start date**. Type or select the relevant date, if required.
11. The date at **End date** is left blank by default. Type or select an end date for the serial or batch number, if required.
12. By default, the main supplier of the item is selected at **Supplier**. Type or select another supplier, if required.
13. By default, the main warehouse of the item is selected at **Warehouse**. Type or select another warehouse, if required.
14. The location of the item at **Location** will be pre-filled with the default location in the selected warehouse. To change to a different location, type or select the appropriate location.
15. The **Quantity received**, **Quantity used**, and **Quantity available** fields cannot be edited but will respectively display the received quantity of the serial item as per purchase receipt, the used quantity of the serial item as per internal use requests, and the available quantity of the serial item as per current available stock quantity excluding requests such as sales orders quantities that are yet to be delivered.
16. Click  next to **Picture** to select a picture for the serial or batch number.
17. Click  next to **Notes** to type notes to the serial or batch number.
18. Click  next to **Attachment** to attach a document to the serial or batch number.
19. Define extra information for the serial or batch number of the item under the **Extra** tab.
20. Click **Save** to save the defined serial or batch number for the item.
21. Click **Close** to exit from the **Serial/batch numbers** screen.
22. Click **Close** to exit.

#### To edit serial or batch number information for items:

1. Go to Manufacturing → Setup → Items.
2. Select an existing item, and click **Open**.
3. Click the **Serial/batch** tab.
4. In the **Serial numbers** or **Batch numbers** section, select the serial or batch number that you want to edit, and click  **Edit**.
5. In the **Serial/batch numbers** screen, make the relevant changes.
6. Click **Save**.
7. Click **Close** to exit.

#### BOM section

##### To delete BOMs from items:

1. Go to Manufacturing → Setup → Items.
2. Select an existing item, and click **Open**.
3. Click the **Manufacturing** tab.
4. In the **BOM** section, select a BOM and click  **Delete** to remove the BOM from the item.
5. A message “BOM Delete?” will be displayed. Click **Yes** to delete the BOM, or **No** to cancel the deletion. If the BOM that you want to delete is already used in the production, then you cannot delete the BOM. A message “Can’t delete: In production” will be displayed. Click **OK** to close the message or **E-mail** to send an email of the message to notify the relevant person in charge.
6. Click **Close** to exit.

##### To select main BOM versions for items:

1. Go to Manufacturing → Setup → Items.
2. Select an existing item, and click **Open**.
3. Click the **Manufacturing** tab.
4. In the **BOM** section, select the relevant BOM and click  **Select: Main version** to set the selected BOM as the main BOM version.
5. Click **Close** to exit.

#### Where-used section

##### To edit where-used BOMs:

1. Go to Manufacturing → Setup → Items.
2. Select an existing item, and click **Open**.
3. Click the **Manufacturing** tab.
4. In the **Where-used** section, select a where-used BOM and click  **Edit** to display the **BOMs** screen.
5. Make the relevant changes and click **Save**.
6. Click **Close** to exit from the **BOMs** screen.
7. Click **Close** to exit.

**To replace items in where-used BOMs:**

1. Go to Manufacturing → Setup → Items.
2. Select an existing item, and click **Open**.
3. Click the **Manufacturing** tab.
4. In the **Where-used** section, click  **Replace**.
5. In the **Change data** section, type or select the item at **Item code**. This is mandatory.
6. Type or select another item at **Replacement**.
7. By default, the value at **Factor** is set to “1”. You may change this to an appropriate factor.
8. In the **BOM** section, type or select an item group or a range of item groups at **Item group**. Select the **All** check box to include all item groups.
9. Type or select an item or a range of items at **Item**.
10. Click **Show list** to display the **Replace items** screen and select the BOM that you want to use to replace the item.
11. Click **Replace** to replace the current selected item with the replacement item. A message “Confirm?” will be displayed. Click **Yes** to confirm and a message “Delete Part [item code]” will be displayed.
12. Click **OK** and the **Replace - Item: Results** screen will be displayed to show results of the replacement process.
13. Click **Close** to exit from the **Replace items** screen.
14. Click **Close** to exit

## 1.7 Creating and Maintaining Labor Hour Items

Labor hours are used extensively in production processes. Labor hours are hours taken by the employees of an organization to execute and complete various tasks related to the production processes. These labor hours must be recorded and taken into account when issuing or fulfilling the production orders. To record these labor hours for various tasks, labor hour items can be created in Exact Globe Next.

Exact Globe Next allows you to record labor hour items for various tasks. You can define many kinds of labor hour items according to the types of tasks being executed in the organization. For example, the tasks executed by employees, such as planning can be defined as the planning labor hour item, and painting as the painting labor hour item.

You can create labor hour items by recording details of labor hours, such as price, cost price, sales unit, linking employees who use the labor hour items, and linking business units from which the labor hours are executed from.

When the production order is issued or fulfilled, the labor hours are realized by registering the total number of labor hours taken to complete the task, the cost price, and the total amount incurred in the usage of the total labor hours. This information is registered in the respective general ledger accounts that you can define in the labor hour item maintenance under the **Financial** tab.

The following topics are relevant to this section:

- Creating, editing, recoding, and deleting labor hour items
- Copying labor hour items

## 1.71 Creating labor hour items

You can create labor hour items at Manufacturing → Setup → Hours.

The screenshot shows the '001 Hours - Exact' window with the following fields and values:

- Hour code: HCC001
- Type: Labor hour
- Description: Human Resource Planning
- Status: Active
- Created by: Jeffrey M.andrew
- From: 02/03/2012

The 'Sales' section includes a table with the following data:

Qty.	Unit	Factor	Unit	Price	Curre	Tax	Cost price	Active from	Active
1	hour	1	hour	0.000	EUR	0	10.000	02/03/2012	
2									
3									
4									

The 'Business unit' section shows a table with the following data:

Code	Description
1	Hoofdmagazijn

The 'Project (Where-used)' section shows a table with the following data:

Project	Description
---------	-------------

The 'Assortments' section includes dropdown menus for Product Line, Market Segment, Target Group, Internal products, and Assortment 6. The 'Attributes' section has a checked 'Text' checkbox. The 'Text' field is empty. The 'Description AE' field is also empty.

### Hour code

Type a code for the labor hour item. This is mandatory.

### Description

Type the description for the labor hour item. This is mandatory.

### Type

Select **Labor hour** from the drop-down list.

### Status

Select any one of the following status:

- **Active** — This status refers to labor hour items that can be used in sales, purchase, or production.
- **Blocked** — This status refers to labor hour items that can be used in the BOM structure, but blocked for all the standard transactions.
- **Discontinued** — This status refers to labor hour items that can be used in sales and the BOM structure, but cannot be used in purchase.
- **Inactive** — This status refers to labor hour items that cannot be used in logistics, financial transactions, and in the BOM structure.
- **Future** — This status refers to labor hour items used internally and in the future.

**From, to**

Type or select the dates in the **From** and **to** fields to define when the selected status of the labor hour item is activated. For example, if the status of the labor hour item is **Active** from September 1, 2007 to December 31, 2007, this indicates that the labor hour item is in an active status during the specified period. However, it is not necessary to define the end date unless the inactive or discontinued date of the item is known.

**Basics tab****Sales section****Price lists**

This is pre-filled with **Default(Price list)**. If there is more than one price list available for the item, then you can select the price list that you want to use for the labor hour item.

**New**

Click this to define the sales price for the labor hour item. In the **Sales prices** screen, type or select the validity date range for the specified sales price. Click **Save**, and then **Close** to exit. This defined sales price will be filled under the **Price** column in the price list table.

**Edit**

Click this to make changes to the sales price of the labor hour item under the **Price** column in the price list table.

**Note:** This button is disabled if **Default(Price list)** is pre-filled at **Price lists**.

**Delete**

Click this to delete the selected sales price for the labor hour item.

**Note:** This button is disabled if **Default(Price list)** is pre-filled at **Price lists**.

**Taxes**

Type or select the tax code that applies to the labor hour item. This tax will be used in the cost calculation for the labor hour item during production issue or fulfillment.

**Cost price**

Type the cost price of the labor hour item.

**Sales unit**

Type or select the sales unit of measurement for the labor hour item.

## Assortments section

### Assortment 1/2/3

Select the assortment(s) that the labor hour item is linked to. You can use this function to group or categorize different types of labor hour items that have certain properties in common. With this, you can sort and update groups of labor hour items based on the various assortments assigned.

**Note:** The **Assortment** fields displayed depend on the number of assortments defined at System → General → Settings, under **Item data settings**. For example, if three assortments are defined, three **Assortment** fields will be displayed.

## Business unit section

When you create a labor hour item and click **Save**, the main business unit (warehouse) will be automatically added to the business units for the labor hour item. You can still add, make changes, and delete the business units (warehouse) using the following buttons:



Click this to add a new business unit (warehouse) for the labor hour item.



Click this to make changes to the selected business unit (warehouse) of the labor hour item.



Click this to delete the selected business unit (warehouse) of the labor hour item.

## Project (Where-used) section

This section will display the projects that use the labor hour item. This section is available only if you have the **Projects** module in your Exact Globe Next license.



Click this to make changes to the project which is linked to the labor hour item.



Click this to display the financial transaction card of the selected project which is linked to the labor hour item.

## Text section

### Text

Type the extra description of the labor hour item.

### Description NL/DE

You can type descriptions of the labor hour item in up to a maximum of four other languages. These languages are set in the **Description in list boxes** section at System → General → Settings, under **General settings**. In this example, you would type the description in English at **Text**, in Dutch at **Description NL** and in German at **Description DE**.

### People tab

In the **People** tab, you can link people who are using the labor hour item to execute their tasks to the labor hour item. You can link as many people to the labor hour item as required.



**Add**

Click this to link a person to the labor hour item. Select a person and click **Select** to link the selected person to the labor hour item.



**Add: All**

Click this to link all available people to the labor hour item.



**Edit**

Click this to make changes to details of the people. You can make changes to the details such as **Purchase unit**, **Currency**, **Price**, **PO size**, and **Country of origin**.



**Delete**

Click this to remove the selected person from the labor hour item.



**Person Card**

Click this to display the financial transactions of the corresponding person.

**Note:** The **Purchase/ Sales, Financial, Activity, People, Machines, Document, Analysis, Extra**, and **Log** tabs for the labor hour item maintenance are similar to the tabs in the item maintenance. For more information, see *1.6 Creating and Maintaining Items*.

## 1.7.2 Editing labor hour items

Once the labor hour items have been created, it is possible to make changes to the information of the labor hour items, such as changing the cost and sales prices, adding or removing business units to or from the labor hour items, and other modifications in the labor hour item maintenance.

### To edit labor hour items:

1. Go to Manufacturing → Setup → Hours.
2. Select the labor hour item to be edited, and then click **Open**.
3. In the **Hours** screen, make the necessary changes to the item.
4. Click **Save**.
5. Click **Close** to exit.

### 1.7.3 Recoding labor hour items

Once the item has been defined and saved, it is not possible for you to make changes to the labor hour item code. With the **Recoding** functionality, it is now possible for you to rename (recode) the labor hour item code. Changes to the labor hour item code can only be done with the **Recode** button at Manufacturing → Setup → Hours.

#### To recode labor hour items:

1. Go to Manufacturing → Setup → Hours.
2. Select the labor hour item to recode, and then click **Recode**. A message “This process may take some time. Continue?” will be displayed. Click **Yes** to continue and the **Recode** screen will be displayed.
3. Next, type the new code at **New** and click **Recode** to recode the labor hour item code.
4. Upon completion, a message “Completed successfully: Recode” will be displayed. Click **OK**.
5. Click **Close** to exit.

### 1.7.4 Deleting labor hour items

It is possible to delete a labor hour item that has been created, provided that the labor hour item is not in use in any pending logistics and financial transactions. If the item is in use, then it is not possible to delete the labor hour item until you clear the pending transactions. Once the labor hour item is deleted, then it is not possible to retrieve the labor hour item from the system.

#### To delete labor hour items:

1. Go to Manufacturing → Setup → Items.
2. Select the item to be deleted, and then click **Delete**. A message “Depending on the size of the company, this function may take a long time because all files will be checked. Delete?” will be displayed in the **Hours** box. Click **Yes** to delete the item.
3. The result of the process will be displayed in the **Delete: Hours** screen. Click **Print** to print the displayed results.
4. Click **Close** to exit.

### 1.7.5 Copying labor hour items

To create a labor hour item which contains the same details as an existing labor hour item, it is possible for you to copy the details of an existing labor hour item to create another labor hour item. This process makes creating a labor hour item faster and easier as it saves you time from filling in the same information all over again.

#### To copy labor hour items:

1. Go to Manufacturing → Setup → Hours.
2. Select the labor hour item to be copied, and then click **Copy**.
3. In the **Hours - Copy** screen, type the labor hour item code and description for the new labor hour item at **New: Item code** and **Description** respectively. These are mandatory. Once the new labor hour item code is defined, the code at **Search code** will be automatically defined. Type a new search code, if required.
4. In the **Copy** section, select the check boxes to copy the selected information to the new labor hour item.
5. Click **OK** to save the new labor hour item code.
6. In the **Hours** screen, make the necessary changes.
7. Click **Save**.
8. Click **Close** to exit.

## 1.8 Creating and Maintaining Machine Hour Items

Machine hours are hours that are taken up by machines to execute jobs, such as assembling, fixing, molding, mounting, and others. Thus, machine hours are hours consumed by the machines to operate on the production floor of a manufacturing organization. Machine hours are used extensively in the production environment. These machine hours of various jobs can be recorded in Exact Globe Next.

You can create a machine hour item by recording details of the machine hours, such as price, cost price, sales unit, linking of machines which use machine hours, and employees who handle the machines or who are responsible for the machines, and linking business units from which the machine hours are executed from.

When the production order is issued or fulfilled, the machine hours are realized by registering the total number of machine hours taken to complete the task, the cost price, and the total amount incurred in the usage of the total machine hours. This information is registered in the respective general ledger accounts that you can define in the machine hour item maintenance under the **Financial** tab.

The procedures for creating, editing, recoding, copying, and deleting machine hour items are the same as for labor hour items. For more information, see *1.7 Creating and Maintaining Labor Hour Items*.

### Machines tab

The **Machines** tab (at Manufacturing → Setup → Hours, click New) allows you to link the machine hour item to the machines that use the machine hour item. The **Machines** tab is enabled when you select **Machine hour** at **Type**.

### Machines section

Machines			
Item code	Serial number	Description	
MACHINES	MAALMACHINE	Maalmachine koffie	
INVENTARIS	OND002	Reparatie tegen garantie	
INVENTARIS	BDQH52J	DELL OPTIPLEX GX520	

#### Add

Click this to link a machine to the machine hour item. Select a machine and click **Select** to link the selected machine to the machine hour item.

#### Delete

Click this to remove the selected machine from the machine hour item.

## 1.9 Creating and Maintaining Extra Charges Items

Extra charges are not physical items or parts. Extra charges are a kind of “phantom” that cannot be seen or produced but they serve as charges for miscellaneous cost during production or sales.

Extra charges can be payment conditions, shipping methods, or just phantom items that must be taken into account within the production and sales environment. These various kinds of extra charges must be maintained and accounted for accordingly for cost calculations within the sales and production environment.

For instance, the payment conditions must be maintained for usage in the sales environment as extra charges to the customers. Payment conditions include sales payment collections which will include discounts, prepayment amount, and payment term conditions for the customers. Likewise, the shipping methods are used for collections of shipping costs that are charged by the shipping company. The phantom items are used to take into account miscellaneous cost that incur during the production process. These extra charges items can be recorded in the sales order lines and in the BOM structures. The extra charges items which are recorded in the BOM structures will then be populated in the planning of the production order lines when a main make item is selected for production.

The following topics are relevant to this section:

- Creating, editing, recoding, and deleting extra charges items
- Copying extra charges items
- Updating details of extra charges items in batches

### 1.9.1 Creating extra charges items

You can create extra charges items at Manufacturing → Setup → Extra charges.

The screenshot shows the '001 Phantom - Exact' window with the following details:

- Item code:** CONSULT
- Description:** consultation
- Search code:** CONSULT
- Status:** Active
- From:** 19/03/2012
- Price:** 0.000 EUR
- Sales VAT code:** 2
- Cost price:** 250.000 EUR / -
- Markup:** -100.00 %
- Attributes:**
  - Text
  - Sales
  - Print (Order)
  - Payment condition
  - Environmental tax
- Text:** Description AE

**Item code**

Type the code for the extra charges item. This code will be automatically copied and entered at **Search code**. This is mandatory.

**Description**

Type the description for the extra charges item. This is mandatory.

**Search code**

Type a code of up to 13 alphanumeric characters for the extra charges item. By default, the search code follows the item code filled in.

**Status**

Select one of the following options:

- **Active** — This status refers to extra charges items that can be sold, purchased, and manufactured.
- **Blocked** — This status refers to extra charges items that can be used in stock counts, creating BOMs, and budget scenarios, but cannot be used in sales, purchase, and financial transactions.
- **Discontinued** — This status refers to extra charges items that can be used in stock counts, sales, creating BOMs, and budget scenarios, but cannot be used in purchase.
- **Inactive** — This status refers to extra charges items that can be used in stock counts, but cannot be used in sales, purchase, financial transactions, creating BOMs, and budget scenarios.
- **Future** — This status refers to extra charges items that have not been made active.

**From, to**

Type or select the dates in the **From** and **to** fields to define when the status of the extra charges item is activated. For example, if the status of the extra charges item is active from January 1, 2012 to December 31, 2012, this indicates that the extra charges item is in an active status during the specified period. However, it is not necessary to define the end date unless the inactive, blocked, or discontinued date of the extra charges item is known.

**Basics tab****Sls. unit, Price**

Type or select the unit of measurement of the extra charges item at **Sls. unit**, which refers to the sales unit. The unit of measurement can be created and modified at System → Logistics → Unit. Type the sales price of the extra charges item at **Price**. The default currency will be shown next to it. The default currency, defined at **Default currency** in the **Standard** section at System → General → Settings, under General settings, cannot be changed once it has been defined.

**Sales VAT code**

Type or select the value-added tax (VAT) code if tax is applicable to the extra charges item. If the extra charges item is not taxable, you can create a tax code with zero percentage. This is mandatory. You can create and maintain tax codes at System → General → Countries → Tax codes.

### Cost price

Type the standard cost price of the extra charges item. A cost price is usually lower than a sales price so that you have a positive profit margin.

### Markup/Margin

With only the **E-Invoice** license, **Markup** will be automatically displayed. The amount in this box will be automatically calculated by using the markup calculation (gross profit divided by the cost price) and displayed. This information cannot be edited. If you have the **E-Sales Order** license, **Markup** is replaced by **Margin** if you have selected **Margin** at **Profit calculation** at System → General → Settings, under **Order settings**. If you have both the **E-Sales Order** and **E-Invoice** licenses, then **Markup** is displayed.

### Assortments section

#### Assortment 1/2/3

Select the assortment(s) that the extra charges item is linked to. You can use this function to group or categorize different types of extra charges items that have certain properties in common. With this, you can sort and update groups of extra charges items based on the various assortments assigned.

**Note:** The **Assortment** fields displayed depend on the number of assortments defined at Invoice → Items → Assortments, or System → General → Settings, in the **Assortments** section under **Item data settings**. For example, if three assortments are defined, three **Assortment** fields will be displayed.

### Attributes section

#### Text

Select this check box to allow the text entered in the **Text** section to be displayed under the **Long description** column when the extra charges item is selected in the invoice. The text will then be printed in quotations, orders, or invoices.

#### Sales

Select this check box to allow the extra charges item to be sold. Hence, the extra charges item can be used in sales transactions.

#### Print (Order)

Select this check box to allow printing of the extra charges item in the sales order confirmation. The **Payment condition** check box will be automatically selected when you use the extra charges item in the payment condition of a sales order. This check box is not enabled.

#### Payment condition

This check box will be automatically selected when you use the extra charges item in the payment condition of a sales order. This check box cannot be edited.

## Text section

If you have additional text description for the item, you can type the text description in the box to be displayed in the **Long description** column in quotations, orders, or invoices. This additional text will also be printed in quotations, orders, or invoices (replacing the text entered at **Description** for the item at Invoice → Items → Maintain) if the **Text** check box is selected.

## Description NL/DE

Type the description of the item in other languages in the respective fields, if necessary. You can type the description of the item in up to a maximum of four other languages. For example, you would type the item description in Dutch at **Description NL**, and German at **Description DE**.

## 1.9.2 Editing extra charges items

Once the extra charges item has been created, it is possible to make changes to the information of the extra charges items, such as changing the cost or sales price of the extra charges item, adding to or removing pictures to or from the extra charges item, and other modifications at the extra charges item maintenance.

### To edit extra charges items:

1. Go to Manufacturing → Setup → Extra charges.
2. Select the extra charges item to be edited, and click **Open**.
3. In the **Phantom** screen, make the necessary changes to the extra charges item.
4. Click **Save**.
5. Click **Close** to exit.

## 1.9.3 Recoding extra charges item

Once the extra charges item has been defined and saved, it is not possible for you to make changes to the extra charges item code. With the **Recoding** functionality, it is now possible for you to rename (recode) the extra charges item code. Changes to the extra charges item code can only be done with the **Recode** button at Manufacturing → Setup → Extra charges.

### To recode extra charges items:

1. Go to Manufacturing → Setup → Extra charges.
2. Select the extra charges item to recode, and then click **Recode**. This button will not be available if you select an item which is of type **Payment condition** or **Shipping method**. A message “This process may take some time. Continue?” will be displayed. Click **Yes** to continue and the **Recode** screen will be displayed.
3. Type the new code at **New**.
4. Click **Recode** to recode the extra charges item code. Upon completion, a message “Completed successfully: Recode” will be displayed.
5. Click **OK**.
6. Click **Close** to exit.

## 1.9.4 Deleting extra charges items

It is possible to delete extra charges items that have been created. When you perform this action, the extra charges items will be deleted permanently and cannot be retrieved from the system. Extra charges items that are in use in invoices or pending production orders that have been created and Authorised cannot be deleted.

### To delete extra charges items:

1. Go to Manufacturing → Setup → Extra charges.
2. Select the extra charges item to be deleted, and then click **Delete**. The **Extra charges** screen will be displayed.
3. Click **Yes** to delete the extra charges item.
4. Click **Close** to exit.

## 1.9.5 Copying extra charges items

To create an extra charges item which contains the same information as another existing extra charges item, it is possible to copy the details of an existing extra charges item to the new extra charges item. This process makes creating an extra charges item faster and easier as it saves you time from filling in the same information repeatedly.

### To copy extra charges items:

1. Go to Manufacturing → Setup → Extra charges.
2. Select the extra charges item to be copied, and then click **Copy**.
3. In the **Phantom - Copy** screen, type the extra charges item code and description of the new extra charges item at **New: Item code** and **Description** respectively. These are mandatory. Once the extra charges item code is defined, the code at **Search code** will be automatically defined.
4. Click **OK** to save the new extra charges item code.
5. In the **Phantom** screen, make the necessary changes.
6. Click **Save**.
7. Click **Close** to exit.

## 1.9.6 Updating details of extra charges items in batches

The details of extra charges items can be updated in batches, whereby the details of more than one extra charges item can be updated at the same time. However, this function is used only to update the extra charges items with the same details.

### To update details of extra charges items in batches:

1. Go to Manufacturing → Setup → Extra charges.
2. Click **Batch updates**. The **Update items - Extra charges** screen will be displayed.
3. In the **Range** section, define the relevant criteria of the items to be updated.
4. In the **Change** section, select one or more check boxes to update the selected details. For example, to increase the cost price of the extra charges items by 10%, select the **Cost price** check box. The **New value** and % fields will then be enabled. At **New value**, select **Cost price**, and type “10.00” in the % box.
5. Click **Show list** and a report of the extra charges items to be updated with the new updated details will be displayed in Microsoft Excel.
6. In Microsoft Excel, click  **Exact Globe Next: Update** (under the **Add-Ins** menu bar) to update the changes. A message “Save changes?” will then be displayed.
7. Click **OK** and a message “Completed: Update items” will be displayed.
8. Click **OK**.

## 1.10 Creating and Maintaining Outsourced Items

Outsourced items are items that can be used to define an outsourced operation in a production process. This item type enables planners to generate purchase orders on the outsourced item when buying outsourcing service from defined suppliers. The outsourced item has the characteristics of a normal item but only the relevant data for the outsourced process is maintained.

Generally, outsourced items are used as standard items throughout Exact Globe Next. However, since an outsourced item is not a stock item, it does not require extra production issues, internal machineries, and resource planning. Due to this, outsourced items will be excluded from search results at the following functions of the **Manufacturing** and **Projects** modules:

- Manufacturing → Entries → Issue
- Project → Entries → Realizations
- Project → Entries → Labor hours
- Project → Entries → Hours per cost center
- Project → Entries → Additional costs

### 1.10.1 Creating outsourced items

You can create outsourced items at Manufacturing → Setup → Outsourced items. This function is available only if the **Operations** check box is selected under the **Operations** section at System → General → Settings, under **Manufacturing settings**.

You can configure an outsourced item similar to a normal item. However, take note of the differences for these two tabs:

- **Purchase/ Sales** tab — You can define the information in this tab similarly to a normal item. However, since you will outsource the operation, at least one supplier must be linked.
- **Financial** tab — An outsourced item is treated as a cost item. This helps you to avoid unwanted planned stock, as well as avoid any impact on your resource planning. Because of this, you can only link an expense account of type profit & loss as the **Stock** account.

### 1.10.2 Editing outsourced items

You can change the information on the outsourced item, such as changing the cost or adding more suppliers. You can edit outsourced items from Manufacturing → Setup → Outsourced items or Manufacturing → Setup → Items. The editing operation is similar to normal items and Exact Globe Next will ensure the outsourced attribute of the item remains unchanged.

### 1.10.3 Recoding outsourced items

The item code of an outsourced item cannot be changed once the item has been created and saved. In order to change the item code, you need to use the **Recode** function. For outsourced items, this can be done at Manufacturing → Setup → Outsourced items.

**To recode outsourced items:**

1. Go to Manufacturing → Setup → Outsourced items.
2. Select the outsourced item to recode. Then, click **Recode**. This button is not available if the selected item is of type **Payment condition** or **Shipping method**. A message “This process may take some time. Continue?” will be displayed. Click **Yes** to continue and the **Recode** screen will be displayed.
3. Type the new code at **New** and click **Recode**. Upon completion, the message “Completed successfully: Recode” will be displayed.
4. Click **OK**.
5. Click **Close** to exit.

### 1.10.4 Deleting outsourced items

You can delete outsourced items. When you do this, the outsourced items will be permanently deleted and cannot be retrieved from Exact Globe Next. However, outsourced items currently being used in invoices or pending production orders that have been Authorised cannot be deleted.

**To delete outsourced items:**

1. Go to Manufacturing → Setup → Outsourced items.
2. Select the outsourced item to be deleted and click **Delete**. The **Outsourced** screen will be displayed.
3. Click **Yes** to delete the outsourced item.
4. Click **Close** to exit.

### 1.10.5 Copying outsourced items

You can copy details of an existing outsourced item to a new outsourced item. This makes it easier to create outsourced items that are almost similar to existing outsourced items.

**To copy outsourced items:**

1. Go to Manufacturing → Setup → Outsourced items.
2. Select the outsourced item to be copied and click **Copy**.
3. In the **Phantom - Copy** screen, type the outsourced item code and description of the new outsourced item at **New: Item code** and **Description**. These are mandatory. The code at **Search code** will be filled automatically.
4. Click **OK** to save the outsourced item code.
5. In the **Phantom** screen, make the necessary changes.
6. Click **Save**.
7. Click **Close** to exit.

### 1.10.6 Updating outsourced items in batches

Outsourced items can be updated by clicking **Batch updates** at:

- Inventory → Items → Maintain
- Manufacturing → Setup → Items
- Manufacturing → Setup → Outsourced items

**To update outsourced items in batches:**

1. Go to Manufacturing → Setup → Outsourced items.
2. Click **Batch update**.
3. In the **Range** section, define the relevant criteria of the items to be updated.
4. In the **Change** section, select one or more check boxes to update the selected details.
5. Click **Show list** and a report of the extra charges items to be updated with the new updated details will be displayed in Microsoft Excel.
6. In Microsoft Excel, click  **Exact Globe Next : Update** (under the **Add-Ins** menu bar) to update the changes. A message “Save changes?” will then be displayed.
7. Click **OK** and a message “Completed: Update items” will be displayed.
8. Click **OK**.

When any of the attribute changes causes the item to cease becoming an outsourced item, a message will be displayed for you to confirm the update. Click **Yes** to update the item anyway and turn the item into a normal item. To skip the item from the batch update, click **No**.

## 1.11 Creating and Maintaining Operations

To produce the finished goods, a manufacturing organization may require one or more operations involving machines and labor within the number of production processes. Operations are steps taken within the production processes in order to produce the finished goods. Operations will determine the machines, machine hours, work centers, people, labor hours, cost centers, operating time, labor and machine hour ratios, labor hour setups, and operating time setups, which will be used in the production process.

Operations are basically activities that take place on the shop floor or production floor in a manufacturing company. These activities are to be attached to the BOM structure. Operations are the steps taken to produce a product. All required resources are attached to these operation steps in a BOM. These can be machines, employees, tools, or raw materials. Operations can be set in relationship to one another. The setting of relationship between operations is called routing of a production process. This relationship differs for each finished goods or product. Thus, the relationships are stored in the BOM structure for each product. Operations can depend fully on batch quantity, but and also partly on setup activities. It is possible to have different skill requirements and tools for setting up a machine for a specific job. It is also possible to combine jobs of different production orders to save setup time. Operations and setup operations are combined in order to keep the dependency clear.

The following topics are relevant to this section:

- Creating, editing, recoding, and deleting operations
- Copying operations

### 1.11.1 Creating operations

You can create operations at Manufacturing → Setup → Operations.

The screenshot shows the '932 Operations - Exact' window. The menu bar includes 'File', 'Edit', and 'Help'. The toolbar contains icons for file operations and navigation. The main area is divided into two tabs: 'Operation' (selected) and 'Capacity/Scheduling'. The 'Operation' tab is further divided into sections: 'General', 'Machine', 'Labour', 'Time', and 'Setup'. Each section contains various input fields and checkboxes.

Section	Field Name	Value / Option
General	Layout	[Empty field]
	Block	<input type="checkbox"/>
	Print	<input type="checkbox"/>
	Outsourced item	[Empty field]
Machine	Work centre	[Empty field]
	Machine	[Empty field]
	Machine hour	[Empty field]
Labour	Cost centre	[Empty field]
	Person	[Empty field]
	Labour hour	[Empty field]
Time	Operating time	0.000 Hours
	Labour/machine ratio	1
Setup	Labour hour (Setup)	[Empty field]
	Operating time (setup)	0.000 Hours

At the bottom right, there are three buttons: 'Save', 'New', and 'Close'.

#### To create operations:

1. Go to Manufacturing → Setup → Operations.
2. Click **New**. The **Operations** screen will be displayed.
3. Type the code for the operation at **Operation**. This is mandatory.
4. At **Description**, type a description for the operation. This is mandatory.
5. In the **General** section, type or select a layout at **Layout**.

6. Select the **Block** check box to block the operation from being used in the BOM.
7. Select the **Print** check box to allow printing of the operation in the operation slip.
8. In the **Machine** section, type or select the asset group and machine at **Work center** and **Machine** respectively.
9. Type or select the machine hour at **Machine hour**. This is mandatory.
10. In the **Labour** section, type or select the cost center and employee ID at **Cost center** and **Person** respectively.
11. Type or select the labor hour item at **Labour hour**. This is mandatory.
12. In the **Time** section, type the number of hours taken by the operation and the labor and or machine hour ratios at **Operating time** and **Labour/machine ratio** respectively. The **Labour/machine ratio** field is enabled if you have selected both **Machine hour** and **Labour hour**.
13. In the **Setup** section, type or select the labor hour item at **Labour hour (Setup)**.
14. Next, type the number of hours for operation setup at **Operating time (setup)**.
15. Click **Save** to save the defined operation.
16. Click  **Instructions** to type remarks in the **Operations: Instructions** screen. Click **OK** to save and close the screen.
17. Click **Save**.
18. Click **Close** to exit.

### 1.11.2 Editing operations

Once the operation has been created, it is possible to make changes to the information of the operation, such as changing the descriptions, layouts, block and print attributes, work centers, machines, machine hours, cost centers, people, labor hours, operation's operating time, labor hour and machine hour ratios, operation setup's labor hour items, and operation setup's operating time.

#### To edit operations:

1. Go to Manufacturing → Setup → Operations.
2. Select the operation to be edited, and then click **Open**.
3. In the **Operations** screen, make the necessary changes to the operation.
4. Click **Save**.
5. Click **Close** to exit.

### 1.11.3 Recoding operations

Once the operation has been defined and saved, it is not possible to make changes to the operation code. With the **Recode** functionality, it is now possible for you to rename (recode) the operation code which is defined at **Operation** in the operation maintenance screen. Changes to the operation can only be done with the **Recode** button at Manufacturing → Setup → Operations.

**To recode operations:**

1. Go to Manufacturing → Setup → Operations.
2. Select the operation to recode, and then click **Recode**. A message “This process may take some time. Continue?” will be displayed. Click **Yes** to continue and the **Recode** screen will be displayed.
3. Next, type the new code at **New**.
4. Click **Recode** to recode the operation code. Upon completion, a message “Completed successfully: Recode” will be displayed.
5. Click **OK**.
6. Click **Close** to exit.

### 1.11.4 Deleting operations

It is possible for you to delete the existing operations in the system. When you delete an operation, the operation will be deleted permanently from the system and cannot be retrieved from the system. Operations that are in use within pending production orders that have been created and Authorised cannot be deleted.

**To delete operations:**

1. Go to Manufacturing → Setup → Operations.
2. Select the operation to be deleted, and then click **Delete**. A message “Depending on the size of your company, this function may take a long time because all files will be checked. Delete?” will be displayed.
3. Click **Yes** to delete.
4. Click **Close** to exit.

### 1.11.5 Copying operations

You may have a situation where you need to repeatedly create more than one operation with similar information. To save time and effort, it is possible for you to create an operation by copying the details of an existing operation to the new operation. This makes it faster and easier to create operations because you avoid filling in the same information repeatedly for every operation.

**To copy operations:**

1. Go to Manufacturing → Setup → Operations.
2. Select the operation to be copied, and then click **Copy**.
3. In the **Copy: Operation** screen, type the operation code and description of the new operation at **New** and **Description** respectively.
4. Click **OK** to save the new operation.
5. In the **Operations** screen, make the necessary changes.
6. Click **Save**.
7. Click **Close** to exit.

## 1.12 Creating and Maintaining BOMs (Bills of Materials)

A BOM (Bill of Materials) is a recipe structure of all the involved components for a parent item which is the end product. The BOM defines the components, such as raw materials, subassembly items, labor hours, machine hours, and the corresponding activities (operations) within each process performed to make the parent item. For each of these components in the BOM, you can define the conditions and step relations.

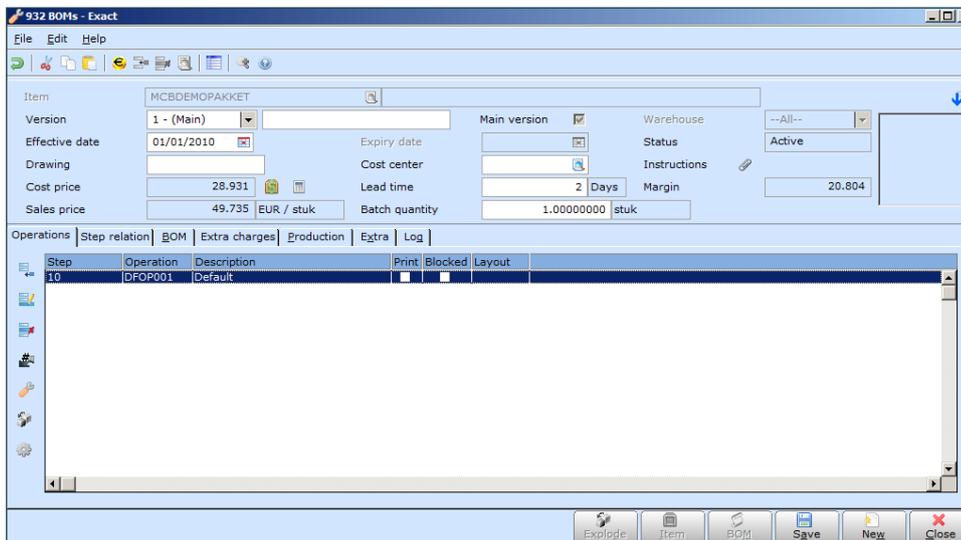
A BOM is defined by specifying the parent item, BOM version, effective date, lead time, batch quantity, information such as sales price that is derived from the item maintenance, and cost price that is automatically calculated from the cost price of the components that you attach in the BOM. There are five tabs required to define a BOM. The **Operations** tab defines all the activities that take place on the production floor in order to complete the finished goods. The **Step relation** tab defines the relationship between each operation within the production process in completing the finished goods (parent item). The **BOM** tab defines the raw materials, subassemblies, parts, by-products, and bulk issues with the related conditions and step relations within the BOM. The **Extra charges** tab defines phantom items and extra charges items that will incur in completing the parent item. The **Production** tab displays the list of production orders that use the BOM. The **Extra** tab allows you to define extra information to the BOM.

The following topics are relevant to this section:

- Creating, editing, and deleting BOMs
- Copying BOMs

### 1.12.1 Creating BOMs

You can create BOMs at Manufacturing → Setup → BOM.



### To create BOMs:

1. Go to Manufacturing → Setup → BOM.
2. Click **New**. You will see the **BOMs** screen.
3. Type or select the parent item code at **Item**. This is mandatory.
4. Type the version number of the BOM at **Version**. By default, the next number in sequence number of for the existing version will be filled upon item selection.
5. Select the **Main version** check box to indicate that the current version being created is the main version.
6. Type or select the effective date of the BOM at **Effective date**. By default, this is the current date of the BOM creation.
7. Type the number of days taken to complete the parent item at **Lead time**. This will also be automatically calculated based on the details defined in the **Operations** and **Step relation** tabs.
8. Type the quantity of the parent item which will be produced in batch per production order at **Batch quantity**. By default, this is set to “1”.
9. Select a warehouse in which the BOM is used at **Warehouse**. Select **All** to enable usage of the BOM in all warehouses.
10. Click  next to **Instructions** to attach a document with instructions to the BOM which will be used in the production process.
11. Define the relevant information in the respective tab screens and click **Save** to save and exit.

**Note:** Deletion is possible only if there is no step relation linked to the selected operation; there is no BOM line linked to the selected operation code and there is no extra charges item linked to the selected operation code. If any of these exists, then an error message “Operation is linked to items in Step relations/BOM/Extra charges” will be displayed.

### Operations tab

The **Operations** tab stores information about the processes or activities of the BOM. These processes represent the steps and involve machine and labor hours of the BOM that should be followed in the production order in order to produce the end product (make item or parent item). Each operation is linked to a step number. The step number is unique within each BOM. Two same step numbers are not allowed within a single BOM. However, the same operation with a different step number within a single BOM is allowed. Each operation step will display the smallest activities in ascending order within the BOM.

### To add an operation:

1. In the **Operations** tab, click  **Add**.
2. Type the step number at **Step**. By default, an initial value of “10” will be pre-filled when adding the first operation. By default, for the next step number, the system will increase the next value by 10. However, it is possible to edit the step number while adding an operation. Once saved, you can make changes to the step number by clicking  **Recode** under the **Operations** tab.
3. Type or select the operation at **Operation**. By adding an operation, the required machine hours and labor hours are populated to the spread below based on the operation maintenance which is defined at Manufacturing → Setup → Operations. If the selected operation is removed and another operation is selected, then the machine hours and labor hours are re-populated in the spread based on the defined operation maintenance of the selected operation.

4. Under the **Condition** column, select the condition for the item such as **Always**, or **Once per production order** to define other machine hours and labor hours besides the data that is being populated.
5. Type or select the relevant item, such as part item, labor hour item, or machine hour item under the **Item** column by pressing F2. Only active hour items are allowed for selection.
6. Select the **Backflush** check box in the **Backflush** column to indicate whether the selected item should be backflushed when there is an extra receipt of production order. This is defined by default at System → General → Settings, under **Manufacturing settings**.
7. Select the check box in the **Plan Automatically** column to indicate whether the labor hour item is planned automatically or planned manually by assigning a relevant person. If this is selected, then the **Person** column cannot be edited and is automatically assigned with ID “-3”.
8. Type the required quantity of the selected item under the **Quantity** column. By default, this will be pre-filled with the quantity based on the defined **Operating time** in the operation maintenance at Manufacturing → Setup → Operations.
9. Type or select the relevant information in the **Warehouse**, **CCtr.**, **Person**, **Machine**, and **Work center** columns respectively by pressing F2.
10. Type the number of days which the item is used in the **From day** and **To day** columns.
11. Type the position number of the BOM line for the item in the **Pos. no.** column.
12. Click  under the **Extra** column to type extra descriptions to the item.
13. Click the **Attachment** column to attach a document to the item.
14. Type or select the asset group and machine at the **Work center** and **Machine** columns respectively by pressing F2. If you have selected a labor hour item, then the **Work center** and **Machine** columns will be disabled and the **Person** column will be enabled. If you have selected a machine hour item, then the **Work center** and **Machine** columns are enabled and the **Person** column is disabled.
15. Click **Close** to save the defined operation.

#### Edit

Select an operation and click this to make changes to the operation details in the edit mode screen. At least one single hour item must remain in the operation. An operation without an hour item (regardless of machine hours or labor hours) is considered invalid.

#### Delete

Select an operation and click this to remove the operation from the BOM. This is enabled only when you select an existing operation.

**Note:** The **From day** and **To day** of the current operation step will be recalculated based on the dependency type of the step relation and the **From day** and **To day** of the predecessor step.

#### Recode

Select an operation and click this to make changes to the step number of the operation that exists within the BOM. This is enabled only when you select an existing operation. Recoding the operation step to another existing step number is not allowed.

### **Maintain**

Select an operation and click this to view the **Operations** screen via Manufacturing → Setup → Operations. You may make changes in the operation maintenance.

### **Replace**

Select an operation and click this to display the detailed view whereby the breakdown of hour items within the operation is displayed.

### **Outsource**

An organization that does not have the required machinery, capacity, or knowledge to perform an operation can outsource the work to another organization. To define an operation as outsourced, select an operation, and then click this. The **Outsourced items** screen will be displayed. Select an outsourced item, and then click **Select**.

## **Step relation tab**

Under the **Step relation** tab, you can define the relations between operations that are within the BOM. Defining step relation ensures that sequences of processes are followed accordingly in the production floor to produce the end product. Define the following to set up the relations between operations:

### **Step**

Click this column and a drop-down list will be displayed. This drop-down list displays a list of all existing operation steps that exist within the BOM as defined in the **Operations** tab. Select the appropriate operation step.

### **Predecessor**

Click this column and a drop-down list will be displayed. This drop-down list displays all existing operations within the BOM as defined in the **Operations** tab. Select an operation which is the predecessor of the operation specified in the **Step** column.

### **Dependency type**

Select the type of dependency between the operations specified in the **Step** and **Predecessor** columns. The dependency type determines the start and end of a step compared to its predecessor step. There are four types of dependencies:

- **FS: Finish-to-Start** — This means the step cannot start until the predecessor step finishes. The **From day** of the current operation step must be equal or greater than the **To day** of the predecessor step.
- **SS: Start-to-Start** — This means the step cannot start until the predecessor step starts. The **From day** of the current operation step must be equal or greater than the **From day** of the predecessor step.
- **FF: Finish-to-Finish** — This means the step cannot end until the predecessor step finishes. The **To day** of the current operation step must be equal or greater than the **To day** of the predecessor step.
- **SF: Start-to-Finish** — This means the step cannot end until the predecessor step starts. The **To day** of the current operation step must be equal or greater than the **From day** of the predecessor step.

### **Lag**

Type the number of hours that will be consumed in between the operation steps. This is the queue time taken in between the operation steps. The lag hours do not affect the lead time calculation but can be further used in a third party Advanced Planning Schedule (APS) to perform complex recalculation.

**Lag type**

Select **Hour** or % from the drop-down list to define lag by hour or percentage respectively. This is the unit of measurement for the queue time.

**BOM tab**

By defining the **Operations** and **Step relation** tabs, the necessary machine hours and labor hours are already defined for the BOM. Within the **BOM** tab you can define standard items, such raw materials, subassemblies (part items), by-product items, and bulk issue items, to the respective operation step. Define the following information to set up the BOM tab:

**Step**

Select an existing operation step which you want to link the standard item to.

**Condition**

Select the condition of item which is used within the operation in the BOM. You can select **Always**, **Once per production order**, **Phantom**, or **Phantom zero lead time** accordingly.

**Item**

Type or select the item code to be used within the operation in the BOM by pressing F2.

**Item description**

This column displays the description of the item as per item maintenance, which is defined at Manufacturing → Setup → Items. This cannot be edited.

**Status**

This column displays the status of the item as per item maintenance, which is defined via Manufacturing → Setup → Items. This cannot be edited.

**Make**

This column displays whether the item is a make item. A make item can be selected as the parent item in the BOM. A make item can also be a subassembly item. This cannot be edited.

**Buy**

This column displays whether the item is a purchase item. Buy items can be purchased and quoted in the purchase order.

**Backflush**

Select this check box to enable backflushing of the item when performing extra receipts of production order.

**By-product**

Select this check box to define this part item as a by-product of the finished product. By-products are materials of value that are produced as a result of manufacturing the finished product. The quantity of by-products is usually predictable, and it can either be used for other purposes or sold. In Exact Globe Next, by-products are received together with the finished product at the end of the production process.

**Quantity**

Type the quantity of part items to be used in producing the parent item (end product).

**Unit**

This column displays the unit of measurement for the part item as per item maintenance which is defined at Manufacturing → Setup → Items.

**Waste %**

Type the percentage of waste which will incur for this part item in producing the parent item (end product).

**Cost price**

This column displays the cost price of the item as per item maintenance which is defined via Manufacturing → Setup → Items.

**Manual cost price**

If the cost price is different, define another cost price manually here. This is optional.

**Total cost price**

This column displays the total cost price of the item. This is automatically calculated based on the cost price and quantity of the item.

**Cur.**

This column displays the price currency of the item. This is derived from the item maintenance defined at Manufacturing → Setup → Items.

**Warehouse**

Type or select the relevant warehouse for the item by pressing F2.

**CCtr.**

Type or select the relevant cost center for the item by pressing F2.

**From day**

Type a number for the day which the item will be used in the production process. This is mandatory.

**Pos. no.**

Type the position number of the item in the BOM line which will be used in the production process.

**Extra**

Click  to open the Extra - BOMs screen. Define any extra information to the item and click Save to save and exit from the screen.

**Attachment**

Click this column to open the Attachment screen. Select a document to attach to the item at File name in the Source file section, and type the description for the document at Description in the Extra data section. These are mandatory. Click Save to attach the selected document and close the Attachment screen.

**Note**

Click this column to open the Note screen. Type any remark to the item and click Timestamp. Click Save to save the note and close the Note screen.

## Extra charges tab

Under the **Extra charges** tab, you can define phantom items, miscellaneous cost charges, and other extra charges that will incur during the production process to produce the end product. Prior to specifying the extra charges in the **Extra charges** tab, you must first define the various extra charges item at Manufacturing → Setup → Extra charges.

### Step

Click this column and a drop-down list will display a list of all the step operations which you have defined for the BOM in the **Operations** and **Step relation** tabs. Select the appropriate step operation. This is mandatory.

### Item

Type or select an extra charges item that will incur in the step operation which you have selected by pressing F2. This is mandatory.

### Item description

This column displays the description of the extra charges item as defined in the extra charges item maintenance at Manufacturing → Setup → Extra charges. This information cannot be edited.

### Status

This column displays the status of the extra charges item as defined in the extra charges item maintenance at Manufacturing → Setup → Extra charges. This information cannot be edited.

### %

This column displays the percentage of the extra charges item as defined at **Percentage 1** in the **Percentages** section under the **Extra** tab of the extra charges item maintenance at Manufacturing → Setup → Extra charges. This information cannot be edited.

### Total cost price

The total cost price is automatically calculated based on the total cost price of the hour items involved in the step operation multiplied by the percentage of the extra charges item. This information cannot be edited.

### CCtr.

This column displays the cost center of the extra charges item as defined in the extra charges item maintenance at Manufacturing → Setup → Extra charges. This information cannot be edited.

### Extra

Click  to define extra information to the extra charges item.

### Attachment

Click this column to select and attach a document to the extra charges item.

### Note

Click this column to type notes to the extra charges item.

### Production tab

The **Production** tab displays a list of all production orders. Only production orders which use the BOM to produce the parent item (end product or finished goods) will be listed here. It is possible for you to view or make changes to the production orders from the **Production** tab by clicking  **Edit**. This will display the production order entry screen.

### Extra tab

Under the **Extra** tab, you can define extra information, which refers to the BOM for which you are defining. Prior to defining extra information, the extra free fields from **Structures : freefield1** to **Structures : freefield20** must be defined into meaningful fields. You can do this at System → General → Free fields, and define the name for the free fields under the **Structures** table.

There are numeric free fields in this tab. These fields are **Structures : freefield1** to **Structures : freefield3** and **Structures : freefield13** to **Structures : freefield15**. You can define whether to enter amount, quantity, percentage, prices, and others.

The alphanumeric free fields are **Structures : freefield4** to **Structures : freefield10**, which you can use to define field names that can store extra description or criteria about the BOM.

The free fields for dates are **Structures : freefield11** and **Structures : freefield12**, which you can use to indicate a certain kind of date, such as validity date, production date, planning date, and others.

The free fields for check boxes are **Structures : free field16** to **Structures : freefield20**. You can use the fields to define the “yes” or “no” criteria of the BOM.

These extra free fields serve only as a piece of extra information to the BOM and do not affect the technical aspects or the logical flow of the BOM. The **Extra** tab provides value in areas of information that you may want to define in which you cannot define in other tabs.

### Log tab

A log will be created whenever a BOM line is edited. This tab will display the log report for all changes to the BOM lines.

### 1.12.2 Editing BOMs

Once the BOM has been defined, you can still make changes to the details of the BOM, such as changing the operation, deleting an operation or adding another operation, redefining the step relation, removing or adding part items in the BOM tab, adding more extra charges items in the **Extra charges** tab, or defining more descriptions about the BOM in the **Extra** tab.

#### To edit BOMs:

1. Go to **Manufacturing** → **Setup** → **BOM**.
2. Select the BOM to be edited, and then click **Open**.
3. In the BOMs screen, make the necessary changes.
4. Click **Save** to save the changes.
5. If you have selected the **Use engineering change management** check box in the **Engineering change** section at **System** → **General** → **Settings**, under **Manufacturing settings**, then the **Activities** screen will be displayed. Define the relevant information and type a brief reason to change the BOM details at **Reason for changing**. This is mandatory. Type a detailed reason for the change at **Reason**, if necessary. Click **Save** to save the changes and **Close** to exit.
6. Click **Close** to exit.

### 1.12.3 Deleting BOMs

It is possible to delete BOM structures that you have created. When you delete the BOM, it will be permanently deleted from the system and you cannot retrieve the BOM. Make sure that the BOM which you want to delete is not used anywhere in pending logistics transactions, such as the production order. Otherwise the BOM cannot be deleted.

#### To delete BOMs:

1. Go to Manufacturing → Setup → BOM.
2. Select the BOM to be deleted, and then click **Delete**.
3. In the **BOMs - Delete** screen, select the version of the BOM you want to delete, and then click **Delete**. A message “Delete?” will be displayed. Click **Yes** to delete the BOM. If the BOM is not in use in any production, then it will be immediately deleted.
4. If the BOM is in use in the production, then a message “Can’t delete: In production” will be displayed. Click **OK** to close message or **E-mail** to send the error message to notify the relevant person in charge of the BOM.
5. Click **Close** to exit.

### 1.12.4 Copying BOMs

In a manufacturing organization, usually a number of end products would be similar with only minor differences. Thus, the BOMs for most of the end products may be similar. In this case, you may have to define similar BOM structures repeatedly. This can be repetitive and time consuming. To eliminate this, you can create a BOM quickly by copying the information of an existing BOM.

#### To copy BOMs:

1. Go to Manufacturing → Setup → BOM.
2. Select the BOM to be copied, and then click **Copy**.
3. In the **BOMs - Copy** screen, select the version of the BOM that you want to copy at **Version**.
4. At **Copy**, select the tab(s) which you want to copy.
5. Type the description of the new BOM at **Description**.
6. Click **Copy** to copy the BOM and the new BOM will be displayed as a new version.
7. Make the necessary changes for the new BOM and click **Save**.
8. If you have selected the **Use engineering change management** check box at **System → General → Settings, under Manufacturing settings**, then the **Activities** screen will be displayed. In this case, copying a new version of BOM is considered a change in the BOM. Specify the reason for the change in the **Activities** screen. Click **Save** to save to save the changes, and then **Close** to close the **Activities** screen.
9. Click **Close** to exit.

## 1.13 Creating and Maintaining Scenarios

Scenarios are templates which are used to calculate the actual cost price for each end product. Taking into consideration the various factors of costs for the end product, such as the sales price per item, cost price per item, pricing per part item, calculated cost price in the BOM, total cost price per batch quantity, purchase price per supplier, total pricing per exploded BOM, and others, it is difficult to determine the actual cost price of the end product.

To eliminate deviations of the actual cost price, scenarios are used at Manufacturing → To be processed → Calculate to determine the actual cost price. Scenarios are master templates which can be defined at Manufacturing → Setup → Scenarios.

You can create more than one scenario with different configurations which can be used to calculate the same end product. This means it is possible for you to define the different criteria that you intend to account for the actual cost price calculation of the BOM.

The following topics are relevant to this section:

- Creating, editing, and deleting scenarios
- Copying scenarios

### 1.13.1 Creating scenarios

You can create scenarios at Manufacturing → Setup → Scenarios.

The screenshot shows a software window titled "Calculation scenario: BOM". It features a menu bar with "File", "Edit", and "Help". Below the menu bar is a toolbar with various icons. The main area contains a "Scenario" field and a "Description" field. Below these are several configuration options:

- Maximum number of levels: All
- Explode: Stock controlled:
- Round off to: Batch quantity:
- Round off to: Purchase order: None
- Make / Buy: Produce
- Item price: Buy: Cost price
- Item price: Make: Cost price
- Margin %: 0.00

At the bottom right, there are three buttons: "New", "Save", and "Close".

**To create scenarios:**

1. Go to Manufacturing → Setup → Scenarios.
2. Click **New**.
3. Type a code for the scenario at **Scenario**. This is mandatory. Once saved, this code cannot be edited.
4. Type a description to the scenario at **Description**. This is mandatory.
5. Select one of the following options at **Maximum number of levels**:
  - **All** — Select this option to include all levels of BOM in cost calculation.
  - **1** — Select this option to include only the first level of BOM in cost calculation.
6. Select the **Explode: Stock controlled** check box to explode stock-controlled items in the **BOM** in cost calculation.
7. Select the **Round off to: Batch quantity** check box to round up the quantity of items corresponding to batch quantity in cost calculation.
8. Select one of the following options at **Round off to: Purchase order**:
  - **None** — Select this option if you do not want to round off to any purchase order criteria in cost calculation.
  - **Purchase unit** — Select this option to round off quantity of items to the purchase unit in cost calculation.
  - **Purchase order size** — Select this option to round off quantity of items to the default purchase order size in cost calculation.
9. Select one of the following options at **Make / Buy** to determine the type of items to account for when calculating cost for the end product:
  - **Produce** — Select this option to account for make items (items which are produced).
  - **Purchase** — Select this option to account for purchase items (items which are bought from the supplier).
10. Select one of the following options at **Item price: Buy** to determine the pricing factor for the bought items when calculating cost for the end product:
  - **Cost price** — Select this option to use the cost price of the purchase item.
  - **Purchase price(Main supplier)** — Select this option to use the main supplier's purchase price of the purchase item.
  - **Sales price** — Select this option to use the sales price of the purchase item.
11. Select one of the following options at **Item price: Make** to determine the pricing factor for produced items when calculating cost for the end product:
  - **Cost price** — Select this option to use cost price of the make item.
  - **Calculated cost price(Main version)** — Select this option to use the calculated cost price as per main BOM version of the make item.
  - **Sales price** — Select this option to use the sales price of the make item.
12. Type the percentage of margin at **Margin %** to markup the new calculated cost price of the end product.
13. Click **Save** to save the newly-defined scenario.
14. Click **Close** to exit.

### 1.13.2 Editing scenarios

After creating scenarios, you can still make changes to the configurations in the scenarios, such as making changes to the description of the scenarios, the number of BOM levels to account for, the pricing factors to consider for make or buy items, the margin percentage to markup the cost price calculation, and others.

#### To edit scenarios:

1. Go to Manufacturing → Setup → Scenarios.
2. Select the scenario to be edited, and then click **Open**.
3. Make the necessary changes.
4. Click **Save** to save the changes.
5. Click **Close** to exit.

### 1.13.3 Deleting scenarios

As time passes, certain scenarios used in the past may become obsolete, as organizations tend to make changes in methods and strategies in accounting for cost price calculation. In this case, housekeeping of obsolete scenarios is required. You can delete the unused scenarios by using the **Delete** button.

#### To delete scenarios:

1. Go to Manufacturing → Setup → Scenarios.
2. Select the scenario to be deleted, and then click **Delete**. A message “Delete the data selected?” will be displayed. Click **Yes** to delete the scenario from the system.
3. Click **Close** to exit.

### 1.13.4 Copying scenarios

You may want to create similar scenarios with different scenario codes and descriptions for use and as indications to be used in the cost price calculation for another end product. Creating similar scenarios can be repetitive and time consuming. To eliminate this, you can create scenarios by copying the configurations of an existing scenario.

#### To copy scenarios:

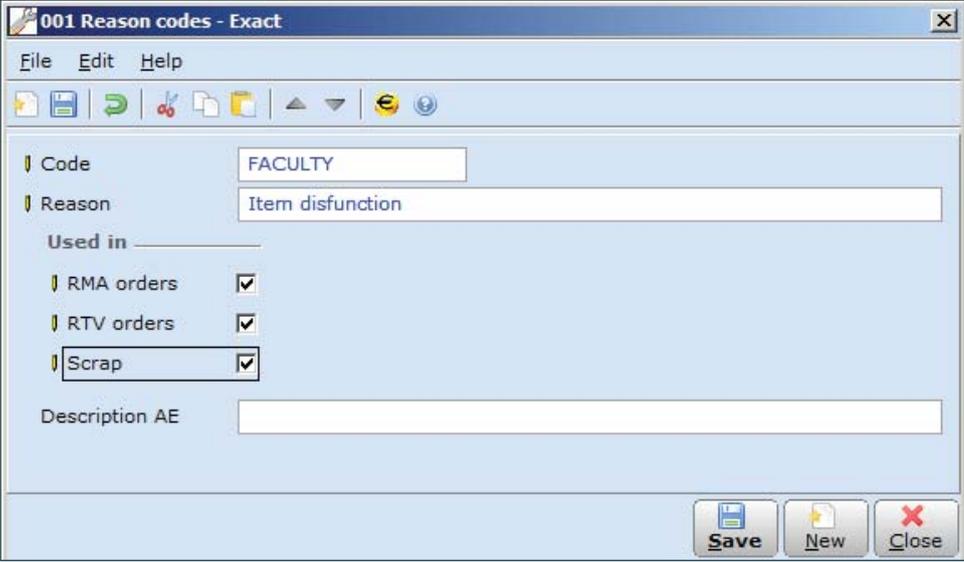
1. Go to Manufacturing → Setup → Scenarios.
2. Select the scenario to be copied, and then click **Copy**.
3. In the **Save as: Scenario** screen, type the new code and description at **Scenario** and **Description** respectively.
4. Click **Save** to complete the copying process.
5. Click **Close** to exit.

## 1.14 Creating and Maintaining Reason Codes

Reason codes are used to indicate the reasons for return of items and for scrap of items in the production order. Within the production order, you can specify items as scrap by clicking the **Scrap** button in the production order entry screen. In the **Scrap** screen, you need to type the quantity of items being recorded as scrap and to quote the reason code as to why the items are recorded as scrap. Reason codes can be defined for faulty items, broken parts, and others. Reason codes can be maintained at Manufacturing → Setup → Reason codes. The topics relevant to this section include creating, editing, and deleting reason codes.

### 1.14.1 Creating reason codes

You can create reason codes at Manufacturing → Setup → Reason codes.



The screenshot shows a software window titled "001 Reason codes - Exact". It has a menu bar with "File", "Edit", and "Help". Below the menu bar is a toolbar with various icons. The main area contains several input fields and checkboxes. The "Code" field is set to "FACULTY". The "Reason" field is set to "Item disfunction". Under the "Used in" section, there are three checkboxes: "RMA orders" (checked), "RTV orders" (checked), and "Scrap" (checked). Below these is a "Description AE" field which is currently empty. At the bottom right of the window, there are three buttons: "Save", "New", and "Close".

#### To create reason codes:

1. Go to Manufacturing → Setup → Reason codes.
2. Click **New**. The **Reason codes** screen will be displayed.
3. Type a code for the reason code being created at **Code**. This is mandatory.
4. Type the reason for the reason code at **Reason**. This is mandatory.
5. In the **Used in** section, select one or more of the following check boxes:
  - **RMA orders** — Select this check box to enable selection of this reason code in the RMA orders.
  - **RTV orders** — Select this check box to enable selection of this reason code in the RTV orders.
  - **Scrap** — Select this check box to enable selection of this reason code in the scrap functionality.
6. Type the description for the reason code being created at **Description**. This is optional. If you have defined multiple language descriptions in the **Descriptions in list boxes** section at System → General → Settings under **General settings**, then these foreign language description fields will be enabled.
7. Click **Save** to save the new reason code, and **Close** to exit.

### 1.14.2 Editing reason codes

You can still make changes to the details of the reason code after you have saved the details. You must first retrieve the intended reason code and then make the changes you want in the **Reason codes** screen.

#### To edit reason codes:

1. Go to Manufacturing → Setup → Reason codes.
2. Select the reason code to be edited, and then click **Open**.
3. Make the necessary changes.
4. Click **Save** to save the changes.
5. Click **Close** to exit.

### 1.14.3 Deleting reason codes

Obsolete reason codes are basically unused. You may not want to keep these unused reason codes in your system. Housekeeping of these obsolete reason codes can be performed to ensure that your system stores only up to date records and not obsolete records, which in return speeds up the searching for the intended records.

#### To delete reason codes:

1. Go to Manufacturing → Setup → Reason codes.
2. Select the reason code to be deleted, and then click **Delete**. A message “Delete: Items [Code - Reason]? Depending on the size of your company, this function may take a long time because all files will be checked. Delete?” will be displayed. Click **Yes** to delete the reason code permanently from the system.
3. If the reason code is being used in any pending transactions, such as **RMA orders**, **RTV orders**, or **Scrap**, then the **Delete items** screen with an error message will be displayed. Click **Print** to print the error message, or **Close** to close the error message.
4. Click **Close** to exit.

## 1.15 Inventory Settings

In Exact Globe Next, you can define various settings to manage your inventories. These settings will affect your logistics operations from the inventory valuation method to issues related to warehouses, internal use, and interbranch transfers. To set up inventory settings, go to System → General → Settings, and then click **Inventory settings**.

**Inventory settings**

Entry

Valuation method per item

Valuation method Average purchase price

Stock valuation as from last revaluation

Cost price and stock valuation per warehouse

Stock valuation: Update make item cost price.

Logbook Save Close

### Valuation method per item

Select this check box to use different valuation methods for different items.

**Note:** This check box is disabled if you select **Real time APP** at **Valuation method**. This is because the valuation method of real time APP is only available at a company level and not on a per item basis. Meanwhile, if you select the **Valuation method per item** check box, **Valuation method** will be disabled.

### Valuation method

Select **Standard cost price**, **Standard cost price (Classic)**, **Average purchase price (APP)**, **FIFO**, **LIFO**, or **Real time APP** to define the valuation method to be used in the administration. By default, the valuation method is set to **Standard cost price**.

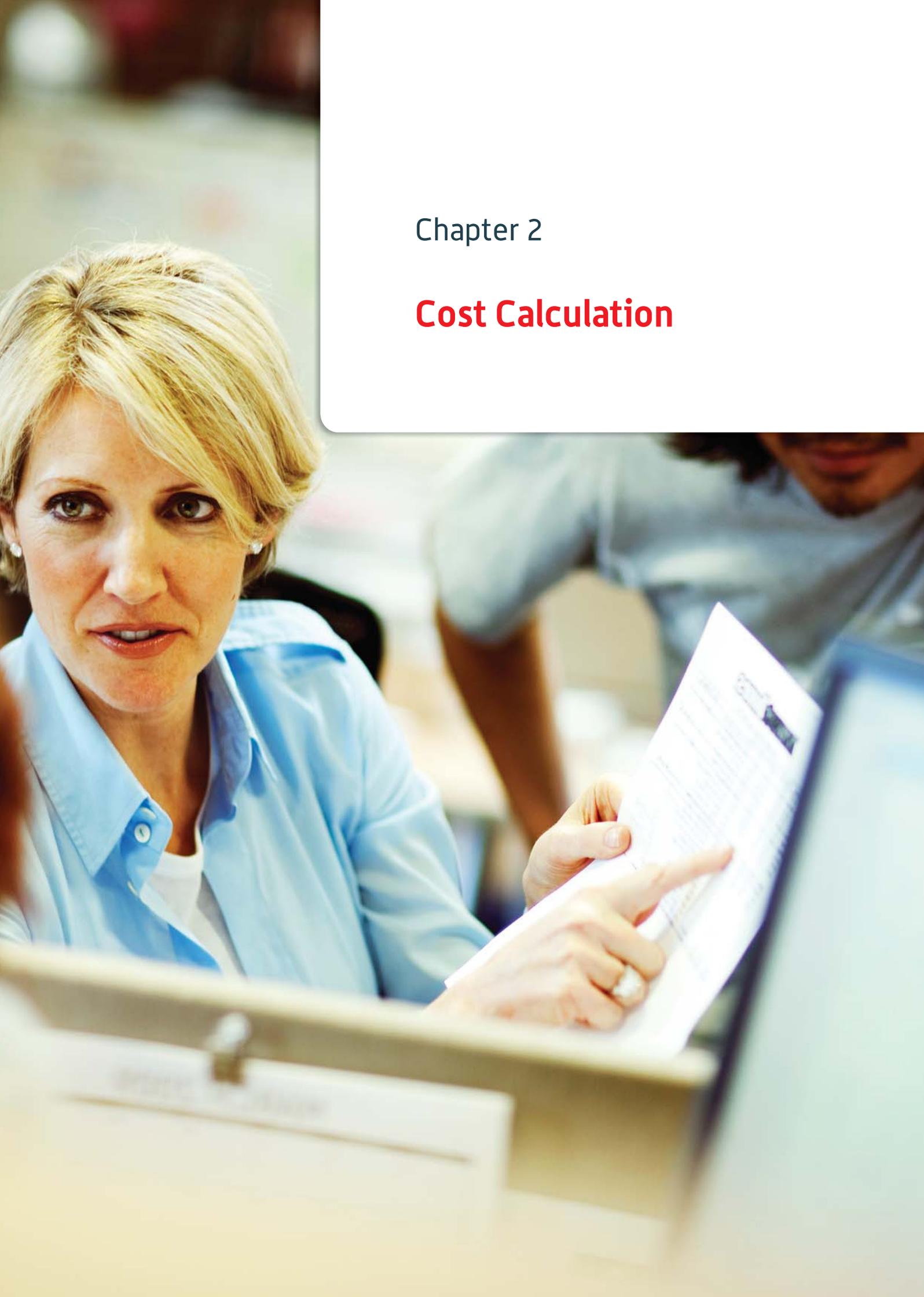
**Note:** If you have the **E-Production license**, the **SCP (Classic)** and **Real time APP** valuation methods are fully supported. However, you can still select other valuation methods but additional steps would be required when performing stock valuation as manual adjustment is needed.





## Chapter 2

# Cost Calculation





## 2. Cost Calculation

It is not easy to determine the cost of production, both in the planning and actual transactions, especially when the populated Bill of Materials (BOM) within the production order is adjusted to suit production requirements. Nevertheless, effort must be put forth to calculate the cost of production to be used for the financial reporting of your production. In any manufacturing organization, the production cost calculation is very important. The production cost calculation determines the incurred costs in producing the end product and therefore, enables management to decide on the percentage of margin to markup on the end products that will be sold to customers. This ensures that profitable revenue is made when selling the end product.

Sales prices of end products determine the production revenue while the cost prices of the components, which are used in producing the end products, such as raw materials, subassembly parts, labor hours, machine hours, and others make up the production cost. The production profit margin is determined based on the production revenue and production cost.

The actual cost of production orders must be determined to ensure that proper financial balances are reflected in the financial reports, such as profit and loss statements and balance sheets. Actual cost calculations will enable actual cost transactions to take place in the production process and thus, eliminating deviations from the exact figures in the financial reports.

The following topics are relevant to cost calculation:

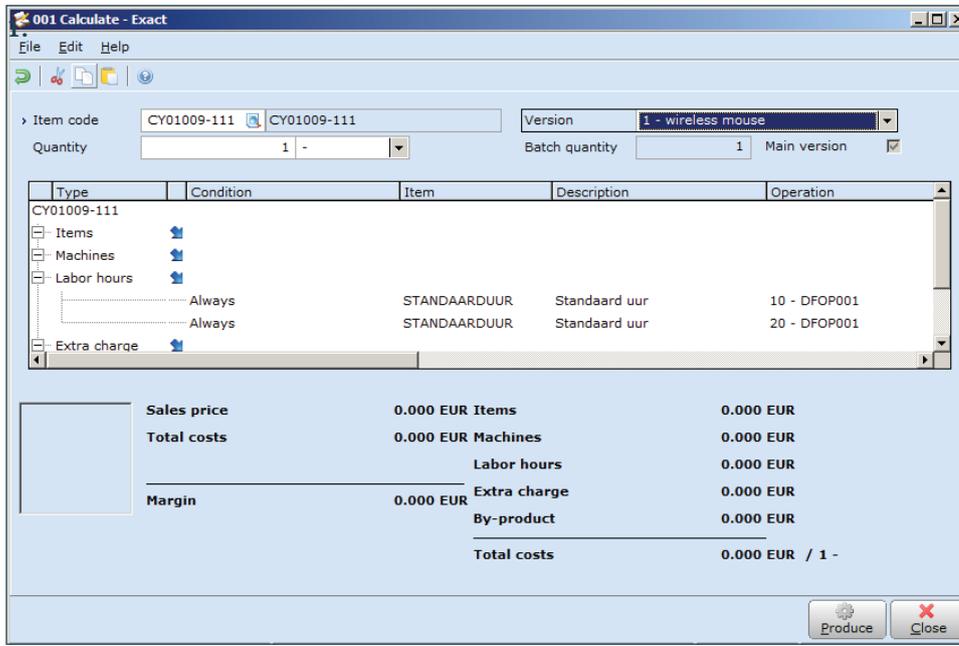
- Calculating cost for BOMs
- Calculating cost for production orders

### 2.1 Calculating Cost for BOMs

You can select the end product for which you want to calculate its total cost. It is possible for you to calculate the cost for all existing BOM versions for the selected end product.

You can also update the calculated cost price of the BOM based on the scenario calculation and markup percentage. Prior to the batch update of the BOM, the scenario must be defined. The scenario can be defined at Manufacturing → Setup → Scenarios.

To calculate cost of BOMs:



1. Go to Manufacturing → To be processed → Calculate.
2. Select an end product, and then click **Calculate**. You will see the **Calculate** screen.
3. Select a different version of BOM at **Version** to display the cost price calculation for the selected BOM version. You can select a different version only when there is more than one version of BOM for the make item.
4. Type the quantity of the end product at **Quantity** to calculate the total cost price of BOM for the selected number of end products.
5. Click **Produce** to create a production order for the calculated BOM, otherwise click **Close** to exit.

To update cost prices of BOMs:

1. Go to Manufacturing → To be processed → Calculate.
2. Click **Batch updates**. You will see the **Update: Calculated cost price** screen.
3. In the **Calculation** section at **Scenario**, type or select the scenario to use for the new cost price calculation. This is mandatory. You can define scenarios at Manufacturing → Setup → Scenarios. Selecting a scenario will populate the scenario configuration information in the **Scenario** section. The **Scenario** section cannot be edited.
4. In the **Range** section at **Item code**, type or select an item code or a range of item codes of the end product(s) to update the calculated cost price for the selected item(s) in a batch. To update the calculated cost price for all items (end products) in a batch, select the **All** check box.
5. Type or select a person at **Person** to batch update the calculated cost price for make items handled by the selected person.
6. At **Recipe versions**, select **Main**, **All** or **Select** to specify the BOM version of the selected end product for which you want to batch update the calculated cost price. If **Select** is selected, the box next to this option will be enabled. Type the number of BOM version which you want to update the calculated cost price.
7. Click **Show list** to display the calculated cost price in Microsoft Excel.
8. In Microsoft Excel, click **Exact Globe Next : Update** (under the **Add-Ins** menu bar) to update the changes. A message “Save changes?” will then be displayed. Click **OK** to update the BOM cost price of the end product into Exact Globe Next. A confirmation message “Completed: Update items” will be displayed. Click **OK** to close.
9. In Microsoft Excel, go to **File** and click **Exit** to close Microsoft Excel.
10. In the **Update: Calculated cost price** screen, click **Close** to exit.

## To adjust cost prices based on calculated cost prices:

1. Go to Manufacturing → Setup → Items.
2. Click **Batch updates** and you will see the **Update items - Items** screen.
3. In the **Data selection** section, select **Item data** to make selections and update on item details.
4. In the **Range** section, type or select an item or a range of items at **Item code** for which you want to adjust the cost price to calculated cost price. Select the **All** check box to adjust the cost price for all items.
5. In the **Change** section, select the **Cost price** check box to update the cost price of the item(s). Selecting the **Cost price** check box will enable **New value**.
6. Select **Calculated cost price** at **New value** to update the current cost price with the calculated cost price.
7. To markup the cost price to certain percentage, type the percentage at %.
8. Click **Show list** to display item(s) with the new updated calculated cost price in a Microsoft Excel report.
9. In Microsoft Excel, click **Exact Globe Next : Update** (under the **Add-Ins** menu bar) to update the changes. A message “Save changes?” will then be displayed. Click **OK** to update the cost price of the item in the item maintenance to the new updated cost price. A message “Completed: Update items” will be displayed.
10. Click **OK** to close message.

## 2.2 Calculating Cost for Production Orders

Upon completion of the production order, the actual cost price of the production order will be automatically obtained. You can view the actual costs of production orders at Manufacturing → Reports → Actuals. You may also obtain a comparison view between the planned costs and actual costs of production orders at Projects → Projects → Maintain projects. An overview of production orders that are completed and which are still in process can be viewed at Manufacturing → Reports → Production orders.

It is important that you note that the actual costs of production orders are only obtained once the production orders are completed because when a certain production order is not completed, it is possible to return items and make changes to the cost of finished goods which are received in the warehouse. Once a production order is completed, it means that there are no more pending steps to take and all relevant steps of processing are completed. Once a production order status is set to completed, it is not possible to revert or make changes to

the production order. Thus, the actual cost of a production order is extracted from the completed production order as it assures that there will not be any changes to the actual cost of the production order.

**To display actual costs of production orders:**

1. Go to Manufacturing → Reports → Actuals to define the criteria for displaying the actual costs of required production orders. You will see the **Header** and **Lines** sections only if you click **Advanced**.
2. In the **General** section, click **Warehouses**. Select one or more warehouses and click **Select** to display the actuals for production orders which belong to the selected warehouse(s).
3. Type or select a parent project or a range of parent projects at **Parent project** to display the actuals for production orders which belong to the selected parent project(s). Select the **All** check box to display the actuals for production orders which belong to all parent projects.
4. Type or select a production order or a range of production orders at **Production order** to display the actuals for the selected production order(s). Select the **All** check box to display the actuals for all production orders.
5. Select the **Open**, **Authorised**, **Released**, **Printed**, and/or **Completed** check boxes at **Status** to display the actuals for production orders with the respective status(es).
6. Type or select a date or a range of dates at **Start date** and **End date** respectively to display the actuals for production orders with the selected start date(s) and end date(s). Select the **All** check box to display the actuals for production orders with any start date and end date.
7. At **Order type**, select **All**, **Production order**, or **Production order: Disassemble** to display the actuals for production orders that are of the respective type.
8. In the **Display** section, type the number of decimal places to be displayed in the actuals report at **Precision**.
9. Select the **Group by item** check box to display the actuals for production orders by grouping production orders by item codes.
10. In the **Header** section, type or select a cost center or range of cost centers at **Cost centers** to display the actuals for production orders belonging to the selected cost center(s). Select the **All** check box to display the actuals for production orders belonging to all cost centers.

11. Type or select an employee ID or a range of employee IDs at **Person** to display the actuals for production orders which are entered by the selected people. Select the **All** check box to display the actuals for production orders which are entered by anyone.
12. Type or select a customer code or a range of customer code at **Debtor** to display the actuals for production orders which are derived from the sales orders of the selected customer(s). Select the **All** check box to display the actuals for production orders which are derived from the sales orders of all customers.
13. Select the **Including Children** check box to display production order actuals that include the children production orders.
14. Type or select a make item or a range of make items at **Make item** to display the actuals for production orders with the defined make items. Select the **All** check box to display the actuals for production orders for all make items.
15. Select the **Active, Blocked, Discontinued, Future,** and/or **Inactive** check boxes at **Item status** to display the actuals for production orders with the respective status(es).
16. Type or select an item group or a range of item groups at **Item group** to display the actuals for production orders belonging to the defined item groups. Select the **All** check box to display the actuals for production orders for all item codes.
17. Click **Assortments**, select one or more assortments, and then click **Select** to display the actuals for production orders which belong to the defined assortments.
18. Click **Selection code**, select one or more selection codes, and then click **Select** to display the actuals for production orders which belong to the defined selection codes.
19. In the **Lines** section, type or select an operation code or a range of operation codes at **Operation** to display the actuals for production orders with the defined operation codes. Select the **All** check box to display the actuals for production orders for all operation codes.
20. Type or select a work center or a range of work centers at **Work center** to display the actuals for production orders with the defined work centers. Select the **All** check box to display the actuals for production orders for all work centers.
21. Select the **Standard, Labour hour, Machine hour, Phantom,** and/or **Bulk issue** check boxes at **Type** to display the actuals for production orders with the respective type(s).
22. Select the **Quantity, Production Costs, Production Revenue, Result, Sales Revenue,** and/or **Operation** check boxes at **Show** to display the actuals for production orders by showing the respective information.
23. Click **Display** to display the overview of the actual costs for the selected production orders.
24. Click **Close** to exit from the **Actuals** screen.
25. Click **Close** to exit.

#### **To display planned costs of production orders:**

In certain cases, you may need to calculate production cost based on production order data instead of BOM data. In these situations, you can calculate the planned cost by attaching a scenario to the production order. This is useful in several situations, such as when:

- producing products based on customer requirements, or
- the lack of materials or resources requires that the BOM be adjusted in the production order.

The outcome of a production order cost calculation will not influence the actual cost price of the end product received as the end cost is dependent on the cost price defined in the item master. However, the scenario can be used as a tool to calculate expectations of the production results.

1. Go to Manufacturing → Setup → Scenarios.
2. Select **Production order** at **Used in**.
3. Click **New**.
4. Define the scenario variables in the calculation scenario similar to the BOM calculation scenario.
5. Select or clear the **Include: Suborders** check box:
  - If the check box is selected, the subassembly item cost price will be calculated using the calculated suborder cost price. **Item price: Make** will be disabled and will default to calculated cost price.
  - If the check box is cleared, the subassembly item cost price is calculated based on the main order only, and the suborders are excluded. You can select **Cost price** or **Sales price** at **Item price: Make**.
6. Click **Save**.
7. Click **Close**.
8. Go to Manufacturing → Entries → Production orders and open the production order you want to calculate.

- In the **Production orders** screen, click **Calculate**. The **Update: Calculated cost price** screen will be shown.

**932 Update: Calculated cost price**

**Calculation**

Scenario **PRO** 10% standard production margin

PROD00010012.002

**Scenario**

Include: Suborders

Maximum number of levels All

Explode: Stock controlled

Round off to: Batch quantity

Round off to: Purchase order None

Make / Buy Produce

Item price: Buy Purchase price(Main supplier)

Item price: Make Calculated cost price(Main version)

Margin % 10.00

Show list... Close

- At **Scenario**, select a production order scenario.
- Click **Show list**. Microsoft Excel will open with two spreadsheets containing the production order summary and details.
- Make the necessary changes to the spreadsheets.
- In Microsoft Excel, click **Exact Globe Next : Update** (under the **Add-Ins** menu bar) to update the changes.
- Click **OK** in the **Update** box to save the changes to Exact Globe Next.
- If the cost price is updated correctly, Exact Globe Next will display “Updated: Production orders”. Click **OK**. Exact Globe Next will also create a **CRM** document for the summary sheet of the production order.
- Close Microsoft Excel to free the data for manipulation in Exact Globe Next. You do not need to save the Microsoft Excel work book.
- In the **Update: Calculated cost price** screen, click **Close**. The **Production orders** screen will be updated with the new cost price.

To display comparisons between planned and actual costs of production orders:

The screenshot shows the 'Maintain projects - Exact' window. The project is 'PROD00010003 - Productie voorraad regulair okt.' with manager 'Richard Peters' and status 'Completed'. The 'Planning' and 'Actual' checkboxes are selected. The table below compares 'Oct 2010 Planning' and 'Oct 2010 Actual' for various items.

Item	Oct 2010 Planning	Oct 2010 Actual	Planning	Actual
<b>Revenue</b>				
Totals				
<b>Costs</b>				
BON0007, Bonen Brazilian Regular	106		106	
MAA, Malen	0		0	
MACH, Machine malen	200		200	
VER0002, Folie	11		11	
VER0003, Etiket voor	7		7	
VER0004, Etiket achter	7		7	
VER0005, Zak Regular	3		3	
Totals	334		334	
WIP		135		135
Result	-334		-334	
Result + WIP		-135		-135

Legend:

- Budget : Costs (orange)
- Planning : Costs (pink)
- Actual: Costs (red)
- Budget : Revenue (purple)
- Planning : Revenue (light blue)
- Actual: Revenue (dark blue)

1. Go to Projects → Projects → Maintain projects to define the criteria for displaying the comparisons between the planned and actual costs of production orders.
2. Select the **Production** check box at **Type** to display projects which are of type **Production**.
3. Select the **Completed** check box at **Status** to display projects which are completed.
4. Click **Search** to display projects of type **Production** which are completed.
5. Select a production project which is listed, and then click **Open** to display the project maintenance.
6. Go to the **Planning** tab and select the **Planning** and **Actual** check boxes. Click **Refresh** to display information of the production project for both planning and actual.
7. Click **Close** to exit.

To display the overview of production orders:

The screenshot shows a software window titled "932 Production orders - Exact". It contains a table with the following columns: Parent project, Production orders, Item code, Item description, Planning Qty., Actual quantity, Unit, Planning (EUR), Actual (EUR), and Selection code. Below the table is a status filter bar with icons for Ordered, Authorised, Released, Printed, Issued, Received, Finished, and Completed, each with a date and a checkmark. To the right of the filter bar is a summary panel with the following data:

Budgeted	264 Items
Actual	264 Items
Budgeted	1,731.73 EUR
Actual	1,731.73 EUR

1. Go to Manufacturing → Reports → Production orders to define the criteria for displaying an overview of production orders.
2. In the **General** section, click **Warehouses**. Select one or more warehouses and click **Select** to display production orders which belong to the selected warehouse(s).
3. Type or select a parent project or a range of parent projects at **Parent project** to display production orders for the selected parent project(s). Select the **All** check box to display production orders for all parent projects.
4. Type or select a production order or a range of production orders at **Production order** to display the selected production order(s). Select the **All** check box to display all production orders.
5. At **Status**, select the **Open, Authorised, Rejected, Released, Printed,** and/or **Completed** check boxes to display production orders with the respective status(es).
6. Type or select a date or a range of dates at **Start date** to display production orders with the selected start date(s). Select the **All** check box to display production orders with any start date.
7. At **Order type**, select **All, Production order,** or **Production order: Disassemble** to display the respective type of production orders.
8. In the **Display** section, type the number of decimal places to be displayed in the production orders report at **Precision**.
9. Select the **Group by item** check box to display the report by grouping production orders by items.
10. In the **Header** section, type or select a cost center or a range of cost centers at **Cost centers** to display production orders for the selected cost center(s). Select the **All** check box to display production orders for all cost centres.
11. Type or select an employee ID or a range of employee IDs at **Person** to display production orders which are entered by the selected people. Select the **All** check box to display production orders which are entered by anyone.
12. Type or select a customer code or range of customer codes at **Debtor** to display production orders which are derived from the sales orders of the selected customer(s). Select the **All** check box to display production orders which are derived from the sales orders of all customers.
13. Select the **Including Children** check box to display production orders that include the children production orders.
14. Type or select a date or a range of dates at **End date** to display production orders with the selected end date(s). Select the **All** check box to display the production orders with any end date.

15. Type or select an item code or a range of item codes at **Make item** to display production orders for the selected item code(s). Select the **All** check box to display production orders for all item codes.
16. Type or select an item group or a range of item groups at **Item group** to display production orders with items belonging to the selected item group(s). Select the **All** check box to display production orders with items belonging to all item groups.
17. Click **Assortments**, select one or more assortments, and then click **Select** to display production orders with items belonging to the selected assortment(s).
18. Click **Selection code**, select one or more selection codes, and then click **Select** to display production orders belonging to the selected selection code(s).
19. In the **Lines** section, type or select an item code or a range of item codes at **Item code** to display production orders for the selected item code(s). Select the **All** check box to display production orders for all item codes.
20. Click **Warehouses**, select one or more warehouses, and then click **Select** to display production orders with order lines items which belong to the selected warehouse(s).
21. Type or select a date or a range of dates at **Start date** and **End date** respectively, to display production orders with order lines with the selected start date(s) and end date(s). Select the **All** check box to display production orders with order lines with any start date or end date.
22. Type or select an operation code or a range of operation codes at **Operation** to display production orders for the selected operation code(s). Select the **All** check box to display production orders with order lines for all operation codes.
23. Type or select a work center or a range of work centers at **Work center** to display production orders for the selected work center(s). Select the **All** check box to display production orders with the order lines for all work centers.
24. At **Type**, select the **Standard**, **Labour hour**, **Machine hour**, **Phantom**, and **Bulk issue** check boxes to display production orders with the respective type(s).
25. In the **Planner** section, type or select an employee ID at **Planner** to display production orders which are planned by the defined person. Select the **All** check box to display production orders which are planned by anyone.
26. Click **Display** to display the overview of the selected production orders.
27. Click **Close** to exit from the **Production orders** screen.



## Chapter 3

# Materials Management





## 3. Materials Management

Managing materials, such as part items and subassembly items, ensures a consistent supply of materials to the demands arriving from the production floor. Besides managing materials required by the production floor, you must also manage items that are demanded by your customers, which are the end products. Before producing or purchasing materials, the shop floor planner, along with the warehouse staff and the production planner, must find out whether there are sufficient raw materials, parts, labor hours, machine hours, or even subassembly items ready to enter the production floor in order to produce the end products. If there is a shortage, then the shop floor can be planned and the required items can be replenished to avoid delays or disruptions in producing the end products.

Materials management ensures a smooth flow of all production processes, which prevents the shortage of required items and hours. Thus, a manufacturing organization that practices proper materials management can be assured of an efficient completion of the end products and timely delivery of end products to the warehouse. Timely delivery to the warehouse assures timely delivery to customers. When the customer's delivery date is met, then customer satisfaction is guaranteed.

Successful and timely production delivery also ensures that any concerns, such as a faulty item, can be detected and corrective measures taken even before the delivery of the end products to the customers.

There are two scenarios or types of environments within a manufacturing industry in producing the end products. The scenarios are make-to-stock and make-to-order. In a make-to-stock environment, materials management suggests that the planning of item requirements is done at factory level for a certain period of time. In a make-to-order environment, materials management suggests that the planning of item requirements is done at item level or at the customer's order level. These two environments are driven by the business attributes of the items, which are stock controlled and order controlled. In the make-to-stock environment, the end products are produced to meet the shortage of the warehouse or factory. This means that the production requirements are derived from the demands of the warehouses or factories. In comparison, the end products for the make-to-order environment are produced to meet the demands deriving from sales orders, which are the customers' demands.

The following topics are relevant to materials management:

- Managing materials at factory or warehouse level
- Managing materials at order or item level

## 3.1 Managing Materials at Factory or Warehouse Level

It is important that a manufacturing organization has an overall picture of the planning of materials required in the production at a factory or warehouse level. In a make-to-stock environment, the complexity of the material flows is usually high and there is usually low flexibility in adjusting the capacity to the demand. Lead times are usually long and stock is used to bridge the gap between supply and demand or is a result of producing in batches to optimize capacity bottlenecks or to reduce set up costs. In order to balance predicted capacity and demand for a certain period of time, a plan for the whole factory or warehouse is needed. A balanced number and mix of end products that satisfy the demand and capacity in a certain period is agreed between sales and production; this is the Master Production Schedule (MPS). This MPS can serve as input for the Material Requirements Planning (MRP) engine, providing a production and purchase planning that can then be viewed using the pegging report. Via the production and purchase advice, you can generate the actual production and purchase orders based on this planning. After this, you can view the actual production planning and requirements in the MRP overviews.

The following topics are relevant to managing materials at factory level:

- Planning Master Production Schedule (MPS)
- Configuring and generating production requirements with the MRP engine
- Overview of MRP engine results with the pegging report
- Generating production planning with production advice
- Overview of Material Requirements Planning (MRP) at factory or warehouse level

### 3.1.1 Planning Master Production Schedule (MPS)

You can plan and manage your materials at a higher security level view or at a 101 view at the factory or warehouse level using the MPS functionality. Within MPS, you can plan materials requirements for a specific warehouse within a budget scenario, for a certain period of time, and for a range of items. MPS is a forecast of what is required in the future within the factory or warehouse.

Manufacturing / Planning / Master Production Schedule

Layout

Warehouse: Hoofdmagazijn

Budget scenario: ANNUALLY (ANNUAL BUDGET)

Plan period: Monthly

Range

Date: [ ] to [ ]  All

Year: 2011 to 2012  All

Month: [ ] to [ ]  All

Week: [ ] to [ ]  All

Filter

Item group: [ ] to [ ]  All

Item: [ ] to [ ]  All

Show

Column width:  Standard  150%

Excel Start Close

**To plan MPS:**

1. Go to Manufacturing → Planning → Master Production Schedule to define the criteria for MPS.
2. In the **Layout** section, type or select the relevant warehouse for which you want to plan at **Warehouse**. This is mandatory.
3. At **Budget scenario**, type or select the year for which you want to populate the plan. This is mandatory. Selecting the budget scenario will automatically define the **Plan period**.
4. In the **Range** section, define the range of dates, years, months, and weeks at **Date**, **Year**, **Month**, and **Week** respectively to plan for materials within the selected period of time. Select the **All** check box to plan for all ranges of dates, years, months, and weeks.
5. Under the **Filter** section, type or select a range of item groups and items at **Item group** and **Item** respectively to plan materials for items within the selected range of item groups and items. Select the **All** check box to plan for items within all ranges of item groups and items.
6. In the **Show** section at **Column width**, select **Standard** or **150%** to display the **Master Production Schedule** screen with the respective column width. You can also click **Excel** to generate MPS in Microsoft Excel.
7. To plan directly in the Exact Globe Next application, click **Start**. You will see the **Master Production Schedule** screen displayed based on the selected criteria.
8. In the **Master Production Schedule** screen, plan for each listed item by typing in the required quantity in each date column displayed.
9. Click **Close** to save and exit.

### 3.1.2 Configuring and generating production requirements with the MRP engine

You can generate production requirements using the MRP engine. Within the MRP engine, you can define a specific scenario by configuring a number of criteria, such as the range of items, item attributes, to include or exclude warehouses, consider requirements deriving from various orders and requests, to base on MPS planning, and whether you want to include labor and machine hours. This defined MRP engine scenario can be processed and this will generate the production requirements in the back-end which can be used in the pegging report, production advice, resource planning, and machine planning.

**MRP engine : Scenario**

File Edit Help

> Scenario: MRP

> Description

**Assortments**

Assortment

**Items**

Item code  to   All

Stock controlled

Sales

**Warehouses**

Include  Exclude

**Requirements**

Sales orders  Quotations

Internal use  Production orders

Purchase orders

**Master schedules**

Schedule

**Additional criteria**

Make/Buy

Capacity

Total on main warehouse  Include: Labour hours

Allow planning prior to today  Include: Machine hours

Requirements  Include: Production safety day

Purchase order level  Include: Internal delivery days

#### To configure and generate MRP engines:

1. Go to Manufacturing → Planning → MRP engine. You will see the **MRP engine : Scenario** screen.
2. Type a code for the MRP engine scenario at **Scenario: MRP**. This is mandatory.
3. Type a description for the MRP engine scenario at **Description**. This is mandatory.
4. In the **Assortments** section at **Assortment**, click **Select**. You will see the **Assortments** screen.
5. Click on a required assortment to highlight it. You can also highlight multiple assortments by pressing the SHIFT or CTRL key while clicking on the required assortments. Alternatively, double-click on the assortment to select the particular assortment. Then, click **Select**.
6. Click **Close** after selecting the required assortments.
7. In the **Items** section, define the following criteria:
  - Type or select one or a range of item codes to generate the production planning for the selected items at **Item code**. Select the **All** check box to generate the production planning for all items.
  - Select **Yes**, **No**, or **All** at **Stock controlled** to generate the production planning for only stock

controlled items, only order controlled items, or both stock and order controlled items respectively. This field is enabled if the **Requirements only** check box under the **Additional criteria** section is selected.

- Select **Yes**, **No**, or **All at Sales** to generate production planning for sales items, non-sales items, or all types of items respectively.
8. In the **Warehouses** section, define the following criteria:
- At **Include**, click **Select** and select the warehouse that you want to include in generating the production planning. You can highlight multiple warehouses simultaneously by pressing SHIFT or CTRL while clicking on the required warehouses. Alternatively, double-click on the warehouse to quickly select the warehouse. Then, click **Select**. Click **Close** after selecting the required warehouse(s) that you want to include.
  - At **Exclude**, click **Select** and select the warehouse that you want to exclude in generating the production planning. You can highlight multiple warehouses simultaneously by pressing SHIFT or CTRL while clicking on the required warehouses. Alternatively, double-click on the warehouse to quickly select the warehouse. Then, click **Select**. Click **Close** after selecting the required warehouse(s) that you want to exclude.
9. In the **Requirements** section at **Sales order**, **Internal use**, **Purchase orders**, **Quotations**, and **Production orders**, select **Authorised**, **Not Authorised**, or **All** to generate the production planning based on the respective requirements. Select **None** at the respective requirement if you do not want to use the requirement.
10. In the **Master schedules** section, click the **Select** button at **Schedule** to select a budget scenario to generate the production planning for the selected budget scenario.
11. In the **Additional criteria** section, define the following:
- At **Make/Buy**, select **Buy** or **Make** to generate the production planning for items that are bought or produced.
  - At **Capacity**, select either **Plan** or **Buy** to generate the production planning for planning capacity or purchasing capacity. This field is enabled if the **Include: Labor hours** and/or **Include: Machine hours** check boxes are selected.
  - Select the **Total on main warehouse** check box to sum the total of all orders and requirements of the selected warehouses into the main warehouse. If there is a shortage, advice is provided at the main warehouse of the item. Other factors that will have an impact on the advice, such as the order policy code, purchase order size, and production batch size, will be based on the settings of the main warehouse of the item.
  - Select the **Allow planning prior to today** check box to allow the advice date to fall on a date that is before today's date.
  - Select the **Requirements** check box to generate the production planning based on requirements only.
  - Select the **Purchase order level** check box to generate the production planning based on purchase order level.
  - Select the **Include: Labour hours** check box to generate the production planning that includes labour hour requirements.
  - Select the **Include: Machine hours** check box to generate the production planning that includes machine hour requirements.
  - Select the **Include: Production safety day** check box to include the production safety day in the calculations of the production start and end dates.
  - Select the **Include: Internal delivery days** check box to include the warehouse lead time in the calculations of the production start and end dates, as well as the purchase order date and delivery date.

12. Click **Save** to save the defined MRP engine scenario.
13. Click **Process** to generate the production planning.
14. Click **Close** to exit.

**Note:** Some fields are disabled if the **Requirements** check box in the **Additional criteria** section is not selected.

### 3.1.3 Overview of MRP engine results with the pegging report

The results of the production requirements that are generated with the MRP engine can be viewed in the pegging report. The pegging report displays the overview of production requirements based on the production advice, purchase advice, resource planning, and machine planning. Each of these requirements will be shown as per item code and total required quantity. It is possible to view the breakdowns of the total required quantity by choosing to view the single level which derives requirements of the item from one level up in the BOM structure.

The pegging report can be viewed based on a specific MRP engine scenario and you may choose to view by a single level or full level. In the overview results, the sources of a requirement are also shown and it is possible for you to retrieve the requirement, which is the production order itself in the full level view. The pegging report basically works hand in hand with the MRP engine, which generates the production requirements and displays the results in the pegging report.

#### To view pegging reports:

1. Go to Manufacturing → Reports → Pegging to define the criteria for the pegging report.
2. In the **Filter** section, click **Warehouses** and you will see the **Warehouses** screen. Select one or more warehouses and click **Select** to display the production requirements for items belonging to the selected warehouse(s). Click **Close** to exit from the **Warehouses** screen.
3. Next, click **Assortments** and you will see the **Assortments** screen. Select one assortment or more, and then click **Select** to display the production requirements for items belonging to the selected assortment(s). Click **Close** to exit from the **Assortments** screen.

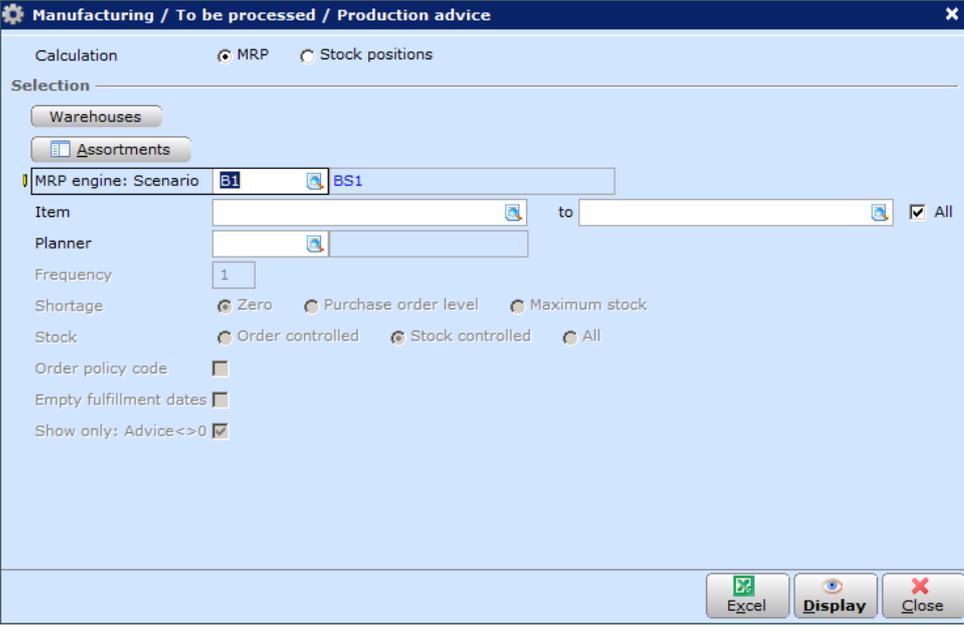
4. Type or select an item code or a range of item codes at **Item** to display the production requirements for the selected item(s). Select the **All** check box to display the production requirements for all items.
5. Type or select a date or range of dates at **Required** to display the production requirements for items required by the selected date(s). Select the **All** check box to display the production requirements for items required by any date.
6. Type or select an employee ID at **Planner** to display the production requirements for items planned by the selected person. Select the **All** check box to display the production requirements for items planned by everyone.
7. Select **Make**, **Buy**, or **All at Make/Buy** to display the production requirements for items that are produced, purchased, or both.
8. Select one of the following options at **Stock controlled**:
  - **Order controlled** — This option displays the production requirements for items that are produced due to order demands.
  - **Stock controlled** — This option displays the production requirements for items that are produced due to stock demands.
  - **All** — This option displays the production requirements for items that are produced due to order demands and stock demands.
9. In the **Options** section, select the **Based on MRP** check box to display the production requirements for items based on MRP. This will enable **MRP engine: Scenario**.
10. Type or select a scenario at **MRP engine: Scenario** to display the production requirements for items based on the selected MRP scenario.
11. Select the **Show: Serial/batch numbers** check box to display the production requirements for items by displaying the serial or batch numbers. This check box will be disabled if you select the **Based on MRP** check box.
12. At **Output**, select **Single level** or **Full level** to display production requirements for a single level BOM structure or a full level BOM structure.
13. Type the number of decimal places between zero and eight at **Precision** to display production requirements for items by showing the quantity with the entered precision.
14. Click **Display** to display the overview of pegging report. You can also click **Excel** to display the pegging report in Microsoft Excel.
15. Click **Close** to exit.

### 3.1.4 Generating production planning with production advice

You can generate production orders (planning) based on the suggested production advice which is derived from the MRP engine generation of production requirements. The production advice allows you to calculate the production requirements based on either MRP or stock positions. In relation with managing materials at the factory level, you should view the production requirements based on the MRP calculations which are derived from the generated production requirements by the MRP engine at Manufacturing → Planning → MRP engine. As more than one scenario is used in running the MRP engine, you can define the specific scenario in the production advice application, which will then display your intended production requirements.

From here, you can choose to produce the requirements of items from a suggested list of BOM structure versions for the items. In the advice or suggestion screen, you can select one or more variances of versions and enter the quantity that you want to produce, and then choose to produce, whereby depending on your selection, one or more production orders will be automatically generated.

The generated production orders can then be accessed for the next consecutive steps; authorization, release, print, issue, receive, and completion at Manufacturing → Entries → Production orders.



#### To generate production orders with production advice:

1. Go to Manufacturing → To be processed → Production advice, and then define the criteria for generating a production order with production advice.
2. Select **MRP** at **Calculation** to display the production requirements which are calculated with the MRP engine.
3. In the **Selection** section, click **Warehouses** and select one or more warehouses to display the production requirements for the selected warehouse(s).
4. Click **Assortments** and select one or more assortments to display the production requirements for items belonging to the selected assortment(s).
5. Type or select a scenario at **MRP engine: Scenario** to display the production requirements based on the selected MRP engine scenario. This information is mandatory.
6. Type or select an item or a range of items at **Item**, to display the production requirements for the selected item(s). Select the **All** check box to display the production requirements for all items.

7. Type or select an employee ID at **Planner** to display the production requirements for items which are planned by the selected person.
8. Click **Display** to display the production requirements. You will see the **Item management: Planning** screen. The requirements for the end products on the date that the end products are needed will be displayed.
9. Select a requirement cell which you want to fulfill and click **Produce**. You will see the **Generate production orders** screen. A list of BOM versions of the item will be shown with the shortage quantity and advice quantity.
10. Under the **Selected** column, double-click on the BOM version to select the BOM version which you want to produce. Type the quantity which you want to produce under the **Advice** column. By default, this quantity is automatically defined.
11. Click **Produce** to generate the production order(s) for the selected BOM version with the entered advice quantity.
12. The generated production order(s) will be displayed in the **Created: Order** screen. Select the production order and click **Open** to view or modify the production order.
13. Click **Close** to exit.

### 3.1.5 Overview of MRP at factory or warehouse level

You can obtain the actual planning and requirements of production orders and purchase orders using MRP. Within MRP, it is also possible to obtain the available stock levels of items that are tracked from the incoming and outgoing stock of items, derived from transactions such as quotations, sales, internal requests, material issues, purchases, and inter-branch transfers.

Items	Unit	1/8 (Mo)	2/8 (Tu)	3/8 (We)	4/8 (Th)	5/8 (Fr)	6/8 (Sa)	7/8 (Su)	8/8 (Mo)	9/8 (Tu)	10/8 (We)	11/8 (Th)	12/8 (Fr)	13/8 (Sa)	14/8 (Su)	15/8 (Mo)	16/8 (Tu)	17/8 (We)	18/8 (Th)	19/8 (Fr)
MCB0001	kg	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MCB0002	kg	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
MCB0003	kg	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
MCB0004	kg	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
MCBDEMOPAKKET	stuk	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
MCBDEMOPAKKETVAR	stuk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MEL0001	Doos	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
MEL0002	Doos	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
MHN	hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OHC01	year	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5
OHC02	year	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
OHC03	year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OND0001	stuk	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
OND0002	stuk	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
OND0003	stuk	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
OND0004	stuk	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
OND0005	stuk	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34

#### To display MRP planning:

1. Go to Manufacturing → Planning → MRP. You will see the **Item management: Planning** screen.
2. Click **Advanced** to define the advanced filter criteria to display the required information about MRP. For more information, see *Defining advanced criteria for MRP* following this procedure.
3. Click **Warehouses** to select one or more warehouses to display MRP for the selected warehouse(s), and then click **Close** to close the **Warehouses** screen.
4. Type the number of days at **View** to display MRP for the defined number of days.
5. Type or select a date or range of dates at **From** and **to**, to display MRP for the selected date or range of dates.
6. Click  or  at **Scale** to switch the display modes between **Daily**, **Weekly**, **Monthly**, and **Yearly**.

7. Select any one of the following at **Content**:
  - **Orders/ Requirements** — Select this option to display MRP based on the production order requirements. Then, at **View**, select **Quantity** or **Amount** to display MRP by showing the quantity or amount.
  - **Available** — Select this option to display available stock movements derived from incoming and outgoing transactions for items.
  - **Purchase** — Select this option to display MRP based on the purchase order requirements.
  - **Pegging** — Select this option to display an overview of pegging. This option is available only at Manufacturing → Planning → MRP, Inventory → Item management → MRP, and Projects → Planning → MRP
8. Click **Refresh** to display MRP based on the defined criteria.

**Note:** The buttons in the **Item management: Planning** screen will be enabled or disabled depending on the criteria selection at **Content** and also the cell content selected after the results are displayed.

## Defining advanced criteria for MRP

You can define advanced selection criteria for the **Item management: Planning** screen by clicking **Advanced** as described in the procedure. After defining the advanced selection, click **Select** to save the defined selections and close the selection screen. You can also click **Close** to exit without making any changes to the advanced selections or click **Default** to revert to default criteria.

The various selection criteria can be saved as separate templates to be reused. The templates can also be shared with other users. You can create, edit, open, delete, import, and export templates from the **File** menu.

## Filter section

### Assortments

Click **Select**, and then click on an assortment to highlight it. You can highlight multiple assortments simultaneously by pressing SHIFT or CTRL while clicking on the required assortments. Alternatively, double-click on the required assortment to quickly select the assortment. Then, click **Select**. The **Select** button will be checked when an assortment is selected.

### Item

Type or select an item code or a range of item codes to display MRP for the selected item code(s). Select the **All** check box to display MRP for all items.

### Planner

Type or select a person to display MRP which was planned by the selected person. Select the **All** check box to display MRP which are planned by anyone.

### Sales

Select **Sales**, **Internal**, or **All** to display MRP for sales items, internal use items, or both sales and internal use items respectively.

**Make/ Buy**

Select **Buy**, **Make**, or **All** to display MRP for items that are bought, made, or both bought and made respectively.

**Stock**

Select **Order controlled**, **Stock controlled**, or **All** to display MRP for items that are order controlled, stock controlled, or both order and stock controlled.

**Person**

Type or select an employee ID or a range of employee IDs to display MRP for the selected people. Select the **All** check box to display MRP for anyone.

**Type (drop down list)**

Select **All**, **Quotations**, **Sales orders**, or **Internal use** to display MRP for all types of transactions, quotations, sales orders, or internal use requests respectively.

**Project**

Type or select a project code or a range of project codes to display MRP for the selected project(s). Select the **All** check box to display material requirements planning for all projects.

**Order**

Type or select a sales order number or a range of sales order numbers to display MRP for the selected sales order(s). Select the **All** check box to display MRP for all sales orders. By default this is disabled. To enable this, select **Sales orders** at **Type** (drop-down list).

**Supplier**

Type or select a supplier code or a range of supplier codes to display MRP for the selected supplier(s). Select the **All** check box to display MRP for all suppliers.

**Customer**

Type or select a customer code or a range of customer codes to display MRP for the selected customer(s). Select the **All** check box to display MRP for all customers.

**Type (check boxes)**

Select the **Standard**, **Machine hour**, **Labour hour**, and/or **Bulk issue** check boxes to display MRP for standard items, machine hour items, labor hour items, and bulk issue items respectively.

**Transactions section****Quotations**

Select the **Not Authorised** and/or **Authorised** check boxes to display MRP for quotations that are not authorised and/or authorised. Select the **Exclude Expired** check box to exclude expired quotations in the MRP view. Click **Select** to activate one or more selection codes to display MRP for quotations that are within the activated selection codes.

**Sales orders**

Select the **Not Authorised** and/or **Authorised** check boxes to display MRP for sales orders that are not authorised and/or authorised. Click **Select** to activate one or more selection codes to display MRP for sales orders that are within the activated selection codes.

**Internal use**

Select the **Not authorised** and/or **Authorised** check boxes to display MRP for internal use requests that are not authorised and/or authorised. Click **Select** to activate one or more selection codes to display MRP for internal use requests that are within the activated selection codes.

**Production orders**

Select the **Not authorised** and/or **Authorised** check boxes to display MRP for production orders that are not authorised and/or authorised. Click **Select** to activate one or more selection codes to display MRP for production orders that are within the activated selection codes. Select the **Released** check box to display production orders which are already released.

**Purchase orders**

Select the **Not Authorised** and/or **Authorised** check boxes to display MRP for purchase orders that are not authorised and/or authorised. Click **Select** to activate one or more selection codes to display MRP for purchase orders that are within the activated selection codes.

**Forecast**

Select the **Authorised** check box to display MRP for authorised forecasts (such as the MPS). This will enable **Budget scenario**. By default this is disabled. To enable the **Forecast** check box, in the **Item management: Planning** screen, select **Items** in the first column drop-down list which is enabled when you select **Orders/ Requirements** at **Content**.

**Budget scenario**

Type or select the budget scenario to display MRP for forecasts which are planned in the budget scenario. This check box is enabled only if the **Forecast** check box is selected.

**View section**

Adjust the vertical bar to the respective colored boxes to display MRP for transactions which are completed, at fulfillment proposal, fully allocated, or for purchase advice.

**Show section****Fulfillment date<Date**

Select this check box to display a column for the quantity of items with a fulfillment date before the “from date” in the MRP view. With this setting disabled, the unfulfilled requirements before this date are no longer taken into account, such as in calculation of free stock.

**Fulfillment date>Date**

Select this check box to display a column for the quantity of items with a fulfillment date after the “to date” in the MRP view. With this setting disabled, the unfulfilled requirements after this date are no longer taken into account, such as in the calculation of free stock in MRP.

**Requirements only**

Select this check box to display MRP that shows requirements only. Clear this check box to show all items in the selection.

**Include: Completed<Date**

Select this check box to display MRP that includes requirements which are completed before the current date. This is enabled only if the **Fulfillment date<Date** check box is selected.

**Stock: Unallocated**

Select this check box to display a **Free stock** column for the quantity of items which are not allocated to any requirements.

**Discontinued: Items**

Select this check box to display MRP that includes discontinued items.

**Time of delivery**

Select this check box to display a column for time of delivery for each item.

**PO: Unallocated**

Select this check box to display a column for the quantity of items which are not allocated to purchase orders.

**PrO: Unallocated**

Select this check box to display a column for the quantity of items which are not allocated to production orders.

**Precision**

Type a decimal number to display the quantity of items according to the defined decimal number.

**Unit**

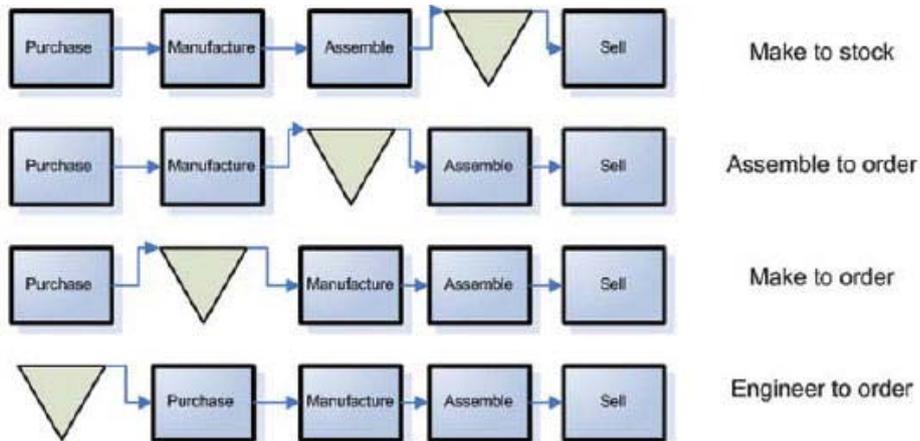
Select **Sales unit** to display the quantity of items in sales unit of measurement. Select **Purchase unit** to display the quantity of items in purchase unit of measurement.

**Column: Width**

Select **Standard** to display the columns in standard width. Select **150%** to display columns 50 percent wider.

## 3.2 Managing Materials at Order or Item Level

The Customer Order Decoupling Point (CODP) defines the typology of a manufacturing environment:



Before the customer order decoupling point (CODP), the items are generally stock controlled and after the CODP, the items are order controlled. To perform correct order acceptance and meet the demands from accepted sales orders, you have to order the order controlled items and check the stock controlled items to determine whether there are sufficient stock quantities. After having checked for the availability of stock for these items, any insufficient quantity can be purchased or produced accordingly. This ensures stocks of items are continuously replenished and orders are fulfilled at the required quantity and time.

The following topics are relevant to managing materials at order or item level:

- Overview of production requirements
- Overview of gross requirements
- Overview of production capability
- Overview of MRP at order or item level

### 3.2.1 Overview of production requirements

In production requirements, you can obtain the items requirements at the level of a specific production order. It is possible for you to obtain the report based on specific criteria, such as items that are purchased, items that are produced, or for all items that are quoted within the production order.

Another possibility is that you can define the intended items requirements based on specific warehouses by considering the BOM structure levels and waste percentage which is defined for the item in the BOM structure. Any shortage of quantity for the items within the production order will be shown in this report. Upon obtaining this report, you can choose to produce make items and purchase the buy items, in order to fulfill the production order requirements.

**To display production requirements:**

1. Go to Manufacturing → Planning → Production requirements, and then define the criteria for displaying the production requirements.
2. In the **Filter** section, type or select the production order number at **Production order**. This is mandatory.
3. At **Make/Buy**, select **All**, **Make**, or **Buy** to display the production requirements for items which are produced and purchased, produced only, or purchased only.
4. In the **Transactions** section, click **Part warehouse**. You will see the **Part warehouse** screen.
5. Click on a warehouse to highlight it or double-click on a warehouse to select it. You can highlight more than one warehouse simultaneously by pressing SHIFT or CTRL and clicking on the intended warehouse(s). Then, click **Select**.
6. Click **Close** to exit from the **Part warehouse** screen.
7. Select the level of BOM for the make item at **Explode: Maximum number of levels** to display production requirements for the make item based on the selected BOM level.
8. Select the **Include: Waste** check box to include waste percentage of the BOM part item of the production order when calculating production requirements.
9. Select the **Show only: Shortage** check box to display only part items with shortage quantity in the production requirements results.
10. Type the number of decimal places between zero and eight at **Precision** to display the shortage quantity which will be displayed in the production order requirements.
11. Click **Display** to display the production requirements results based on the selected criteria.

**Note:** Based on the shortage quantity, you can choose to produce or buy the items by clicking **Produce** or **Purchase** in the **Production requirements** screen. To export the displayed results to Microsoft Excel, click **Excel**.

### 3.2.2 Overview of gross requirements

The gross requirements report allows you to obtain a list of materials, such as part items, subassembly items, and raw materials that are required for a certain number of end products. You can specify one or more end products for which you want to obtain the gross requirements. It is possible that you filter the kind of items that you want to obtain the requirements for, such as items that are purchased, produced, or all items within the BOM structure of the specified end products. You can also define the filters to take into consideration the requirements of items for a certain level of BOM and include the waste percentage defined for the items in the BOM for the end products.

Any shortage of these required materials for the end products will be displayed in the results of this report. Based on the results, you can decide to define purchase orders for buy items and/or define production orders for make items. Besides this, you can also export the entire list of reports to Microsoft Excel for further data analysis and data manipulation.

#### To display gross requirements:

1. Go to Manufacturing → Reports → Gross requirements, and then define the criteria for displaying the gross requirements.
2. In the **Filter** section, type or select one or a range of make item codes at **Make item** to display the gross requirements for the selected make items. Select the **All** check box to display gross requirements for all items.
3. At **Make/Buy**, select **All**, **Make**, or **Buy** to display the gross requirements for items which are produced and purchased, produced only, or purchased only.
4. Type or select a warehouse code at **Warehouse** to display the gross requirements for items belonging to the selected warehouse. By default, the **All** check box will be selected if no warehouse code has been defined.

5. Type or select a date at **End date** to display the gross requirements for items with the selected end date.
6. Type the required quantity of items at **Quantity required** to display the gross requirements for items with the entered required quantity. This is mandatory.
7. In the **Transactions** section, click **Part warehouse**. You will see the **Part warehouse** screen.
8. Click on a warehouse to highlight it or double-click on a warehouse to select it. You can highlight more than one warehouse simultaneously by pressing SHIFT or CTRL and highlighting the intended warehouse(s). Then, click **Select**.
9. Click **Close** to exit from the **Part warehouse** screen.
10. Select the level of BOM for the make item at **Explode: Maximum number of levels** to display the gross requirements for the make item based on the selected BOM level.
11. Select the **Include: Waste** check box to include waste percentage of the BOM make item when calculating the gross requirements.
12. Select the **Show only: Shortage** check box to display the gross requirements for only items with shortage quantity.
13. Select the **To be delivered: Not allocated** and **To be received: Not allocated** check boxes to display the columns in the gross requirements results.
14. Type the number of decimal places at **Precision** to display the shortage quantity which will be displayed in the gross requirements.
15. Click **Display** to display the gross requirements results based on the selected criteria.

### 3.2.3 Overview of production capability

Within the production capability report, you can obtain a report on whether or not certain end products are ready to be manufactured. This is a report to see whether it is possible to manufacture an end product by considering its requirements of items, such as raw materials, part items, and subassembly items. You can choose to obtain the production capability for one or more end products that belong to a specific warehouse or all warehouses. You can also indicate a certain criteria, such as the end date of the item to consider only items for the specified end date when generating the production capability.

Similarly with other reports that are at order and item levels, you can define the level of BOM which Exact Globe Next should derive the requirements of items from and also whether to include the percentage of waste defined for the items in the BOM structure of the end product. You can generate this production capability whenever there is a request from customers requesting for an end product at a certain time. Then, upon obtaining the results of this report, you can advise the customers the possibility of meeting their requirements.

**Manufacturing / Reports / Production capability**

**Filter**

Make item  to   All

Make/Buy **All**

Warehouse   All End date 20/03/2012

**Transactions**

Explode: Maximum number of levels **1**

Include: Waste

Show only: Production capability > 0

To be delivered: Not allocated

To be received: Not allocated

Precision

**Display** **Close**

#### To display production capability:

1. Go to Manufacturing → Reports → Production capability, and then define the criteria for displaying the production capability.
2. In the **Filter** section, type or select an item code or a range of item codes at **Make item** to display the production capability for the selected make item(s). Select the **All** check box to display the production capability for all make items.
3. At **Make/Buy**, select **All**, **Make**, or **Buy** to display the production capability for items which are produced and purchased, produced only, or purchased only.
4. Type or select a warehouse code at **Warehouse** to display the production capability for items belonging to the selected warehouse.
5. Type or select an end date at **End date** to display the production capability for items with the selected end date.
6. Under the **Transactions** section, select the level of BOM for the make item at **Explode: Maximum number of levels** to display the production capability for the make item based on the selected BOM level.
7. Select the **Include: Waste** check box to include waste percentage of the BOM make item when calculating production capability.
8. Select the **Show only: Production capability > 0** check box to display only items with the production capability.
9. Select the **To be delivered: Not allocated** and **To be received: Not allocated** check boxes to display the columns in the production capability results.
10. Type the number of decimal places at **Precision** to display the production capability with numeric values by the defined decimal numbers.
11. Click **Display** to display the production capability results based on the selected criteria.
12. Click **Close** to exit.

### 3.2.4 Overview of MRP at order or item level

Within MRP, you can obtain the requirements per production order at an item level. To obtain requirements at an order level, you must choose to view orders or requirements in the content. You can choose to view the results of the orders or requirements in the MRP overview as per item, person, project, supplier, order, and customer. Each of the requirements for the end product shown as per order can be expanded to view the detailed requirements, such as the quantity fulfilled, allocated order quantity, and allocated stock or reserved stock quantity across the required dates.

The screenshot shows the SAP 'Item management: Planning - Exact' window. The 'Advanced' filter is active, and the 'Warehouses' dropdown is set to 'Available'. The 'View' is set to '31 days', 'From' is '01/08/2011', and 'to' is '31/08/2011'. The 'Scale' is set to 'Daily'. The table below displays the MRP data for various items.

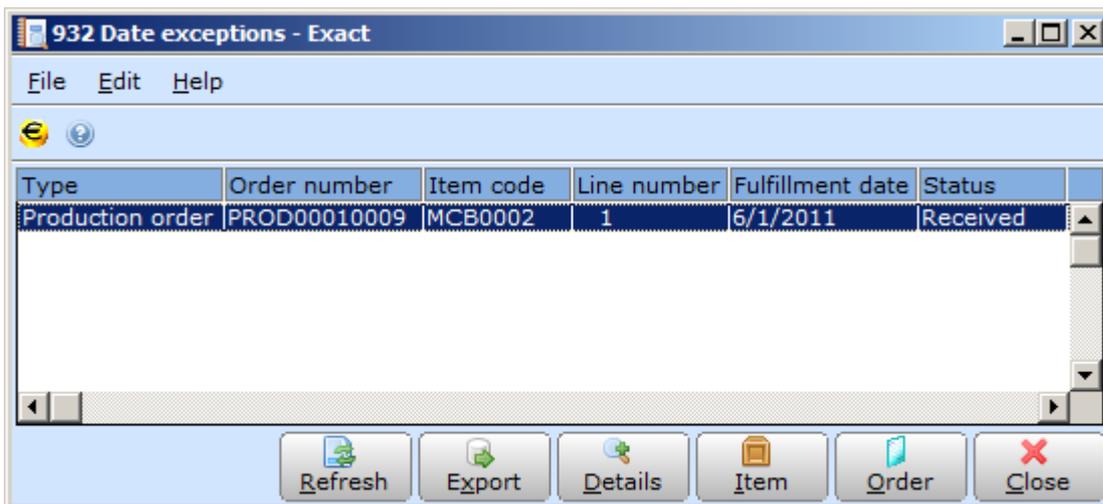
Items	Unit	1/8 (Mo)	2/8 (Tu)	3/8 (We)	4/8 (Th)	5/8 (Fr)	6/8 (Sa)	7/8 (Su)	8/8 (Mo)	9/8 (Tu)	10/8 (We)	11/8 (Th)	12/8 (Fr)	13/8 (Sa)	14/8 (Su)	15/8 (Mo)	16/8 (Tu)	17/8 (We)	18/8 (Th)	19/8 (Fr)
MCB0001	kg	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
MCB0002	kg	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
MCB0003	kg	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
MCB0004	kg	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
MCBDEMOPAKKET	stuk	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
MCBDEMOPAKKETVAR	stuk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MEL0001	Doos	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
MEL0002	Doos	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
MON	hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OHC01	year	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5
OHC02	year	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
OHC03	year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OND0001	stuk	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
OND0002	stuk	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
OND0003	stuk	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
OND0004	stuk	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
OND0005	stuk	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34

#### To display MRP:

1. Go to Manufacturing → Planning → MRP. You will see the **Item management: Planning** screen.
2. Click **Advanced** to define the advanced filter criteria to display the required information about MRP. For more information, see 3.1.5 *Overview of MRP at factory or warehouse level - Defining advanced criteria for MRP*.
3. Click **Warehouses** to select one or more warehouses to display MRP for the selected warehouse(s), and then click **Close** to exit from the **Warehouses** screen.
4. Type the number of days at **View** to display MRP for defined number of days.
5. Type or select a date or a range of dates at **From** and **to** to display MRP for the selected date or range of dates.
6. Select **Orders/ Requirements** at **Content** to display orders and requirements in MRP. When this option is selected, the **View** field will be enabled.
7. At **View**, select **Quantity** or **Amount** to view either orders or requirements in MRP.
8. Click or at **Scale** to switch the display modes between **Daily**, **Weekly**, **Monthly**, or **Yearly**.

### 3.2.5 Overview of date exceptions

Exact Globe Next can advise on realistic fulfillment dates when generating production orders. However, certain circumstances can occur during production, such as the delay in receiving materials, machines breaking down, or changing of plans due to a rushed order. In these circumstances, the fulfillment dates may no longer be realistic although the orders are still allocated. Using the **Date exceptions** overview, users can see which orders have unrealistic fulfillment dates or are causing other orders to have unrealistic dates.



The screenshot shows a software window titled "932 Date exceptions - Exact". It has a menu bar with "File", "Edit", and "Help". Below the menu bar is a toolbar with a yellow smiley face and a question mark icon. The main area contains a table with the following data:

Type	Order number	Item code	Line number	Fulfillment date	Status
Production order	PROD00010009	MCB0002	1	6/1/2011	Received

At the bottom of the window is a toolbar with six buttons: "Refresh", "Export", "Details", "Item", "Order", and "Close".

#### To display the overview of date exceptions:

1. Go to Manufacturing → To be processed → Date exceptions.
2. Select one of the order types at **Type** and define the other filter criteria as necessary.
3. Click **Display**. The **Date exceptions** screen displayed shows an overview of all orders of the selected type with unrealistic fulfillment dates, or are causing unrealistic fulfillment dates to linked orders. To view the report in Microsoft Excel with advised fulfillment dates based on linked orders, click **Excel**.
4. Select a line, and then click **Details** to zoom into the selected order for further details on the production order and allocated order.
5. Select a selected or linked order and click one of the buttons to perform relevant actions, such as changing the delivery date of the order to the advised fulfillment date (**Change**) or breaking the allocation of the selected order and allowing the fulfillment via other means, such as from free stock (**Unallocate**). You can also open and modify the selected or linked order by clicking **Order** or **Linked order**.

**Note:** The date exceptions overview looks only at problems in allocated orders. Other issues, such as stock issues or generation of orders, can be checked from other functions such as Manufacturing → Planning → MRP.



A photograph of two business professionals in an office. On the left, a man in a dark suit and tie is looking at a large screen. On the right, a woman with curly hair in a blue striped shirt is looking up at the screen. They appear to be in a meeting or collaborative work environment.

## Chapter 4

## Planning



## 4. Planning

Prior to the production of an end product, the required hours, such as labor hours and machine hours must be planned to ensure a smooth flow of the production process. Planning of hours and allocation of available capacity of hours to the required production floor prevent disruptions and delays in the production process. Any shortage or fallback can be encountered earlier and corrective measures can be taken. These corrective measures include swapping or allocating available people and machines to orders that have a requirement.

Planning and allocation of hours for both labor and machines can be done at two levels, namely the order level and factory or warehouse level.

The following topics are relevant to planning:

- Planning at factory or warehouse level
- Planning at order level

### 4.1 Planning at Factory or Warehouse Level

You can plan labor hours and machine hours at the factory or warehouse level to obtain a higher level view of the planning schedule and requirements.

The following topics are relevant to this section:

- Planning labor hours at factory or warehouse level
- Planning machine hours at factory or warehouse level

#### 4.1.1 Planning labor hours at factory or warehouse level

You can plan labor hours at Manufacturing → Planning → Resource planning. To plan labor hours, you must obtain the overview of planning and requirements of the labor hours. To obtain this view and planning, the following procedures are required:

- Defining the **Resource planning** section
- Defining the **Tasks / Requirements** section
- Allocating planning of labor hours to requirements

The screenshot displays two SAP tables for resource planning. The top table, 'Resource planning', shows planning for two persons: Jennifer Marlins and Lim Tsu Teong. The bottom table, 'Tasks / Requirements', shows requirements for three items: CON, Consultation; Pre-training brief; and Training time.

Resource planning				13/6	14/6	15/6	16/6	17/6	18/6	19/6
				(We)	(Th)	(Fr)	(Sa)	(Su)	(Mo)	(Tu)
6, Jennifer Marlins	001CC001, Default cost center	ADM ASS SR, Finance & Adminis		8	8	8			8	8
7, Lim Tsu Teong	001CC001, Default cost center	ACC MAN, Account Management								8

Tasks / Requirements				13/6	14/6	15/6	16/6	17/6	18/6	19/6
				(We)	(Th)	(Fr)	(Sa)	(Su)	(Mo)	(Tu)
CON, Consultation					2	15				
Pre-training brief	40000002	001CC001			2					
Training time	40000001	001CC001				15				

**To define the Resource planning section:**

1. Go to Manufacturing → Planning → Resource planning. You will see the **Person: Planning** screen.
2. In the **Resource planning** section, click **Advanced**. You will see the **Selection** screen.
3. In the **Filter** section, click **Select** at **Project, Job groups, Person, Assortment, and Activity** to display the intended capacity of labor hours of people belonging to the selected projects, job groups, people, assortments, and activities respectively. In the respective screens, click on the required item to highlight it. You can also highlight multiple items by pressing SHIFT or CTRL while clicking on the required codes. Alternatively, double-click on the item to select the particular item. Then, click **Select** to select the item(s), and **Close** to exit. Selecting all items or none will display the intended capacity of labor hours of people for any project, job group, person, assortment, and activity.
4. At **Planning: Status**, select one of the following options:
  - **All** — Select this option to display all statuses of planning.
  - **Realized** — Select this option to display the realized planning.
  - **Incomplete** — Select this option to display the incomplete planning.
5. Type or select a budget scenario at **Budget scenario** to display the planning of labor hours, which is derived from the selected budget scenario. **Budget scenario** can be defined at System → Finance → Budget scenarios. Planning of hour items within the defined budget scenario can be done at Manufacturing → Planning → Master Production Schedule.
6. Select the **Show: Weekend, Show: Details, Show: Activity, and Show: Time** check boxes to display the planning of labor hours during weekends, by showing information about the labor hour item, by showing activities (orders) linked to the labor hour item, and by showing the time schedule of the planning respectively.
7. Click **OK** to save the defined criteria and close, or **Close** to exit without saving.
8. Select **Cost center** at **Group by 1**. By default, **Person** is selected. To plan at the factory level or warehouse level, you can select **Cost center** or **Project**.
9. Select one of the following options at **Group by 2**:
  - **None** — Select this option if you do not want to group the available capacity of labor hours of people.
  - **Cost center** — Select this option to group the available capacity of labor hours of people by cost center.
  - **Person** — Select this option to group the available capacity of labor hours of people by individual employee ID and name.
  - **Project** — Select this option to group the available capacity of labor hours of people by project.
  - **Activity** — Select this option to group the available capacity of labor hours of people by activity.
  - **Hours** — Select this option to group the available capacity of labor hours of people by hour item code.
10. Type or select an employee ID at **Manager** to display the planning of labor hours for this person's subordinates. Leaving this field blank will display the planning of labor hours for all managers' subordinates.
11. Select the reporting level of people to the selected manager at **Level**. Select one of the following options:
  - **1: Direct** — Select this option to obtain the capacity of labor hours for people who are directly reporting (at level 1) to the selected manager.
  - **2** — Select this option to obtain the capacity of labor hours for people, up to the second level, who are reporting to the selected manager.
  - **3** — Select this option to obtain the capacity labor hours for people, up to the third level, who are reporting to the selected manager.
  - **4** — Select this option to obtain the capacity labor hours for people, up to the fourth level, who are reporting to the selected manager.
12. Type or select a cost center at **Cost center**. Leaving this field blank will display the planning of labor hours for everyone in any cost center.

13. Type or select a date or a range of dates at **Date** and **to** to display the planning of labor hours that falls on the selected date or within the date range.
14. At **Show**, select the **Capacity** check box to display the capacity of the hour item. Select the **Planning** check box to display the planning of the hour item. Select the **Actual** check box to display the actual realized hour item. Select both **Planning** and **Actual** check boxes to display both planning and actual realization of the hour item. At least one of the three check boxes must be selected. However, when **Project** is selected at **Group by 1**, the **Capacity** check box is disabled.
15. Click  or  at **Scale** to switch the display mode for the planning of labor hours between **Daily**, **Weekly**, **Monthly**, or **Yearly**.

#### To define the Tasks / Requirements section:

1. Go to Manufacturing → Planning → Resource planning. You will see the **Person: Planning** screen.
2. In the **Tasks / Requirements** section, click **Advanced**. You will see the **Selection** screen.
3. In the **Filter** section, click **Select** at **Warehouse**, **Job groups**, **Person**, **Assortment**, **Activity**, and **Project** to display the intended requirements for labor hours belonging to the selected warehouse, job groups, people, assortments, activities, and projects respectively. In the respective screens, click on the required item to highlight it. You can also highlight multiple items by pressing SHIFT or CTRL while clicking on the required codes. Alternatively, double-click on the item to select the particular item. Then, click **Select** to select the item(s), and **Close** to exit. Selecting all items or none will display the intended requirements for labor hours for any warehouse, job group, people, assortment, activity, and project. **Job groups**, **Person**, and **Project** are not used and disabled if the **Based on scenario** check box is selected.
4. Select the **Show: Planned** check box to display the requirements for labor hours by including the planned labor hours. This is not used and is disabled if the **Based on scenario** check box is selected.
5. Select the **Based on scenario** check box to display the requirements for labor hours based on the MRP scenario. Selecting this check box disables the **Select** buttons at **Job groups**, **Person**, and **Project**, the **Show: Planned**, **Sales orders**, and **Production orders** check boxes, while enabling the **Scenario: MRP** field.
6. If the **Based on scenario** check box is selected, type or select a scenario at **Scenario: MRP** to display the requirements for labor hours based on the selected MRP scenario. This is mandatory.
7. If the **Based on scenario** check box is not selected, you can select the **Not Authorised** and/or **Authorised** check boxes at **Sales orders** to display the sales orders requirements for labor hours that are not Authorised and/or Authorised. Click **Select** to select one or more sales order numbers to display the requirements for labor hours for the selected sales order(s).
8. If the **Based on scenario** check box is not selected, you can select the **Not Authorised** and/or **Authorised** check boxes at **Production orders** to display the requirements of the production orders for labor hours that are not Authorised and/or Authorised. Click **Select** to select one production order number or more to display the requirements for labor hours for the selected production order(s).
9. Click **OK** to save the defined criteria and close, or **Close** to exit without saving.
10. Type or select a cost center at **Cost center** to display the requirements for labor hours for the selected cost center. Leaving this field blank will display the requirements for labor hours for any cost center.
11. Type or select a date or a range of dates at **Date** and **to** to display the requirements for labor hours that fall on the selected date or within the date range.
12. Select **Projects** at the drop-down list in the left corner of the **Tasks / Requirements** section to view the requirements for labor hours at a factory level.

After defining the filter criteria in the **Resource planning** section and **Tasks / Requirements** section, click **Refresh** to display the planning people and requirements for labor hours.

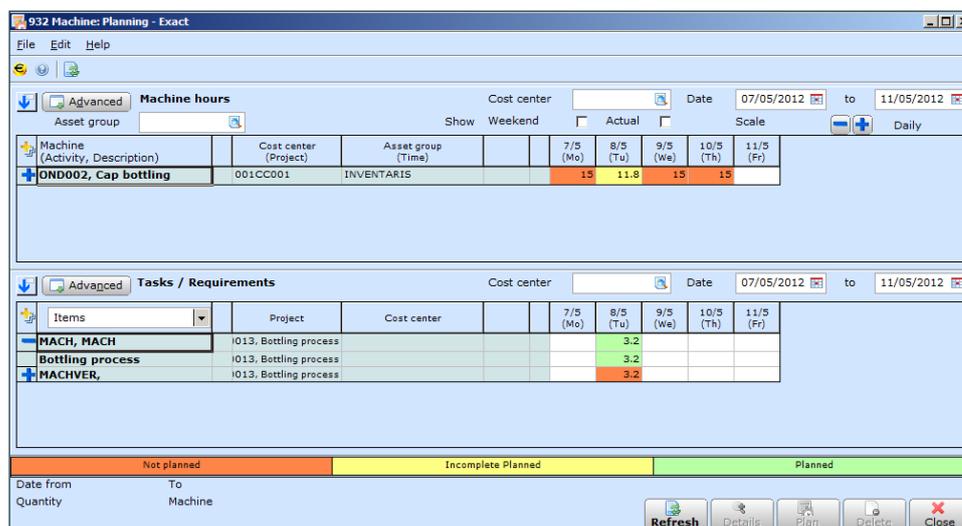
**To allocate planning of labor hours to requirements:**

1. Select an unplanned cell with the quantity of labor hour in the **Resource planning** section.
2. Select an unplanned cell with the quantity of labor hour in the **Tasks / Requirements** section.
3. Click **Plan**. The **Plan** screen will be displayed.
4. At **Start date**, type or select a date to start the allocation of labor hours.
5. At **Start time**, type a time to start the allocation of labor hours.
6. At **Number of hours**, type the number of hours taken for the allocation of labor hours.
7. By default, the employee ID of the person who has been allocated the labor hour requirements is displayed at **Person**.
8. Click **OK** to save the allocation of labor hours for people to the requirements for labor hours.
9. Click **Close** to exit.

**4.1.2 Planning machine hours at factory or warehouse level**

You can plan machine hours at Manufacturing → Planning → Machine planning. To plan machine hours, you must obtain the overview of planning and requirements of the machine hours. To obtain this view and planning, the following procedures are required:

- Defining the **Machine hours** section
- Defining the **Tasks / Requirements** section
- Allocating the capacity of machine hours to requirements



**To define the Machine hours section:**

1. Go to Manufacturing → Planning → Machine planning. You will see the **Machine: Planning** screen.
2. In the **Machine hours** section, click **Advanced**. You will see the **Selection** screen.
3. In the **Filter** section, click **Select** at **Project, Machine, Assortment, and Activity** to display the intended capacity of machine hours belonging to the selected projects, machines, assortments, and activities respectively. In the respective screens, click on the required item to highlight it. You can also highlight multiple items by pressing SHIFT or CTRL while clicking on the required codes. Alternatively, double-click on the item to select the particular item. Then, click **Select** to select the item(s), and **Close** to exit. Selecting all items or none will display the intended capacity of machine hours for any project, machine, assortment, and activity.

4. Type or select an asset group at **Asset group** to display the capacity of machine hours belonging to the selected asset group. Leaving this field blank will display the capacity of machine hours belonging to any asset group.
5. Type or select a cost center at **Cost center** to display the capacity of machine hours belonging to the selected cost center. Leaving this field blank will display the capacity of machine hours belonging to any cost center.
6. Type or select a date or a range of dates at **Date** and **to** to display the capacity of machine hours that falls on the selected date or within the date range.
7. At **Show**, select the **Weekend** check box to display capacity of machine hours during weekends in a weekend column. Select the **Actual** check box to display the actual realization of the machine hours.
8. Click  or  at **Scale** to switch the display modes of results between **Daily, Weekly, Monthly, and Yearly**.

#### To define the Tasks / Requirements section:

1. Go to Manufacturing → Planning → Machine planning. You will see the **Machine: Planning** screen.
2. In the **Tasks / Requirements** section, click **Advanced**. You will see the **Selection** screen.
3. In the **Filter** section, click **Select** at **Warehouse, Machine, Assortment, Activity** and **Project** to display the intended requirements for machine hours belonging to the selected warehouses, machines, assortments, activities, and projects respectively. In the respective screens, click on the required item to highlight it. You can also highlight multiple items by pressing SHIFT or CTRL while clicking on the required codes. Alternatively, double-click on the item to select the particular item. Then, click **Select** to select the item(s), and then **Close** to exit. Selecting all items or none will display the intended requirements for machine hours for any warehouse, machine, assortment, activity, and project.
4. Select the **Show: Planned** check box to display the requirements for machine hours by including the planned machine hours.
5. Select the **Based on scenario** check box to display the requirements for machine hours based on a scenario, which has the schedule of the required machine hours. Selecting this check box will enable **Scenario:MRP** and disable all the check boxes in the **Transactions** section.
6. If the **Based on scenario** check box is selected, type or select a budget scenario at **Scenario:MRP** to display the requirements for machine hours based on the selected budget scenario.
7. In the **Projects** section, define the following criteria:
  - Select the **Make items** check box to display the requirements for machine hours for make items.
  - Select the **Customers** check box to display the requirements for machine hours deriving from the requests or orders of customers.
8. If the **Based on scenario** check box is not selected, you can define the following criteria in the **Transactions** section:
  - At **Sales orders**, select the **Not Authorised** and/or **Authorised** check boxes to display the requirements for machine hours deriving from unAuthorised and/or Authorised sales orders. Click **Select** to select one or more sales order numbers to display the requirements for machine hours deriving from the selected sales order(s).
  - At **Internal use**, select the **Not Authorised** and/or **Authorised** check boxes to display the requirements for machine hours deriving from unAuthorised and/or Authorised internal use requests. Click **Select** to select one or more internal use request numbers to display the requirements for machine hours deriving from the selected internal use request(s).
  - At **Production orders**, select the **Not Authorised** and/or **Authorised** check boxes to display the requirements for machine hours deriving from unAuthorised and/or Authorised production orders. Click **Select** to select one or more production order numbers to display the requirements for machine hours deriving from the selected production order(s).

9. Click **Select** to save the defined criteria and close, or **Close** to exit without saving.
10. Type or select a cost center at **Cost center** to display the requirements for machine hours belonging to the selected cost center. Leaving this field blank will display the requirements for machine hours belonging to any cost center.
11. Type or select a date or a range of dates at **Date** and **to** to display the requirements for machine hours that fall on the selected date or within the date range.
12. Select **Projects** at the drop-down list in the left corner of the **Tasks / Requirements** section to view the requirements for machine hours at a factory level.

After defining the filter criteria in the **Machine hours** and **Tasks / Requirements** sections, click **Refresh** to display the capacity and requirements of the machine hours.

**To allocate available capacity of machine hours to requirements:**

1. Select an unplanned cell with the quantity of machine hours in the **Machine hours** section.
2. Select an unplanned cell with the quantity of machine hours in the **Tasks / Requirements** section.
3. Click **Plan**. The **Plan** screen will be displayed.
4. Type or select the dates to start and end the allocation of machine hours at **Start date** and **End date** respectively.
5. At **Start time**, type a time to start the allocation of machine hours.
6. At **Number of hours**, type the number of hours taken for the allocation of machine hours.
7. Click **OK** to save the allocation of the capacity for machine hours to the requirements for machine hours.
8. Click **Close** to exit.

## 4.2 Planning at Order Level

You can plan labor hours and machine hours at the order level to obtain a detailed view of the planning schedule and requirements.

The following topics are relevant to this section:

- Planning labor hours at order or item level
- Planning machine hours at order or item level

### 4.2.1 Planning labor hours at order or item level

You can plan labor hours at Manufacturing → Planning → Resource planning. To plan labor hours at an order or item level, you must obtain the overview of planning of labor hours and requirements for labor hours at an order level or item level. To obtain this view and planning, the following procedures are required:

- Defining the **Resource planning** section
- Defining the **Tasks / Requirements** section
- Allocating planning of labor hours to requirements

The screenshot shows the SAP Resource Planning interface. The top section is titled "Resource planning" and includes fields for Manager (7), Cost center, and Date (13/06/2012 to 19/06/2012). Below this is a table with columns for days of the week (13/6 to 19/6) and rows for employees. The bottom section is titled "Tasks / Requirements" and shows a table with columns for days of the week and rows for tasks like "CON, Consultation", "Pre-training brief", and "Training time".

Group by 1	Group by 2	Level	13/6 (We)	14/6 (Th)	15/6 (Fr)	16/6 (Sa)	17/6 (Su)	18/6 (Mo)	19/6 (Tu)
6, Jennifer Marlins	001CC001, Default cost center	ADM ASS SR, Finance & Adminis	8	8	8			8	8
7, Lim Tsu Teong	001CC001, Default cost center	ACC MAN, Account Management			8				

Items	Project	Cost center	13/6 (We)	14/6 (Th)	15/6 (Fr)	16/6 (Sa)	17/6 (Su)	18/6 (Mo)	19/6 (Tu)
CON, Consultation				2	15				
Pre-training brief	40000002	001CC001		2					
Training time	40000001	001CC001			15				

### To define the Resource planning section:

- Go to Manufacturing → Planning → Resource planning. You will see the **Person: Planning** screen.
- In the **Resource planning** section, click **Advanced**. You will see the **Selection** screen.
- In the **Filter** section, click **Select** at **Project, Job groups, Person, Assortment, and Activity** to display the intended capacity of labor hours belonging to the selected projects, job groups, people, assortments, and activities respectively. In the respective screens, click on the required item to highlight it. You can also highlight multiple items by pressing SHIFT or CTRL while clicking on the required codes. Alternatively, double-click on the item to select the particular item. Then, click **Select** to select the item(s), and **Close** to exit. Selecting all items or none will display the intended capacity of labor hours for any project, job group, person, assortment, and activity.
- At **Planning: Status**, select one of the following options:
  - All** — Select this option to display all statuses of planning.
  - Realized** — Select this option to display the realized planning.
  - Incomplete** — Select this option to display the incomplete planning.
- Type or select a budget scenario at **Budget scenario** to display the planning of labor hours, which are derived from the selected budget scenario. **Budget scenario** can be defined at System → Finance → Budget scenarios. Planning of hour items within the defined budget scenario can be done at Manufacturing → Planning → Master Production Schedule.
- Select the **Show: Weekend, Show: Details, Show: Activity, and Show: Time** check boxes to display the labor hour planning during weekends, by showing information about the labor hour item, by showing activities (orders) linked to the labor hour item, and by showing the time schedule of the hour planning respectively.
- Click **OK** to save the defined criteria and close, or **Close** to exit without saving.
- Select **Hours** at **Group by 1**. By default, **Person** is selected. To plan at the order or item level, you can select **Activity** or **Person**.
- Select one of the following options at **Group by 2**:
  - None** — Select this option if you do not want to group the available capacity of people labor hours.
  - Cost center** — Select this to group the available capacity of people labor hours by cost center.
  - Person** — Select this option to group the available capacity of people labor hours by individual employee ID and name.
  - Project** — Select this option to group the available capacity of people labor hours by project.
  - Activity** — Select this option to group the available capacity of people labor hours by activity.
  - Hours** — Select this option to group the available capacity of people labor hours by hour item code.

10. Type or select an employee ID at **Manager**. Leaving this field blank will display the planning for any manager.
11. Select the reporting level of people to the selected manager at **Level**. Select one of the following options:
  - **1: Direct** — Select this option to obtain the capacity of labor hours for people who are directly reporting (at level 1) to the selected manager.
  - **2** — Select this option to obtain the capacity of labor hours for people, up to the second level, who are reporting to the selected manager.
  - **3** — Select this option to obtain the capacity of labor hours for people, up to the third level, who are reporting to the selected manager.
  - **4** — Select this option to obtain the capacity of labor hours for people, up to the fourth level, who are reporting to the selected manager.
12. Type or select a cost center at **Cost center**. This is optional. Leaving this blank will display the resource planning for any cost center.
13. Type or select a date or a range of date at **Date** and **to** to display the resource planning that falls on the selected date or within the date range.
14. At **Show**, select the **Capacity** check box to display the capacity of the hour item, the **Planning** check box to display the planning of the hour item, and/or the **Actual** check box to display the actual realized hour item. Select both the **Planning** and **Actual** check boxes to display both planning and actual realization of the hour item. At least one of the three check boxes must be selected. When **Project** is selected at **Group by 1**, the **Capacity** check box is disabled.
15. Click  or  at **Scale** to switch the display modes for the people hour item planning between **Daily**, **Weekly**, **Monthly**, or **Yearly**.

**To define the Tasks / Requirements section:**

1. Go to Manufacturing → Planning → Resource planning. You will see the **Person: Planning** screen.
2. In the **Tasks / Requirements** section, click **Advanced**. You will see the **Selection** screen.
3. In the **Filter** section, click **Select** at **Warehouse**, **Job groups**, **Person**, **Assortment**, **Activity**, and **Project** to display the intended labor hour requirements belonging to the selected warehouse, job groups, people, assortments, activities, and projects respectively. In the respective screens, click on the required item to highlight it. You can also highlight multiple items by pressing SHIFT or CTRL while clicking on the required codes. Alternatively, double-click on the item to select the particular item. Then, click **Select** to select the item(s), and **Close** to exit. Selecting all items or none will display the intended labor hour requirements for any warehouse, job group, person, assortment, activity, and project.
4. Select the **Show: Planned** check box to display the requirements for labor hours by including planned labor hours.
5. Select the **Based on scenario** check box to display the requirements for labor hours based on the MRP scenario. Selecting this check box disables the **Select** buttons at **Job groups**, **Person**, and **Project**, the **Show: Planned**, **Sales orders**, and **Production orders** check boxes, while enabling the **Scenario: MRP** field.
6. If the **Based on scenario** check box is selected, type or select a scenario at **Scenario: MRP** to display the people labor hour requirements based on the selected MRP scenario. This is mandatory.
7. If the **Based on scenario** check box is not selected, select the **Not Authorised** and/or **Authorised** check boxes at **Sales orders** to display the requirements for labor hours for sales orders that are not Authorised and/or Authorised. Click **Select** to select one sales order number or more to display the requirements for labor hours for the selected sales order(s).
8. If the **Based on scenario** check box is not selected, select the **Not Authorised** and/or **Authorised** check boxes at **Production orders** to display the requirements for labor hours for production orders that are not Authorised and/or Authorised. Click **Select** to select one production order number or more to display the requirements for labor hours for the selected production order(s).

9. Click **OK** to save the defined criteria and close, or **Close** to exit without saving.
10. Type or select a cost center at **Cost center** to display the requirements for labor hours belonging to the selected cost center. Leaving this blank will display the requirements for labor hours for any cost center.
11. Type or select a date or a range of dates at **Date** and **to** to display the requirements for labor hours that fall on the selected date or within the date range.
12. Select **Items** or **Request** at the drop-down list in the left corner of the **Tasks / Requirements** section to display requirements for labor hours at an order level or item level respectively.
13. After defining the filter criteria in the **Resource planning** and **Tasks / Requirements** sections, click **Refresh** to display the planning and requirements of the labor hours.

#### To allocate available capacity of labor hours to requirements:

1. Select an unplanned cell with the quantity of labor hours in the **Resource planning** section.
2. Select an unplanned cell with the quantity of labor hours in the **Tasks / Requirements** section.
3. Click **Plan**. The **Plan** screen will be displayed.
4. At **Start date**, type or select a date to start the allocation of labor hours.
5. At **Start time**, type a time to start the allocation of labor hours.
6. Type the number of hours taken for the allocation of labor hours at **Number of hours**.
7. By default, the employee ID of the person who has been allocated to the labor hour requirements is displayed at **Person**.
8. Click **OK** to save the allocation of labor hours to the requirements.
9. Click **Close** to exit.

## 4.2.2 Planning machine hours at order or item level

You can plan machine hours at Manufacturing → Planning → Machine planning. To plan machine hours, you must obtain the overview of planning of machine hours and requirements for machine hours. To obtain this view and planning, the following procedures are required:

- Defining the **Machine hours** section
- Defining the **Tasks / Requirements** section
- Allocating the available capacity of machine hours to requirements

The screenshot displays the SAP Machine Planning - Exact interface. It is divided into two main sections: 'Machine hours' and 'Tasks / Requirements'.

**Machine hours section:**

- Buttons: Advanced, Machine hours
- Cost center: [Blank]
- Date: 07/05/2012 to 11/05/2012
- Asset group: [Blank]
- Show: Weekend, Actual, Scale, Daily

Machine (Activity, Description)	Cost center (Project)	Asset group (Time)	7/5 (Mo)	8/5 (Tu)	9/5 (We)	10/5 (Th)	11/5 (Fr)
+ OND002, Cap bottling	001CC001	INVENTARIS	15	11.8	15	15	

**Tasks / Requirements section:**

- Buttons: Advanced, Tasks / Requirements
- Cost center: [Blank]
- Date: 07/05/2012 to 11/05/2012
- Items: [Blank]

Items	Project	Cost center	7/5 (Mo)	8/5 (Tu)	9/5 (We)	10/5 (Th)	11/5 (Fr)
- MACH, MACH	I013, Bottling process			3.2			
+ Bottling process	I013, Bottling process			3.2			
+ MACHVER,	I013, Bottling process			3.2			

**Summary:**

- Not planned: [Blank]
- Incomplete Planned: [Blank]
- Planned: [Blank]

**Footer:**

- Date from: [Blank] To: [Blank]
- Quantity: [Blank] Machine: [Blank]
- Buttons: Refresh, Details, Plan, Delete, Close

#### To define the Machine hours section:

1. Go to Manufacturing → Planning → Machine planning. You will see the **Machine: Planning** screen.
2. In the **Machine hours** section, click **Advanced**. You will see the **Selection** screen.
3. In the **Filter** section, click **Select** at **Project, Machine, Assortment, and Activity** to display the intended capacity of machine hours belonging to the selected projects, machines, assortments, and activities respectively. In the respective screens, click on the required item to highlight it. You can also highlight multiple items by pressing SHIFT or CTRL while clicking on the required codes. Alternatively, double-click on the item to select the particular item. Then, click **Select** to select the item(s), and **Close** to exit. Selecting all items or none will display the intended capacity of machine hours for any project, machine, assortment, and activity.
4. Type or select an asset group at **Asset group** to display the capacity of machine hours belonging to the selected asset group. Leaving this field blank will display the capacity of machine hours belonging to any asset group.
5. Type or select a cost center at **Cost center** to display the capacity of machine hours belonging to the selected cost center. Leaving this field blank will display the capacity of machine hours belonging to any cost center.
6. Type or select a date or a range of dates at **Date and to** to display the capacity of machine hours that falls on the selected date or within the date range.
7. At **Show**, select the **Weekend** check box to display capacity of machine hours during weekends in a weekend column. Select the **Actual** check box to display the actual realization of the machine hours.
8. Click  or  at **Scale** to switch the display modes of results between **Daily, Weekly, Monthly** and **Yearly**.

#### To define the Tasks / Requirements section:

1. Go to Manufacturing → Planning → Machine planning. You will see the **Machine: Planning** screen.
2. In the **Tasks / Requirements** section, click **Advanced**. You will see the **Selection** screen.
3. In the **Filter** section, click **Select** at **Warehouse, Machine, Assortment, Activity, and Project** to display the intended machine hours requirements belonging to the selected warehouses, machines, assortments, activities, and projects respectively. In the respective screens, click on the required item to highlight it. You can also highlight multiple items by pressing SHIFT or CTRL while clicking on the required codes. Alternatively, double-click on the item to select the particular item. Then, click **Select** to select the item(s), and then **Close** to exit. Selecting all items or none will display the intended requirements for machine hours for any warehouse, machine, assortment, activity, and project.
4. Select the **Show: Planned** check box to display the requirements for machine hours by showing the planned machine hours.
5. Select the **Based on scenario** check box to display the requirements for machine hours based on a scenario, which has the machine hour items requirements schedule. Selecting this check box will enable **Scenario:MRP** and disable all the check boxes in the **Transactions** section.
6. Type or select a budget scenario at **Scenario:MRP** to display the requirements for machine hours based on the selected budget scenario.
7. In the **Projects** section, define the following criteria:
  - Select the **Make items** check box to display requirements for machine hours for make items.
  - Select the **Customers** check box to display requirements for machine hours deriving from customers' requests or orders.
8. If the **Based on scenario** check box is not selected, define the following criteria in the **Transactions** section:
  - At **Sales orders**, select the **Not Authorised** and/or **Authorised** check boxes to display the requirements for machine hours deriving from unAuthorised and/or Authorised sales orders. Click **Select** to select one sales order number or more to display the requirements for machine hours deriving from the selected sales order(s).

- At **Internal use**, select the **Not Authorised** and/or **Authorised** check boxes to display the requirements for machine hours deriving from unAuthorised and/or Authorised internal use requests. Click **Select** to select one internal use request number or more to display the requirements for machine hours deriving from the selected internal use request(s).
  - At **Production orders**, select the **Not Authorised** and/or **Authorised** check boxes to display the requirements for machine hours deriving from unAuthorised and/or Authorised production orders. Click **Select** to select one production order number or more to display the requirements for machine hours deriving from the selected production order(s).
9. Click **Select** to save the defined criteria and close.
  10. Type or select a cost center at **Cost center** to display the requirements for machine hours belonging to the selected cost center. Leaving this field blank will display requirements for machine hours belonging to any cost center.
  11. Type or select a date or a range of dates at **Date** and **to** to display the requirements for machine hours that fall on the selected date or within the date range.
  12. Select **Items** or **Request** at the drop-down list in the left corner of the **Tasks / Requirements** section to view the requirements for machine hours at an order or item level respectively.

After defining the filter criteria under the **Machine hours** section and **Tasks / Requirements** section, click **Refresh** to display the capacity of machine hours and requirements of the machines.

**To allocate available capacity of machine hours to requirements:**

1. Select an unplanned cell with the quantity of machine hours in the **Machine hours** section.
2. Select an unplanned cell with the quantity of machine hours in the **Tasks / Requirements** section.
3. Click **Plan**. The **Plan** screen will be displayed.
4. Type or select the dates to start and end the allocation of machine hours at **Start date** and **End date** respectively.
5. At **Start time**, type a time to start the allocation of machine hours.
6. At **Number of hours**, type the number of hours taken for the allocation of machine hours.
7. Click **OK** to save the allocation of the capacity of machine hours to the requirements.
8. Click **Close** to exit.





## Chapter 5

# Production Management



## 5. Production Management

In Exact Globe Next, you can manage your production order throughout the entire manufacturing process. A generic manufacturing process consists of the following stages: creation of a production order, authorization of the production order, release of the production order to the shop floor, printing the production order, issuing the materials required by the production order, receipt of the finished goods, and finally, the completion of the production order. The process for production orders in Exact Globe Next is displayed in the following:



To start the production process, you need to create a production order to specify what you want to produce, how much you need to produce, and when you expect to receive your finished goods. You can define the information about the items, such as the items that you are requesting, the quantity of items to be produced, the date the work will start for the production order and the date the finished goods will be ready for receipt.

After creating the production order, you can send the production order for authorization. Authorization is an important step because it allows you to confirm the production order before releasing the production order to the production shop floor. This step allows you to verify the sales order requesting the production order, the available-to-promise production capacity, the ability to meet the customer's requested delivery date, and the validity of the Bill of Materials. Authorization is mandatory only if the **Use authorise** check box is selected in the **Production order status** section at System → General → Settings → Manufacturing settings. If the **Use authorise** check box is not selected, you may skip the authorization step.

If the production is approved, the production order is then released to the production shop floor to start work on the production order. The release step is mandatory only if the **Release: Required** check box is selected in the **Production order status** section at System → General → Settings → Manufacturing settings. The release step can be used as an additional step to determine which production orders to release to the production shop floor first according to the priority and the availability of materials and capacity. Therefore, this step is useful to determine the sequence in which the production orders are processed.

The production order is then printed and distributed to the relevant members of the production team so that they are aware of the incoming production order. The production team may use the printed production order to track the progress of the production order work in progress (WIP). The printing of production orders is mandatory only if the **Print: Required** check box is selected in the **Production order status** section at System → General → Settings → Manufacturing settings.

Before work can commence on the production order, the raw materials and the subassembly items defined in the Bill of Materials for the items need to be issued to the shop floor. When the raw materials and subassembly items have been transformed into finished goods, the finished goods are then sent and received into the warehouse and location (if applicable) indicated in the production order.

Once the production order has been completed logistically, it will be set to the **Finished** status. This status is available only if the **Use finish** check box is selected in the **Production order** status section at System → General → Settings → Manufacturing settings. The production order is considered complete and closed when all related production activities are finalized, the final product is completed and delivered to the requestor, and the financial entries have been successfully registered.

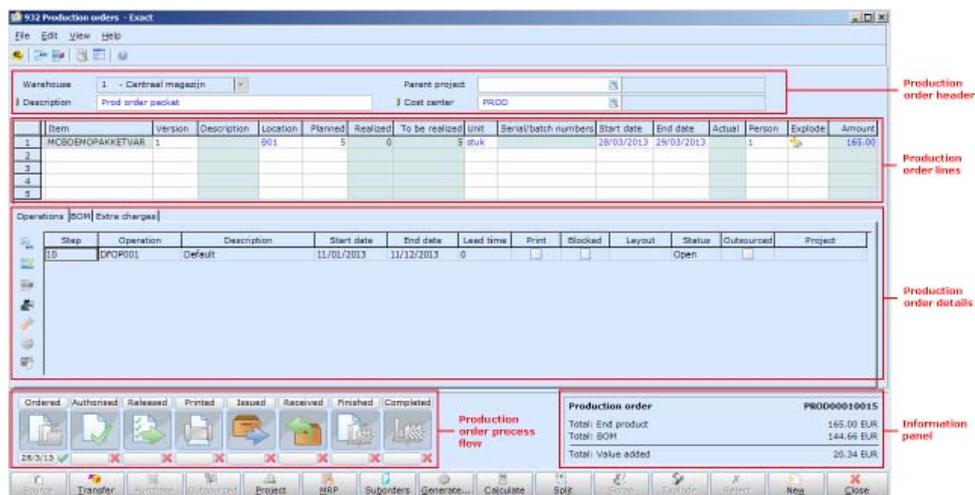
## 5.1 Creating Production Orders

The following topics are relevant to this section:

- Creating production orders
- Creating suborders
- Creating production orders automatically
- Changing production order details

### 5.1.1 Creating production orders

The production order screen consists of five sections:



- **Production order header** — This section displays the general description, such as the description of the production order, the warehouse in which the finished goods will be received, the parent project (if applicable) and the cost center.
- **Production order lines** — This section displays the requirements of the production order, such as the item requested by the production order, the quantity to be produced, the date the work on the production order will start, and the date the receipt of the finished goods is expected.
- **Production order details** — This section displays the production process information, such as the operation details, the Bill of Materials, and extra charges that are relevant to the production order.
- **Production order process flow** — This section displays the stages in the process flow of the production order and shows which stage has been completed. Process stages that are relevant to the production order process are authorization, release of the production order, printing of the production order, issuance of production materials, the receipt of finished goods, the completion of the production order logistically, and the completion of the production order from the financial viewpoint.
- **Information panel** — This section displays an overview of the financial cost related to the production

order, such as the standard cost price to manufacture the end product (**Total: End product**), the standard cost price of all the items in the BOM (**Total: BOM**), and the difference between the standard cost of the end product and the cost of the BOM items (**Total: Value added**).

#### To create production orders:

1. Go to Manufacturing → Entries → Production orders.
2. Click **New**. The **Production orders** screen will be displayed.
3. At **Warehouse**, select a warehouse in which you want to receive the completed production order.
4. At **Description**, type a description for the production order.
5. In the production order entry lines at **Item**, type or select the item you want to produce.
6. Type or select the location of the warehouse, in which you want to receive the completed production order under the **Location** column. This column is available only if the **Warehouse locations** check box is selected at System → General → Settings, under **Inventory settings** in the **Fulfillment** section.
7. Type the quantity of items you want to produce under the **Planned** column.
8. Type or press F2 to select the start date in the **Start date** column and the end date in the **End date** column. By default, the start date is the current system date and the end date is calculated based on the lead time defined in the header of the BOM maintenance of the item.
9. Type or select a person under the **Person** column to indicate the person who is requesting the finished goods.
10. The amount for the item is displayed under the **Amount** column.
11. Repeat the process steps until all the items you want to produce are defined.
12. Click **Close** to save and exit.

### 5.1.2 Generating suborders

The Bill of Materials for finished goods can consist of raw materials and subassembly items. Raw materials are items that can be used directly without having to go through additional processing or assembly, whereas subassembly items have their own Bill of Materials and require processing before these can be issued after the defined processing lead time.

If a subassembly item is defined in the Bill of Materials for the production order item, you need to generate a suborder to produce the subassembly items for the production order.

Item	Description	Version	Version: Description	Main version	Warehouse	Quantity	Unit	Available stock	Selected	Level
MCB0001		1		✓	1	5	kg	!	✓	0

#### To generate suborders:

1. Go to Manufacturing → Entries → Production orders.
2. Define the criteria to search for the relevant production orders, and then click **Search**.
3. Select the production order you want to create suborder(s) for, and then click **Open**.
4. Click **Generate suborders** in the **Production orders** screen.
5. You will see a list of suborders suggested for the subassembly items required by your production order. Click the **Include: Stock controlled** check box to also display stock controlled items. Stock controlled items are items that can only be issued for sales orders and productions if there is sufficient quantity available in stock.

6. Double-click under the **Selected** column to select the relevant subassembly items you want to generate the suborders for. By default, the main version of the Bills of Materials for the subassembly items is selected.
7. Click **OK** to generate the suborders. A message “Suborders: Generated” will be displayed.
8. Click **OK**.
9. To view a list of suborders already created, click **Suborders**. If suborders have already been generated for the production order, you will see the suborders listed in the screen with details, such as the start date, production order number, and quantity.

**Note:** Stock allocation between different warehouses will be blocked. You can proceed with generating the orders without performing stock allocation or stop generating the orders.

### 5.1.3 Creating production orders from the MRP

In Exact Globe Next, you can create production orders from the material requirements planning (MRP). The MRP is an overview generated based on requirements derived from confirmed sales orders, internal use requests, forecasted sales orders, and replenishment of stock controlled items. For more information on the MRP, see 3.1.2 *Configuring and generating production requirements with the MRP engine*.

You can use the following methods to create production orders from the MRP:

- Using the MRP tool to generate the MRP, and then create production orders from the MRP.
- Using the MRP engine to generate the MRP scenario, and then create production orders from the production advice that is based on the MRP scenario.

The differences between the two methods are as follows:

Manufacturing → Planning → MRP	Manufacturing → Planning → MRP engine
The MRP reflects the current material requirements	The MRP captures the material requirements at the point the MRP engine processes the specific planning scenario.
The MRP is generated based on the requirements of confirmed orders and requests.	The MRP can be generated based on the requirements of forecasted orders.
The MRP displays the standard items that are required and when these are required.	In addition to the MRP of standard items, you can also view the production or purchase advice and the labor and/or machine hour planning. The production and purchase advices prompt the user to produce subassembly items or purchase materials that are facing a shortage in stock level.
Planning is generated for the first level of a BOM.	Planning can be generated for all levels of a BOM.

## Creating production orders using the MRP tool

Exact Globe Next generates the MRP for manufactured items based on the requests from sales orders and internal use requests. The MRP allows you to identify the items to be manufactured, the quantity needed for the respective items, and when the items will be completed. From the MRP, you can create the production orders to fulfill the demand for the items.

The screenshot shows the '932 Item management: Planning - Exact' window. The 'Content' dropdown is set to 'Orders/ Req'. The 'From' date is 28/03/2012 and the 'to' date is 08/04/2012. The 'Scale' is set to 'Daily'. The table below shows the MRP data for various items.

Items	Unit	28/3	28/3 (We)	29/3 (Th)	30/3 (Fr)	31/3 (Sa)	1/4 (Su)	2/4 (Mo)	3/4 (Tu)	4/4 (We)	5/4 (Th)	6/4 (Fr)	7/4 (Sa)	8/4 (Su)	> 8/4	Total quantity	Total costs	
ALG	hour																	
ASS	hour																	
ATV	hour																	
BEK0001	Doos																	
BEK0002	Doos																	
BEK0003	Doos															1	58.2	
BEK0004	Doos																	
BOEFACHTUUR	-																	
BON0001	kg															25	227.08	
BON0002	kg															2	20.67	
BON0003	kg																	
BON0004	kg																	
BON0005	kg																	
BON0006	kg															6	65	
BON0007	kg															35	233.75	
BON0008	kg															20		
BON0009	kg															30	127.5	
BON0010	kg															20	85	

### To create production orders from MRP:

1. Go to Manufacturing → Planning → MRP.
2. In the header of the screen at **Content**, select **Orders/ Requirements**.
3. Select the start date and end date at **From** and **to** to define the period for which you want to view the MRP.
4. Choose a time scale at **Scale** to view the MRP report.
5. Click **Advanced**.
6. In the **Selection** screen, define the relevant criteria for the MRP, and then click **Select**.
7. Click **Refresh** to view the MRP.
8. Click on the box that contains the quantity of items requested by open orders, and then click **Produce**.

**Note:** You can also create production orders from MRP at Manufacturing → To be processed → Back to back order. In this screen, **Orders/ Requirement** is displayed at **Content** by default.

## Creating production orders using the MRP engine

In order to generate a MRP using the MRP engine, you need to first define the MRP scenario. The MRP scenario contains the criteria that will be taken into consideration when the system generates the MRP. The MRP is then used to calculate the production advice. A production advice contains suggestions about the items, the quantity for each item, and the date the items will be available, in order to meet the fulfillment dates for the requests. From the production advice you can create production orders to manufacture the requested items.

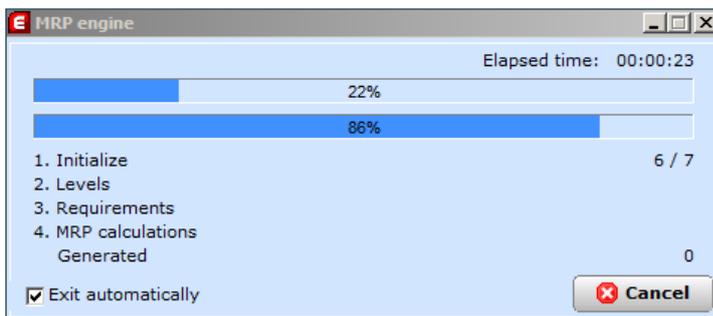
The screenshot shows the 'MRP engine : Scenario' window with the following sections and controls:

- Scenario:** MRP (text input)
- Description:** (text input)
- Assortments:** Assortment (Select button)
- Items:** Item code (text input), to (text input), All (checkbox), Stock controlled (Yes/No dropdown), Sales (All dropdown)
- Warehouses:** Include (Select button), Exclude (Select button)
- Requirements:** Sales orders (All dropdown), Internal use (All dropdown), Purchase orders (All dropdown), Quotations (All dropdown), Production orders (All dropdown)
- Master schedules:** Schedule (Select button)
- Additional criteria:** Make/Buy (Make dropdown), Capacity (Plan dropdown), Total on main warehouse (checkbox), Allow planning prior to today (checkbox), Requirements (checkbox), Purchase order level (checkbox), Include: Labour hours (checkbox), Include: Machine hours (checkbox), Include: Production safety day (checkbox), Include: Internal delivery days (checkbox)

### To generate the MRP from the MRP engine:

1. Go to Manufacturing → Planning → MRP engine.
2. Click **New**.
3. At **Scenario: MRP**, type a code to identify the MRP scenario. This is mandatory.
4. At **Description**, type a description for the MRP scenario. This is mandatory.
5. In the **Items** section at **Item code** and **to**, you can specify the range of items you want to plan for. These are mandatory.

6. At **Stock controlled** and **Sales**, define the relevant options, either to include or exclude only stock controlled or sales items respectively.
7. In the **Requirements** section, define the requirements that you want to consider in the MRP scenario, such as sales orders, internal use requests, purchase orders, quotations, and production orders.
8. In the **Additional criteria** section, define other criteria, such as whether to plan for the manufacturing or purchase of the subassembly items, and whether to include the machine and labor hour requirements in the MRP.
9. Click **Save** to save the MRP scenario.
10. Click **Process** to generate the MRP. You will see the following screen



11. Click **Close** when the processing is complete.
12. Click **Save** to save the results in the MRP.
13. Click **Close** to exit.

#### To create production orders from the production advice:

1. Go to Manufacturing → To be processed → Production advice.
2. Select **MRP** at **Calculation**.
3. At **MRP engine: Scenario**, type or select the relevant MRP scenario.
4. At **Item**, type or select the item code or a range of item codes.
5. Click **Display** to view the MRP. The quantities displayed under the relevant fulfillment dates are the quantities of requested items that need to be fulfilled on the dates.
6. Click the quantity in the relevant fulfillment date column, and then click **Produce** to view the production advice. The **Generate production orders** screen will be displayed.
7. In the **Generate production orders** screen, select the items you want to produce by clicking the **Selected** column of the relevant lines. By default, one version of each item (if there is more than one version) displayed in the production advice is selected.
8. Type the quantity you want to produce for the respective items under the **Advice** column. By default, the quantity entered is the total quantity calculated from all the requests that need to be fulfilled on the date.
9. Click **Produce** to create production orders for the requests. You will see the production order screen for the production orders that have been created.
10. Click **Close** to exit.

#### To create purchase orders from the production advice:

1. Go to Manufacturing → To be processed → Generate purchase orders.
2. Select **MRP** at **Calculation**.
3. At **MRP engine: Scenario**, type or select the relevant MRP scenario. This is mandatory.
4. At **Item**, type or select the item code or a range of item codes.
5. Click **Display** to view the MRP. The quantities displayed under the relevant fulfillment dates are the quantities of requested items that need to be fulfilled on the dates.

6. Click the quantity in the relevant fulfillment date column, and then click **PO** to view the production advice. The **Generate purchase orders** screen will be displayed.
7. In the **Generate purchase orders** screen, select the items you want to purchase by clicking the **Selected** column of the relevant lines. By default, one version of each item (if there is more than one version) displayed in the production advice is selected.
8. Type the quantity you want to purchase for the respective items under the **Advice** column. By default, the quantity entered is the total quantity calculated from all the requests that need to be fulfilled on the date.
9. Click **Purchase** to create purchase orders for the requests. You will see the purchase order screen for the purchase orders that have been created.
10. Click **Close** to exit.

#### 5.1.4 Changing production order information

It is possible that you may want to make changes to the production order after it is created. You may need to remove, add, or change the items that you have originally entered in the production order, the BOM version to be used, the quantity of items needed, or the end date of the production order. It is possible to edit the production order header and lines before the production order is issued or received.

**To edit production orders:**

1. Go to Manufacturing → Entries → Production orders.
2. Define the criteria to display the relevant production orders, and then click **Search**.
3. Select the production order you want to edit, and then click **Open**.
4. Make the required changes, and then click **Close**. The changes will be saved automatically.

## 5.2 Authorizing Production Orders

A production order needs to be approved by a higher authority before it can be released to the production shop floor to start the manufacturing activities for the production order. Authorization is mandatory only when the **Use authorise** check box is selected in the **Production order status** section at System → General → Settings, under **Manufacturing settings**. For more information on the manufacturing settings, see *1 Setting Up*.

The screenshot shows the 'Manufacturing / Entries / Authorise production' window. It includes search filters, status options, and a table of production orders. The table has columns for Production order, Description, Parent project, Item code, Quantity, Start date, End date, Wrh., Auth., and Rejected. The second row is highlighted in blue.

Production order	Description	Parent project	Item code	Quantity	Start date	End date	Wrh.	Auth.	Rejected
PROD00010030	Production: PROD00010030		MCB0004	1.00	24/9/2013	25/9/2013	1		
PROD00010029.001	Production: PROD00010029.001	PROD00010029	MCB0001	1.00	24/9/2013	24/9/2013	1		
PROD00010027	Production: PROD00010027		AAA	1.00	27/6/2013	27/6/2013	1		
PROD00010026	Production: PROD00010026		AAA	1.00	27/6/2013	27/6/2013	1	✓	
PROD00010025	Production: PROD00010025		MCB0004	1.00	27/6/2013	28/6/2013	1		

### To authorize production orders:

1. Go to Manufacturing → Entries → Authorise production.
2. Type or select a start date or a range of start dates at **Start date** to display the production orders you want to authorize.
3. If you already know the production order number, type or select the production order number at **Production order**.
4. At **Order type**, select **Production order**.
5. In the **Status** section, click the **Open** check box.
6. Define other criteria to display the relevant production orders, and then click **Search**.
7. Select the production orders you want to authorize, and then click **Auth**. Alternatively, select the production order that you want to authorize, click **Open** to view the production order information, and then click **Authorised** in the production order processes section of the production order.
8. After the production order has been Authorised, you will see a green check mark under the **Auth**. column.
9. Click **Close** to exit.

## 5.3 Releasing Production Orders

After the production orders are Authorised, the production orders will be released to the production shop floor so that the manufacturing operation can begin work on the production orders. The release step can be used in production planning to control the sequence in which the production orders are processed. Production planning determines the order in which the production orders are release based on fulfillment dates of the production orders, the people and materials required, and the priority of the respective production orders. The release of the production orders is mandatory only if the **Release: Required** check box is selected in the **Production order status** section at System → General → Settings, under Manufacturing settings. Otherwise, you may skip this step.

Production order	Description	Parent project	Item	Quantity	Start date	End date	Status	Start time
PROD00010010	Prod feb		MCBDEMOPAKKET	6.00	7/2/2011	8/2/2011	Released	12:00 AM
PROD00010012.001	Voorraad productie	PROD00010012	MCB0003	30.00	17/3/2011	18/3/2011	Released	12:00 AM
PROD00010012.002	Voorraad productie	PROD00010012	MCB0004	20.00	17/3/2011	18/3/2011	Released	12:00 AM
PROD00010012.004	Voorraad productie	PROD00010012	MCB0001	35.00	17/3/2011	18/3/2011	Released	12:00 AM
PROD00010016	Production: PROD00010016		MCB0001	1.00	29/3/2012	30/3/2012	Released	12:00 AM
PROD00010017	Bottling process		MCB0004	2.00	2/4/2012	16/4/2012	Authorised	12:00 AM
PROD00010019	Production: PROD00010019		MCB0004	1.00	5/4/2012	6/4/2012	Released	12:00 AM
PROD00010013	Bottling process		MCB0001	20.00	8/5/2012	8/5/2012	Authorised	12:00 AM
PROD00010026	Production: PROD00010026		AAA	1.00	27/6/2013	27/6/2013	Released	12:00 AM

### To release production orders:

1. Go to Manufacturing → Entries → Release.
2. At **Warehouse**, select the warehouse to display the production orders that you want to release. The selected warehouse is the warehouse defined in the production orders and will be the warehouse where the completed items will be received.
3. Type or select a date or a range of dates at **Start date** or **End date**.
4. Type or select the production order number at **Production order** to display the production order that you want to release. Alternatively, you can select the **All** check box to display all production orders that you want to release.
5. Select **Production order** at **Order type**.
6. Click **Refresh**.
7. Select the production orders you want to release, and then click **Release**. Alternatively, select the production order that you want to release, click **Open** to view the production order information, and then click the **Released** process step. After the production has been released, you will see “Released” in the **Status** column for the corresponding production order.
8. Click **Close** to exit.

## 5.4 Printing Production Orders

You can print the released production orders to inform the production team of the work required for the production orders. This process is important in order to maintain a copy of the production orders for filing and audit purposes. Also, the production team may use the printed production orders to track the work in progress (WIP) for the production orders. The printing of production orders is mandatory only if the **Print: Required** check box is selected in the **Production order status** section at System → General → Settings, under Manufacturing settings.

Exact Globe Next allows the user to choose between printing the individual production orders only, and printing the operations in the production orders in addition to the production orders. The layouts for the production orders and the operation slips are defined at **Production order** and **Operation** respectively at System → General → Settings, under **Documents settings**. Printing the operations is useful when the operations involved in the production orders will be handled by different work groups that are located separately.

Fulfilment date	Created	Production order	Description	Item code	Item description	Warehouse code	Parent project	Printed
27/6/2013	27/6/2013	PROD00010026	Production: PROD00010AAA	NOC		1		✓
6/4/2012	5/4/2012	PROD00010019	Production: PROD00010(MCB0004	MacBean Extra Dark		1		✓
30/3/2012	29/3/2012	PROD00010016	Production: PROD00010(MCB0001	MacBean Regular		1		✓
18/3/2011	18/3/2011	PROD00010012.004	Voorraad productie	MCB0001	MacBean Regular	1	PROD00010012	✓

### To print production orders:

1. Go to Manufacturing → Entries → Instructions. The **Print: Production order** screen will be displayed.
2. In the **Process** section, select one of the following options at **Process**:
  - **Trial** — Select this option to display the preview of the production orders.
  - **Final** — Select this option to generate a printed copy of the production orders.
3. Select the method of output at **Output**. You can select a printer by going to System → General → User settings. In the **Printer** section under the **Output** tab, select **Specific**, followed by the printer connected to your network. Then, click **Save**. The method of output can be in the form of email or printer.
4. Back in the **Print: Production order** screen, type or select the date of the printing at **Date**.

5. At **Layout**, type or select the layout ID. The selected layout will be used to format the printed copy of the production orders. This is mandatory. You can edit the defined layout only if the **Print production order** check box is selected in the **Options** section.
6. In the **Selection** section at **Selection method**, select **Production order**, **Item**, **Start date**, or **Parent project** to search for the production orders that you want to print. For example, to search for the production orders based on start date, select **Start date** at **Selection method**, and then define the range of start dates at **Start date**.
7. Click **Number of production orders** to find out the number of production orders that were selected based on the criteria. This button is available only if the **Selectively** check box is not selected.
8. Otherwise, to manually select the production orders, click the **Selectively** check box to display the results at the bottom of the screen. Click **Search** to refresh the results based on the defined search criteria. Select the production orders you want to print in the results box.
9. Select **Production order** at **Order type**.
10. In the **Options** section, you can define the criteria to determine the content of the production orders.
11. Select the **Print production order** check box.
12. To print the operation steps in addition to the production orders, select the **Print operation slip** check box, and then type or select a suitable layout at **Layout**.
13. Click **Preview** to see a print preview of the production orders.
14. Click **Process** to start the printing process.
15. After the production order files are sent to the printer, you will see a green check mark under the **Printed** column for the corresponding production orders.
16. Click **Close** to exit.

## 5.5 Managing Operations

Using operations, you can break down the production into several processes. Exact Globe Next allows you to define each operation in a production process and set the relationship between each operation. For more information on setting up operations and using operations in BOM, see *1 Setting Up*.

You can also add additional operations to a production order. When a production order involves operations, you can manage each operation in the production order by setting the status of each operation, starting the operation, and printing the operation slip.

### 5.5.1 Setting operation status

You can set the status of an operation at Manufacturing → Entries → Operations control. In this screen, you can start an operation, set the percentage of completion, and complete the operation. Before controlling operations related to a production order, the production order must first be released.

In the **Operations control** screen, define the relevant criteria and click **Refresh** to show a list of operations of released production orders.

Warehouse: --All--

Start date: [ ] to [ ]  All

End date: [ ] to [ ]  All

Work centre: [ ] to [ ]  All

Machine: [ ] to [ ]  All

Production order: [ ] to [ ]  All

Parent project: [ ] to [ ]  All

Operation: [ ] to [ ]  All

Status:  Open  Started  Completed  Outsourced  All

Show:  Parent project  All

Visual scheduler

Scheduled: All Approved ops: All

Production order	Description	Parent project	Step	Operation	Start date	Start time	End date	End time	Status	% Complete	Ov
PROD00010010	Prod feb		10	DFOP001	17/3/2011	12:00 AM	17/3/2011	12:00 AM	Started	0	
PROD00010012.001	Voorraad productie	PROD00010012	10	DFOP001	17/3/2011	12:00 AM	17/3/2011	12:00 AM	Open	0	
PROD00010012.002	Voorraad productie	PROD00010012	10	DFOP001	17/3/2011	12:00 AM	17/3/2011	12:00 AM	Open	0	
PROD00010012.003	Voorraad productie	PROD00010012	10	DFOP001	17/3/2011	12:00 AM	17/3/2011	12:00 AM	Open	0	
PROD00010012.004	Voorraad productie	PROD00010012	10	DFOP001	17/3/2011	12:00 AM	17/3/2011	12:00 AM	Open	0	
PROD00010016	Production: PROD00010016		10	DFOP001	29/3/2012	12:00 AM	29/3/2012	12:00 AM	Open	0	

Refresh Purchase Outsourced Print Status Calculate p... Sorting seq... Project Fulfilment Receipts Open Close

#### To start operations of production orders:

1. Go to Manufacturing → Entries → Operations control.
2. Type or select the production order code or range of codes at **Production order** and **to**.
3. At **Status**, select the **Open** check box and clear the **Started** and **Completed** check boxes. You can also define other criteria to narrow down the operations you want to list.
4. Click **Refresh**.
5. Select the operation that you want to start and click **Status**. The **Operations control** screen will be displayed.
6. In the **Operations control** screen, select **Started** at **Status** in the **Operation Status** section. By default, the status is **Open**.
7. Once **Started** is selected, you can define the current completion percentage at **Percentage complete**. You can type a value from “0” to “100”. Take note that a value of “100” will not automatically complete the operation.
8. At **Quantity completed**, type the quantity of the completed item for the operation. This field is enabled only if **Started** is selected at **Status**.
9. Click **Save** to make the changes effective.

#### To set percentage of completion for started operations:

1. Go to Manufacturing → Entries → Operations control.
2. Type or select the production order code or range of codes at **Production order** and **to**.
3. At **Status**, select the **Started** check box and clear the **Open** and **Completed** check boxes. You can also define other criteria to narrow down the operations you want to list.
4. Click **Refresh**.
5. Select the operation for which you want to define the percentage of completion and click **Status**. The **Operations control** screen will be displayed.
6. In the **Operations control** screen, type the current percentage of completion at **Percentage complete**. You can type a value from “0” to “100”. Take note that a value of “100” will not automatically complete the operation.
7. Click **Save** to make the changes effective.

#### To complete operations:

1. Go to Manufacturing → Entries → Operations control.
2. Type or select the production order code or range of codes at **Production order and to**.
3. After defining other criteria to narrow down the operations, click **Refresh**.
4. Select the operation that you want to complete and click **Status**. The **Operations control** screen will be displayed.
5. In the **Operations control** screen, select **Completed** at **Status** in the **Operation Status** section. This will automatically set **Percentage complete** to “100” and disable the field.
6. Click **Save** to make the changes effective. If the production order has been printed and backflush is enabled for the production order, Exact Globe Next will ask if you want to backflush based on the operation completion. Click **Yes** to backflush based on the completed operation or **No** to backflush based on production order instead.
7. For more information on backflushing a production order, see 5.6.2 *Issuing production orders with backflush*.

### 5.5.2 Printing operation slips

You can print operation slips together with the production order or individually for each operation. In order to print the slips together with the production order, see 5.4 *Printing Production Orders*.

#### To print individual operation slips:

1. Go to Manufacturing → Entries → Operations control.
2. Type or select the production order code or range of codes at **Production order and to**.
3. After defining other criteria to narrow down the operations, click **Refresh**.
4. Select the operation that you want to print and click **Print**. The **Print: Operation** screen will be displayed.
5. In the **Print: Operation** screen, select **Trial** or **Final** in the **Print** section to see a preview of the operation slip or print the operation slip respectively.
6. In the **Output** section, select **Printer or E-Mail** to output the operation slip to a printer or send it as an email. If you select **E-mail**, type the email address of the recipient, the subject line, and a description (optional) at **E-Mail**, **Subject**, and **Long description**.
7. Type or select the operation slip layout at **Layout**. You can also define the following options by selecting the relevant check boxes:
  - **Compress items** — Select this check box to summarize similar items into single lines with summary quantities instead of in individual lines.
  - **Compress hours** — Select this check box to summarize similar hour items into single lines with summary hours instead of in individual lines.
  - **Print waste** — Select this check box to include the production waste in the operations slip. If you also select the **Compress items** check box, the production waste will be summarized based on the waste item code.
  - **Print: Instructions** — Select this check box to print the operation instructions together with the operation slip. You can define the operation instructions when setting up the operation item at Manufacturing → Setup → Operations.
8. Click **Print** to preview or print the operation slip.

## 5.6 Issuing Production Orders

Before work can commence on the production orders, you need to issue the required items in the production order BOM to the production floor. The issuance of production materials involves the withdrawal of goods from the warehouse to be delivered to the production shop floor so that the actual work can be carried out. Materials, which may consist of raw materials and subassembly items, are issued to the production shop floor to be converted into the finished product. Besides standard items, the item BOM may also include items, such as labor hour and machine hour.

Exact Globe Next provides the option of generating a picking list which is useful for retrieving the standard items (materials and subassembly items) that are issued from their respective locations in the warehouses. A picking list contains information on the items that need to be issued, the quantity required for each item, and the order in which it is most convenient to collect all the items from their locations in the warehouses.

Issuing of production order in Exact Globe Next can be done using either of the following methods:

- Issuing production orders without using the backflush function
- Issuing production orders using the backflush function

### 5.6.1 Issuing production orders without backflush

The following procedure shows you how to manually issue the items for a production order.

	Operation	Item	Description	Warehouse	Location	Stock	Free stock	Planned	Realized	To be realized	Actuals
1	10 - DFOP001	KOE0002	R.P. Grand Café 120 st.	1	A01	-0.5	1.5	3	0	3	0
2	10 - DFOP001	SER0008	R.P. Kop en schotel koffie	1	A01	0	0	6	0	6	0
3	10 - DFOP001	THE0011	R.P. Thee Assorti 12x20x2	1	A01	0	0	6	0	6	0
4	10 - DFOP001	VER0002	Folie	1	A01	4	4	12	0	12	4
5											
Warehouse				1 - Centraal magazijn		Total quantity		4			
Item				R.P. Grand Café 120 st.							

#### To issue production orders:

1. Go to Manufacturing → Entries → Issue.
2. Select **Production order** in the **Selection** section.
3. Click **Advanced** to display more criteria.
4. To issue materials for a particular production order, type or select the production order code at **Production order**.
5. At **Order type**, select **Production order**.
6. To issue materials for a particular finished product, type or select the item code at **Make item**.
7. At **Transaction date**, type or select the transaction date of the issuance. The transaction date will indicate the date the materials and subassembly items are issued.
8. At **Fulfillment date**, type or select a fulfillment date to display the production orders with fulfillment on or before the selected date.

9. Define other criteria, and then click **Refresh**.
10. Select the production order you want to issue materials for, and then click **Fulfillment**. The **Production** screen will be displayed.
11. In the **Production** screen, type or select a warehouse location by clicking F2 under the **Location** column to choose the location you want to issue the materials from. The **Location** column is available only if the **Warehouse locations** check box is selected in the **Fulfillment** section at System → General → Settings, under **Inventory settings**.
12. Type the quantity to be issued in the **Actuals** column. By default, the planned quantity defined in the BOM for the end product is entered.
13. Type or select a serial or batch number for the materials in the **Serial/batch** column. If applicable, type or select a lot number for the serial or batch numbers of the materials in the **Lot** column. The **Serial/batch** and **Lot** columns are available only when the item is a serial or batch item.
14. Click **Picking list** to print a copy of the picking list for the standard items to be issued for the production orders, if required.
15. Click **Fulfillment** to start processing the issuance of materials. The **Print** screen will be displayed.
16. Click **Start** to print the delivery note for the issuance of items. Click **Skip** to process the issuance of materials without printing the delivery note. Click **Close** to exit without processing the issuance of materials or printing the delivery note.
17. Click **Close** to exit.

## 5.6.2 Issuing production orders with backflush

The following procedure shows you how to use the backflush function to issue the items for a production order. The backflush option serves to shorten the process of issuing materials and all the materials will be automatically issued upon receiving the end product. The stock movement and costs will be registered in the same way as in the process of issuing materials without using backflush. The backflush function is useful in manufacturing environments where the manufacturing lead time is short, the production volume is large and the BOM and production process are relatively simple and straightforward. In such manufacturing environments, the manual issuance of materials may not be required due to lack of resources.

You can activate the backflush function using a number of methods. If there is more than one method used, the order of precedence for the backflush methods are listed as follows:

- Backflush options in the production orders. Select the check box in the **Backflush** column in the production order.
- Backflush options in the BOM maintenance. Select the check box in the **Backflush** column under the **BOM** tab.
- Backflush options in the manufacturing settings. Select the **Items**, **Labour hours**, and/or **Machine hours** check boxes in the **Backflush** section at System → General → Settings, under **Manufacturing settings**.

When you have received your production orders, the materials, labor hours, and machine hours which are selected to be issued using the backflush function will be automatically issued. For more information about receiving production orders, see *5.7 Receiving Production Orders*. Items that are not selected to be issued using the backflush function must be issued before the production is completed. Otherwise, the stock position and production costs will not be registered in the inventory management and the general ledger. For more information about completing production orders, see *5.9 Completing Production Orders*.

## 5.7 Receiving Production Orders

When the end products are ready, you can receive the end products as requested by the production orders in the warehouse.

Production order	Description	Parent project	Item code	Quantity	Start date	End date	Wrh.
PROD00010012.004	Voorraad productie	PROD00010012	MCB0001	35.00	17/3/2011	18/3/2011	1
PROD00010012.002	Voorraad productie	PROD00010012	MCB0004	20.00	17/3/2011	18/3/2011	1
PROD00010012.001	Voorraad productie	PROD00010012	MCB0003	30.00	17/3/2011	18/3/2011	1
PROD00010010	Prod feb		MCBDEMOPAKKET	6.00	7/2/2011	8/2/2011	1

### To receive production orders:

1. Go to Manufacturing → Entries → Receipts production.
2. At **Warehouse**, select the warehouse that is expecting to receive the end products for the production order. By default, all warehouses are selected.
3. Select **Production order** at **Order type**.
4. Type or select the transaction date for the receiving transaction at **Transaction date**.
5. Define other relevant criteria to search for the production orders you want to receive, and then click **Search**.
6. Select the production order you want to receive, and then click **Receipts**.
7. In the **Receipt** screen, type or select a location you want to receive the production order under the **Location** column. By default, the location code defined in the production order is filled in. The **Location** column is available only if the **Warehouse locations** check box is selected in the **Fulfillment** section at System → General → Settings, under **Inventory settings**.
8. Under the **Actuals** column, type the quantity of the end products you are receiving into the warehouse. By default, the quantity requested in the production order is entered.
9. Type or select a serial or batch number for the end product under the **Serial/batch numbers** column. If applicable, type or select a lot number for the serial or batch numbers of the end products under the **Lot** column. The **Serial/batch numbers** and **Lot** columns are available only when the item is a serial or batch item.
10. Click **Process** to start processing the receipt of the production order.
11. In the **Print** screen, click **Start** to print the delivery note for the receipt of the production order end product. Click **Skip** to process the receipt of the finished product without printing the delivery note. Click **Close** to exit without processing the receipt of the finished product or printing the delivery note.
12. In the **Complete** screen, select the options to complete the production order, and then click **OK**. Otherwise, click **Cancel** to receive the end product without completing the production order. The following options are available:

- **Suggest: Returns** — Select this check box to return excess standard items that have been issued but not used in the production order.
  - **Complete: Suborder** — Select this check box to complete the suborders (if any) that belong to the production order, in addition to completing the production order.
  - **Print report** — Select this check box to print a report of the completed production order.
13. Once the receipt process has been completed, it will exit automatically.

## 5.8 Setting Production Orders to the Finished Status

Once end products have been received, production orders can be set to the **Finished** status to indicate that they have been completed from a logistical viewpoint. This is available only if you have selected the **Use finish** check box in the **Production order status** section at System → General → Settings, under **Manufacturing settings**.

Once a production order is in the **Finished** status, you will not be able to modify the header and material lines or perform any other actions for the order, such as fulfill order, issue order, order receipt, and realize labor hours. However, in cases where modifications are required, there are ways to reverse the action.

The screenshot shows the 'Manufacturing / Entries / Finish' window. It includes search filters for Warehouse, Start date, End date, Production order, Order type, Description, Show, Parent project, and All. Below the filters is a table with the following data:

Production order	Description	Parent project	Item code	Quantity	Start date	End date	Wrh.	A
PROD00010026	Production: PROD00010026		AAA	1.00	27/6/2013	27/6/2013	1	
PROD00010019	Production: PROD00010019		MCB0004	1.00	5/4/2012	6/4/2012	1	
PROD00010012.004	Voorraad productie	PROD00010012	MCB0001	35.00	17/3/2011	18/3/2011	1	
PROD00010012.003	Voorraad productie	PROD00010012	MCB0002	20.00	17/3/2011	18/3/2011	1	
PROD00010012.002	Voorraad productie	PROD00010012	MCB0004	20.00	17/3/2011	18/3/2011	1	
PROD00010012.001	Voorraad productie	PROD00010012	MCB0003	30.00	17/3/2011	18/3/2011	1	
PROD00010010	Prod feb		MCBDEMOPAKKET	6.00	7/2/2011	8/2/2011	1	

At the bottom of the window, there are buttons for Note, Attachment, Sales order, MRP, Project, Copy, Finish, Open, and Close.

### To set production orders to the Finished status:

1. Go to Manufacturing → Entries → Finish.
2. Type or select a start date or a range of start dates at **Start date** to search for the production orders with the defined start dates.
3. At **Order type**, select **Production order**.
4. At **Show**, select **Parent project** to display only the orders linked to the parent project, or **All** to display the orders for both parent and child.
5. Click **Search**.
6. Select one production order or more, and then click **Finish**. The **Finish** screen will be displayed with the following options:

- **Suggest: Returns** — Select this check box to return the excess materials that were issued for the order.
  - **Finish: Suborder** — Select this check box to set the suborders of the selected order to the Finished status simultaneously.
  - **Complete: PO lines** — Select this check box to check the item lines of all purchase orders. These are item lines linked to the project code. The production order can be completed as long as all items linked to the project code have been received, even if item lines that are not linked to the project code have not been received. If the check box is not selected, the checking is done on the header lines of all purchase orders. These are header lines linked to the project code. The production order can be completed only if all purchase orders linked to the project code have been received.
7. Click **OK**. If there are operations in the production order(s) that have not been completed, a message will be displayed to confirm if you want to set the production order(s) to the **Finished** status. Click **Yes**.

**To reverse the action of setting production orders to the Finished status:**

1. Go to Manufacturing → Entries → Finish.
2. Select the **Show: Finished** check box, and then click **Search**.
3. Select the required production orders, and then click **Finish**.

**Note:** When the reversal of action occurs:

- the status of the production order will be changed from **Finished** to **Printed**,
- the status of the project linked to the production order will be set to **Active**,  
and
- the outstanding production order lines will be enabled for editing.

## 5.9 Completing Production Orders

Productions orders are processed for completion when the production orders have been fulfilled and no further transactions or changes are expected for the production orders. Completion of production orders can be executed for the whole production order or per operation line.

Exact Globe Next gives you several options during the process of completing the production orders. For example, you can choose whether to return the excess materials that were issued for the production:

- If you are using the operations feature in your manufacturing process, you need to complete the operations for the production orders at Manufacturing → Entries → Operations control, before you can complete the production orders.
- You can complete single and multiple production orders even when the receipts, returns, and scraps of make items are in closed periods if the following conditions are met:
  - Stock valuation method at **Valuation method** in the **Entry** section under **Inventory settings** is set to **Average purchase price** or **Real time APP**.
  - The **Valuation method per item** setting in the **Entry** section under **Inventory settings** is enabled, the valuation method of make items at **Valuation method** is set to **Average purchase price**.
  - The **Receipts: Recalculate APP** check box in the **Recalculate APP** section under **Manufacturing settings** is selected. For more information, see *1.1 Manufacturing Settings* and *1.14 Inventory Settings*.

Correction entries will be generated in the current period whenever you complete production orders with receipts, returns, and scraps of make items in closed periods, but only if the following conditions are met:

- The stock valuation method at **Valuation method** in the **Entry** section under **Inventory settings** is set to **Average purchase price** or **Real time APP**.
- The **Receipts: Recalculate APP** check box in the **Recalculate APP** section under **Manufacturing settings** is selected.
- There is a difference between the calculated APP amount and the value of receipt.

Production order	Description	Parent project	Item code	Quantity	Start date	End date
PROD00010012.004	Voorraad productie	PROD00010012	MCB0001	35.00	17/3/2011	18/3/2011
PROD00010012.003	Voorraad productie	PROD00010012	MCB0002	20.00	17/3/2011	18/3/2011
PROD00010012.002	Voorraad productie	PROD00010012	MCB0004	20.00	17/3/2011	18/3/2011
PROD00010012.001	Voorraad productie	PROD00010012	MCB0003	30.00	17/3/2011	18/3/2011
PROD00010010	Prod feb		MCBDEMOPAKKET	6.00	7/2/2011	8/2/2011

**To complete production orders:**

1. Go to Manufacturing → To be processed → Complete.
2. Type or select a start date or a range of start dates at **Start date** to search for the production orders with the start dates.
3. Type or select the production order code at **Production order**.
4. Select **Production order** at **Order type**.
5. Define other relevant criteria to search for the production orders that you want to complete, and then click **Search**.
6. Select the production orders you want to complete, and then click **Complete**. You will see the **Complete** screen with the following options:
  - **Suggest: Returns** — Select this option to register production order returns.
  - **Complete: Suborder** — Select this option to complete suborders (if any) for the production orders.
  - **Print report** — Select this option to print a copy of the production order report.
7. Click **OK** to complete the selected production orders.

## 5.10 Outsourcing Production Orders

There may be instances whereby you want to outsource the work to be done for the production orders. Outsourcing is a process where you have a contract with external vendors to carry out all or only specific operations in the production process. Production orders may be outsourced to reduce internal capacity planning or address insufficient capacity and lack of production expertise in most companies.

When a company decides to outsource part of a manufacturing process to an external party, a purchase order is raised to request for the services of the subcontractors. When the subcontractor receives the purchase order, capacity planning is done to anticipate the machine and people required to produce the outsourced item. Raw materials will be shipped to the subcontractor's warehouse. When the process is finished, the semi-finished goods will be delivered back to the manufacturer to be used in producing the finished goods.

### 5.10.1 Outsourcing without operations

Production orders can be outsourced when the following conditions are met:

- The labor hour items are purchase items linked to at least one supplier (subcontractor). The **Buy** check box (in the **Attributes: Purchase** section under the **Purchase/ Sales** tab in the item maintenance for the labor hour item) is selected. The **Buy** check box is automatically selected and is available only when there is at least one supplier identified as the contract manufacturer.
- A purchase order is generated for the labor hour item. The **Outsourced** button is available only in the production order when a processed purchase order is generated for the labor hour item.

**To outsource labor hour items for production orders:**

1. Go to Manufacturing → Entries → Production orders.
2. Click **New**. Fill in the information of the finished product that you want to manufacture in the **Production orders** screen, and then click **Authorised**. For more information on creating production orders, see *5.1 Creating Production Orders*.
3. You can also outsource the subassembly items and operations for existing Authorised production orders. In the overview of production orders, define the relevant criteria, and then click **Search**. Select the Authorised production order you want to outsource, and then click **Open**.
4. In the **BOM** section under the **BOM** tab of the production order, fill in the labor hour item that you want to outsource in the production order entry lines.
5. Select the labor hour item under the **BOM** tab, and then click **Purchase**. The **Purchase** button is available only if the production order has been Authorised.
6. You will see the purchase advice (**Generate purchase orders**) screen. Check that the quantity under the **Advice** column equals to the required quantity.
7. Click **Purchase**. You will see the purchase order screen. The labor hour item you want to outsource is automatically displayed in the purchase order entry lines.
8. Approve and process the purchase order, and then click **Close** to save and exit the purchase order automatically.
9. In the **Production orders** screen, click **Outsourced**. The **Outsourced** button is available only after a processed purchase order has been generated for the outsourced labor hour item.
10. In the **Outsourced** screen, you will see a list of the labor hour items that are being outsourced for the production order in the **Labor** section. In the **Material** section, you will see a list of materials that needs to be issued to the subcontractor.
11. Select the **Create: Transfer** check box to create an interbranch transfer. The interbranch transfer is created to transfer the materials needed to manufacture the semi-finished goods from your warehouse to the subcontractor's warehouse.

**Note:** If you select the **Create: Transfer** check box, you need to first transfer the semi-finished goods to the subcontractor's warehouse. After the semi-finished goods are completed, you need to receive the completed subassembly item from the subcontractor's warehouse into the receiving warehouse stated in the production order.

Otherwise, if you do not select this option, the receiving warehouse will be automatically updated with the subcontractor's warehouse (selected at **Receiving warehouse**) in the BOM structure in the production order. This indicates that the materials will be automatically issued directly from the subcontractor's warehouse.

12. At **Receiving warehouse**, type or select the subcontractor's warehouse where the materials for the outsourced item will be issued to. If you specify the subcontractors' warehouse, then this warehouse will be updated in the **Warehouse** column in the production order lines. This is to enable materials to be issued to the supplier warehouse.
13. At **Receiving location**, type or select the location in the receiving warehouse where the materials will be issued to.
14. At **Transaction date**, type or select the date the semi-finished goods will be transferred from the subcontractor's warehouse to your warehouse.
15. Click **Close** to save and exit.

## 5.10.2 Outsourcing with operations

When the **Operations** check box is selected in the **Operations** section at System → General → Settings, under **Manufacturing settings**, you can outsource individual operations by:

- selecting a finished product with an outsourced operation at Manufacturing → Setup → BOM
- selecting an outsourced operation that is maintained at Manufacturing → Setup → Operations
- entering an outsourced item manually into the operation, or
- clicking **Outsourced** while selecting an operation at Manufacturing → Entries → Operations control.

The first two methods allow the user to set up the BOM with planned operations outsourcing. The last two methods can be used for incidental operations outsourcing, such as when facing internal capacity shortage for a particular operation. The outsourcing process can start only on outsourced operation type.

### To outsource an operation of outsourced type:

1. Go to Manufacturing → Entries → Operations control.
2. Select **Yes** at **Outsourced**.
3. Click **Refresh**.
4. Select an outsourced operation of an Authorised production order and click **Purchase**. The **General purchase orders** screen will be displayed with the required quantity shown in the **Advice** column. You cannot change the quantity.
5. Click **Purchase** to open the **Purchase order** screen with the outsourced item automatically inserted in the order entry lines.
6. Click **Authorised** and **Processed** at the purchase order process flow section, and then click **Close**.
7. In the **Production order** screen, click **Outsourced** to display the **Outsourced** screen. The **Operations** section lists the outsourced items of the production order, while the **Material** section lists the materials that must be issued to the subcontractor.
8. Select **Create: Transfer** to create an interbranch transfer to transfer the materials needed to manufacture the semi-finished goods from your warehouse to the warehouse of the subcontractor.

### Monitoring and controlling outsourced processes

You can monitor and control outsourced processes at Manufacturing → Entries → Operations control. Several columns useful for monitoring outsourced processes can be added to the list of operations.

#### Outsourced column

This column displays a green check mark to indicate that the operation is an outsourced operation.

#### Outsourced: PO column

This column displays the linked purchase order number for the outsourced item linked to the outsourced operation.

#### Outsourced: PO status column

This column displays the status of the purchase order displayed under the **Outsourced: PO** column.

#### Outsourced: PO supplier column

This column displays the supplier for the purchase order displayed under the **Outsourced: PO** column.

#### Interbranch transfer column

This column displays the first interbranch transfer number generated for the linked operation.

#### Interbranch transfer: Status column

This column displays the status of the interbranch transfer displayed under the **Interbranch transfer** column.



## Chapter 6

# Management Information





## 6. Management Information

In Exact Globe Next, there are reports available that make it easier to manage your production orders from the point when these are released until completion. There are a number of reports that are already available in Exact Globe Next, which gives you an overview of your production orders and the current statuses of the production orders.

The reports available are useful for managing your work in progress, as well as to present an overview of the production results. For example, you can use the reports to display the margin of revenue generated from the production orders or the current statuses of your work in progress for your production orders. You may further define the criteria available for the reports in order to further refine the information specific to your reporting needs.

### 6.1 Profit Calculation Reports

The profit calculation report gives you an overview of the margin of revenue generated from the production orders for the manufactured items.

Item	Description	Sold	Average price EUR	Cost price EUR	Purchase price EUR	Margin	Margin %
ALG	Algemeen - intern	17	0.000	40.000	0.000	-40.00	0
BON0001	R.P. Supremo beans	111	18.039	9.083	9.083	8.96	50
BON0002	R.P. Espresso Dolce.	32	22.084	10.333	10.333	11.75	53
BON0003	R.P. Espresso Mezzo	10	21.692	10.250	10.250	11.44	53
BON0007	Bonen Brazilian Regular	78	0.000	4.250	4.250	-4.25	0
BON0008	Bonen Brazilian Mild	85	0.000	4.250	4.250	-4.25	0
BON0009	Bonen Brazilian Dark	55	0.000	4.250	4.250	-4.25	0
BON0010	Bonen Brazilian Extra Dark	55	0.000	4.250	4.250	-4.25	0
CAC0002	cas	2	71.000	43.700	43.700	27.30	38
DIV0002	Filters 85/245	1	15.230	0.000	0.000	15.23	0
FRB0002	R.P. Rood melange	2	11.760	6.700	6.700	5.06	43
FRB0003	Celsus Max Havelaar fresh brew	8	14.200	9.800	9.800	4.40	31
INS	Installatie	39	76.779	45.000	80.000	31.78	41
KM	Kilometers	409	0.126	0.190	0.000	-0.06	-51
KOE0001	R.P. Café Royale 120 st.	3	8.633	4.900	4.900	3.73	43
KOE0002	R.P. Grand Café 120 st.	7	2.092	7.700	7.700	-5.61	-268
KOE0003	R.P. Stroopwafeltje 120 st.	2	11.900	7.100	7.100	4.80	40

Revenue 462,635.45 EUR    Cost price 266,720.300 EUR    Purchase price 266,531.636 EUR    Margin 195,915.15

**To generate profit calculation reports:**

1. Go to Manufacturing → Statistics → Profit calculation.
2. Select a warehouse at **Warehouse** to display the profit calculation earned for the relevant manufactured items. By default, all warehouses are selected.
3. Type or select a date or a range of dates at **Date** to display the profit calculation of the relevant manufactured items.
4. After defining other criteria to display the profit calculation of the relevant items, click **Refresh**.

## 6.2 Production Order Status Reports

The production order status report allows you to get an overview of the production orders grouped into the various production order statuses. With this report, you can have an overview of the status of the production orders and production statistics that compares planned work in progress with the data of actual production results. You can obtain key data for the production orders, such as production order status, planned quantity, actual quantity and the difference between planned and actual quantities.

The screenshot shows a software window titled "Manufacturing / Statistics / Production orders". It is divided into several sections for configuring the report:

- General:** Includes fields for "Warehouse" (with a search icon), "End date" (with a calendar icon), and "Order type" (a dropdown menu set to "All"). There are also "to" fields for both Warehouse and End date, each with a search icon and a checked "All" box. Below these are checkboxes for "Show" with options: Open, Authorised, Rejected, Released, Printed, Finished, and Completed.
- Display:** A "Precision" field set to the value "8".
- Advanced:** Includes "Parent project" (with a search icon), "Production order" (with a search icon and a checked "All" box), and "Start date" (with a calendar icon) and "to" (with a calendar icon) fields, both with checked "All" boxes.
- Item:** Includes "Item group" (with a search icon) and "Item" (with a search icon) fields, each with a "to" field and a checked "All" box. Below these are checkboxes for "Item status": Active (checked), Blocked, Discontinued, Inactive, and Future.

At the bottom right of the window are three buttons: "Display" (with an eye icon), "Simple" (with a list icon), and "Close" (with a red X icon).

### To generate production order statuses reports:

1. Go to Manufacturing → Statistics → Production orders.
2. Click **Advanced** to see more criteria.
3. In the **General** section, select **All** or **Production order** at **Order type**.
4. Select one check box or more at **Show** to view the report of the production order with the selected statuses.
5. After defining other criteria to display the relevant production orders, click **Display**.

## 6.3 Production Waste Reports

Waste is the issuance of excess materials to the production order, compared to the quantities specified in the BOM. The BOM allows specifying a “Waste %”, which is called planned waste. Planned waste is present in the production issue screen. It may also happen that the quantity of excess materials is only determined when entering the production issue, which is called unplanned waste. You can generate the overview of production waste for the required production orders.

The screenshot shows the 'Manufacturing / Statistics / Waste' dialog box with the following sections and fields:

- General:** Warehouse (dropdown), to (dropdown),  All; Parent project (dropdown); Production order (dropdown); Show:  Open,  Authorised,  Released,  Printed,  Finished,  Completed.
- Display:** Precision: 8.
- Advanced:** Start date (dropdown), to (dropdown),  All.
- Item:** Item group (dropdown), to (dropdown),  All; Item (dropdown), to (dropdown),  All; Item status:  Active,  Blocked,  Discontinued,  Inactive,  Future.

Buttons at the bottom right: Display, Simple, Close.

### To generate production order waste reports:

1. Go to Manufacturing → Statistics → Waste.
2. Click **Advanced** to see more criteria.
3. In the **Advanced** section at **Start date**, type or select a range of start dates to display the waste as a result of the production orders that start on or after the date(s).
4. In the **Item** section at **Item group**, type or select an item group or a range of item groups to display the waste as a result of manufacturing the items for the relevant production orders.
5. After defining other criteria to display the waste as a result of the relevant production orders, click **Display**.

## 6.4 ABC Analysis Reports

The ABC analysis report provides an overview of the distribution of production order. The analysis is based on the 80/20 rule, whereby 80% of the revenue is generated by 20% of the items. Depending on the selection criteria, the ABC analysis will show which items generate the highest revenue or which debtors are your best customers.

**Manufacturing / Statistics / ABC analysis**

Show  Items  Debtors

**Range**

Warehouse    All

Date   to    All

Item    All

Item group   to    All

Type  Productgroep

Soort

**Options**

Sort by  Revenue  Quantities

**ABC analysis**

A	<input type="text" value="20"/>	%
B	<input type="text" value="80"/>	%
C	<input type="text" value="0"/>	%

### To generate ABC analysis reports:

1. Go to Manufacturing → Statistics → ABC analysis.
2. Select an option at **Show** to display the ABC analysis for manufactured items (**Items**) or debtors (**Debtors**) of the production orders. Depending on the selection, different criteria are available.
3. If you choose **Items** at **Show**, you can select an option at **Sort by** to determine whether you want to sort the information in the report by revenue (**Revenue**) or quantities (**Quantities**).
4. Type the percentage at **A**, **B**, and **C** in the **ABC analysis** section. **A**, **B**, and **C** refer to the three groups of items or debtors that can be used to generate the ABC analysis overview. By default, the 20/80 rule is applied. **A** refers to the group of items/debtors that generate the highest revenue or items/debtors that generate the highest production volume, while **B** and **C** are items/debtors that make up the rest of the total revenue or quantities sold. The total of **A**, **B**, and **C** cannot be more than 100.
5. After defining other criteria to display the ABC analysis for the relevant production orders, click **Start**.

## 6.5 Project Overview Reports

The project overview report provides you with a view of the current statuses of the production order projects.

The screenshot shows a software dialog box titled "Manufacturing / Reports / Projects". It is organized into several sections:

- General:** Contains input fields for "Warehouse", "End date", and "Order type" (set to "All"). There are "to" fields and "All" checkboxes for both Warehouse and End date. Below these are checkboxes for "Show" with options: Open, Authorised, Released, Printed, Finished, and Completed.
- Display:** Features a "Precision" field with the value "8".
- Advanced:** Includes "Parent project", "Project" (with an "All" checkbox), and "Start date" (with a "to" field and "All" checkbox).
- Item:** Contains "Item group", "Item", and "Item status" (with "Active" checked and other options: Blocked, Discontinued, Inactive, Future).

At the bottom right of the dialog are three buttons: "Display", "Simple", and "Close".

### To generate project overview:

1. Go to Manufacturing → Reports → Projects.
2. Select one or more production order statuses at **Show** in the **General** section to display the project overview for production orders with the selected statuses.
3. Click **Advanced** to see more criteria. After defining other criteria to display the project overview for the relevant production orders, click **Display**.

## 6.6 Work in Progress (WIP)

The work in progress report allows you to monitor the statuses for production orders that are currently in progress, plan your production shop floor activities, and take remedial action on any production order changes.

The screenshot shows the 'Manufacturing / Reports / Production orders' dialog box. It is organized into several sections:

- General:** Includes a 'Warehouses...' button, 'Parent project' and 'Production order' fields, 'Status' checkboxes (Open, Authorised, Rejected, Released, Printed, Finished, Completed), 'Start date' and 'to' date fields, and an 'Order type' dropdown set to 'All'.
- Display:** Features a 'Precision' field set to 8 and a checked 'Group by item' checkbox.
- Header:** Contains 'Cost centres', 'Person', and 'Debtor' fields, an 'Including Children' checkbox, and 'End date', 'Make item', and 'Item group' fields.
- Lines:** Includes 'Item code', 'Start date', 'End date', 'Operation', and 'Work centre' fields, and a 'Type' section with checkboxes for Standard, Labour hour, Machine hour, Phantom, and Bulk issue.
- Planner:** Has a 'Planner' field.

At the bottom right, there are three buttons: 'Display' (with an eye icon), 'Simple' (with a list icon), and 'Close' (with an X icon).

### To generate work in progress reports:

1. Go to Manufacturing → Reports → Production orders.
2. Select one warehouse or more by clicking **Warehouses** in the **General** section to display the production orders that will be received by the selected warehouses. By default, all warehouses are selected. In the **Warehouses** screen, click **Deselect all**, and then click the relevant warehouses in the **Select** column. Click **Close** to exit.
3. Select one check box or more at **Status** to display the production orders with the selected statuses.
4. At **Start date** and **to**, type or select a start date or a range of start dates to display the production orders that start on or after the start date(s).
5. Select **All** or **Production order** at **Order type**.
6. You can also define other criteria to display the work-in-progress for the relevant production orders. Click **Advanced** to see more criteria.
7. Click **Display**.

## 6.7 Actual Usage and Costs

The actuals report allows you to get an overview of to analyze the production costs and revenue associated with the production order results. With this report you can study the actual usage and compare that with the cost of materials for the production orders. In addition to the planned and actual production order costs, the report also details the information of budgeted and actual costs for labor, machines, and materials for the respective production orders. You can also use this report to compare the planned revenue with the actual revenue.

**Manufacturing / Reports / Actuals**

**General**

**Warehouses...**

Parent project [ ] to [ ]  All

Production order [ ] to [ ]  All

Status  Open  Authorised  Released  Printed  Finished  Completed

Start date [ ] to [ ]  All

End date [ ] to [ ]  All

Order type [ All ]

**Display**

Precision [ 8 ] Group by item

**Header**

Cost centres [ ] to [ ]  All

Person [ ] to [ ]  All

Debtor [ ] to [ ]  All

Including Children

Make item [ ] to [ ]  All

Item status  Active  Blocked  Discontinued  Future  Inactive

Item group [ ] to [ ]  All

**Assortments...**

**Selection code...**

**Lines**

Operation [ ] to [ ]  All

Work centre [ ] to [ ]  All

Type  Standard  Labour hour  Machine hour  Phantom  Bulk issue

Show  Quantity  Production Costs  Production Revenue  Result  Sales Revenue  Operation

**Display** **Simple** **Close**

### To generate actual usage and costs reports:

1. Go to Manufacturing → Reports → Actuals.
2. Select one or more warehouses by clicking **Warehouses** in the **General** section to display the production orders that will be received by the selected warehouses. By default, all warehouses are selected. In the **Warehouses** screen, click **Deselect all**, and then click the relevant warehouses in the **Select** column. Click **Close** to exit.
3. Select one or more production order statuses at **Status** to display the production orders with the selected statuses.
4. Type or select a start date or a range of start dates at **Start date** to display the production orders that start on or after the start date(s).
5. Select **All** or **Production order** at **Order type**.
6. Click **Advanced** to see more criteria. After defining other criteria to display the actual production results for the related production orders, click **Display**.





## Chapter 7

## Appendix





## 7. Appendix

Product Update	Chapter
404	All chapters
407	1.1, 1.2, 1.3, 3.1.2, 5.0, 5.2, 5.3, 5.4, 5.5, 5.8

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