

# TSCM50

## Procurement I - Part 1

**INSTRUCTOR HANDBOOK**  
**INSTRUCTOR-LED TRAINING**

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Course Duration: 5 Day(s)

Material Number: 50117732

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# About This Handbook

This handbook is intended to complement the instructor-led presentation of this course, and serve as a source of reference. It is not suitable for self-study.

## Typographic Conventions

American English is the standard used in this handbook.

The following typographic conventions are also used.

This information is displayed in the instructor's presentation	
Demonstration	
Procedure	
Warning or Caution	
Hint	
Related or Additional Information	
Facilitated Discussion	
User interface control	<i>Example text</i>
Window title	<i>Example text</i>



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# Course Overview

## **TARGET AUDIENCE**

This course is intended for the following audiences:

- Project team members
- Consultants



# UNIT 1

# Procurement Processes

## Lesson 1

Using Processes and Organizational Levels in Procurement	2
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## Lesson 2

Maintaining Purchase Orders	17
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Posting Goods Receipts	38
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## Lesson 4

Entering Invoices	55
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## UNIT OBJECTIVES

- Describe the various external procurement processes
- Explain the relevant organizational levels for procurement
- Maintain purchase orders
- Execute print outputs for purchase orders
- Post a goods receipt
- Enter an invoice



## Using Processes and Organizational Levels in Procurement

### LESSON OVERVIEW

This lesson shows how to use processes and organizational levels in procurement. It provides an overview of the various forms of external procurement and the organizational levels necessary for mapping a procurement process.

### Business Example

In your company, materials are procured through various channels, including external vendors and other branches of your company. As a member of the project team, you examine how these procurement processes and the necessary company structure are represented in the SAP system. For this reason, you require the following knowledge:

- An understanding of various external procurement processes
- An understanding of the processes and organizational levels in procurement



To begin this lesson, demonstrate a normal procurement process. Building on this process, then discuss the special procurement processes of subcontracting, vendor consignment, and stock transfer. Course SCM500 does not discuss the special procurement processes in detail but briefly introduce them so that participants are not given the impression that there is only one procurement process.

Participants should also familiarize themselves with the organizational levels necessary for the procurement process to gain an insight into the organizational structure of the IDES enterprise.

Do not use abbreviations when discussing the topics in this lesson, because this course is usually attended by people who have little or no prior knowledge of SAP.

You should support your explanatory remarks with a diagram of the enterprise structure. Develop this structure step by step. If necessary, you can then refer to this diagram of the enterprise structure in subsequent lessons.



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Describe the various external procurement processes
- Explain the relevant organizational levels for procurement

## External Procurement Process

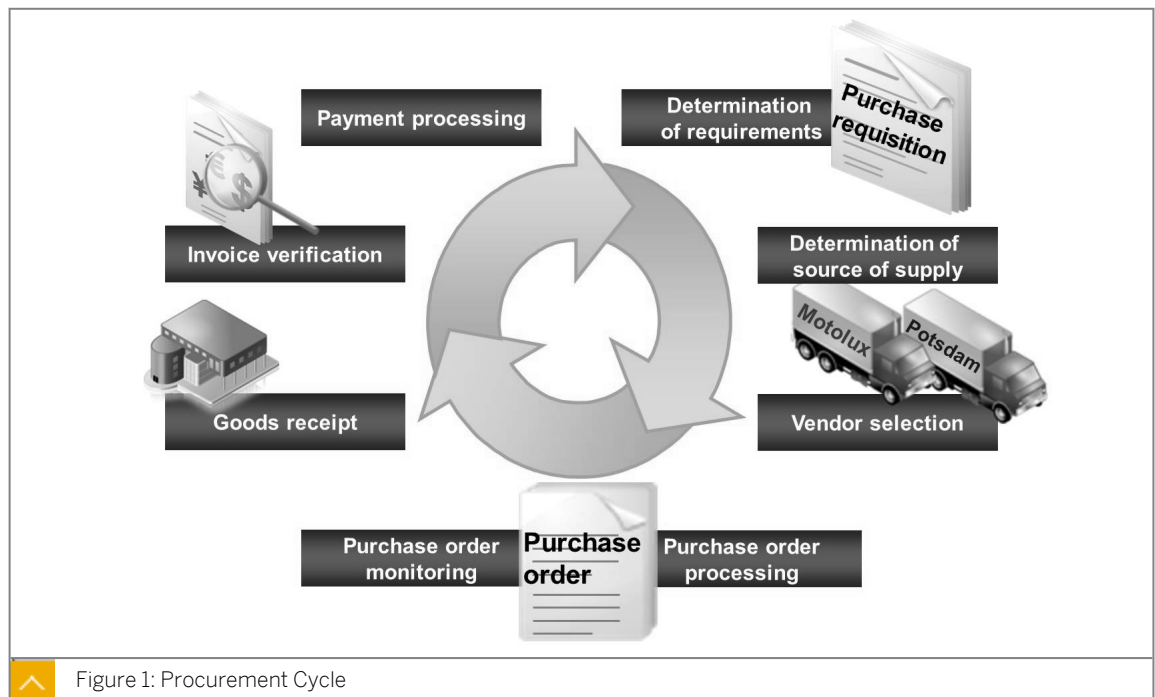


Figure 1: Procurement Cycle

The external procurement of materials is based on a cycle of general activities.

### External Procurement Process - Phases

**A typical procurement process includes the following phases:**

- Determination of requirements

Manually create a purchase requisition to inform the Purchasing department about material requirements. If you have set an MRP procedure for a material in the material master, the SAP system automatically generates a planned order or a purchase requisition. If the system generates a planned order, it can later be converted to a purchase requisition.

- Determination of supply source

The system supports buyers in determining possible supply sources. You can use the source of supply determination to create requests for buyer quotations (RFQs). In addition, you can refer to purchase orders, contracts, and conditions that already exist in the system.

- Vendor selection

Analyze price comparisons between various quotations easily to select vendors. Rejection letters can be sent automatically.

- Purchase order processing

Create purchase orders manually, or let the system create them automatically. When you create purchase orders, you can copy data from other documents (such as purchase requisitions or quotations) to automatically populate general entries that need to be made. You also have the option of working with outline agreements.

- Purchase order monitoring  
Monitor the processing status of the purchase orders in the system. For example, you can determine whether a delivery or invoice has already been received for a purchase order item. You can also remind vendors about outstanding deliveries.
- Goods receipt  
Enter inbound deliveries in the system by referring to the associated purchase order to reduce the number of entries that need to be made. Referring to the associated purchase order also allows you to check whether the goods and quantities delivered match the purchase order. The system updates the purchase order history.
- Invoice verification  
Enter invoices in the system by referring to the previous purchase order or delivery to check the calculations and accuracy of the invoice. The availability of purchase order and goods receipt data means that you can be informed of any differences in quantity and price.
- Payment processing  
Run the payment program to pay vendor liabilities. The accounting department is responsible for running this program on a regular basis.

Apart from the normal procurement process described here, other procurement processes are possible.

### Stock Transfer with Stock Transport Orders

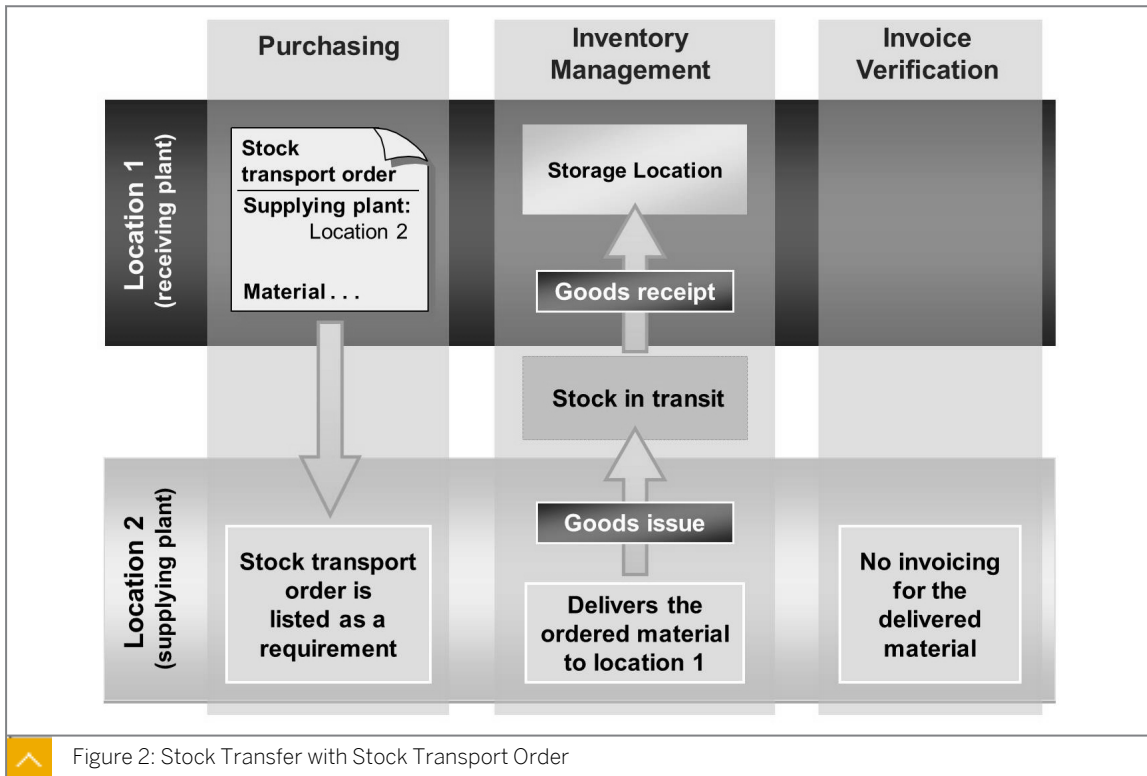


Figure 2: Stock Transfer with Stock Transport Order

In the stock transport type of procurement, goods are internally procured and delivered. The plant that requires the goods orders the materials from another plant. Therefore, this procurement process involves not only managing inventory but also purchasing in the receiving plant.



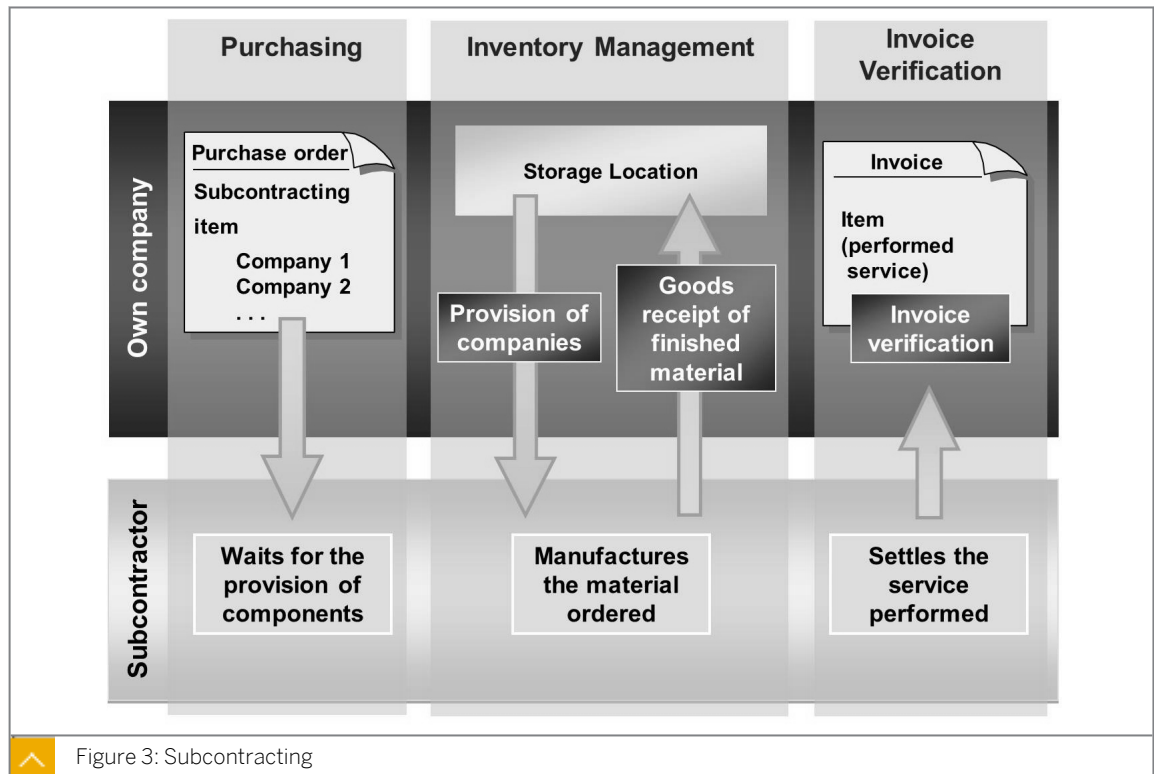
**The following steps illustrate the stock transfer process:**

1. Purchasing creates a stock transport order for the receiving plant.
2. In Inventory Management, a goods issue referencing the stock transport order from the supplying plant is entered. The quantity is managed in a special stock (*Stock in transit*) of the receiving plant.
3. The goods receipt is posted to the stock transport order in the receiving plant.
4. The quantity is transferred from *Stock in transit* to the storage location stock of the plant.



Hint:

You can only use inventory management functions to map stock transfers of goods between plants without stock transport orders.

**Subcontracting**

In the subcontracting process, your company orders material or product from an external vendor. Unlike a normal external procurement process, in subcontracting your company provides the vendor (subcontractor) with some or all of the components required for the manufacture of the material.

**The following steps illustrate the subcontracting process:**

1. The end product is ordered with a subcontract purchase order containing details about the material to be delivered and the components to be made available to the subcontractor.
2. Components are provided to the subcontractor. This provision is mapped in the system by transfer posting. Although the components that have been provided are no longer

physically in your company, they are nevertheless managed in your stocks, as they still belong to you. The information is shown under the special stock type **Stock of material provided to vendor**.

3. The finished or refined material is delivered by the subcontractor. The goods receipt is entered with reference to the (subcontract) order. This means that the receipt of the end products, as well as the consumption of components from the stock of material provided to the vendor, are correctly posted. The subcontractor then raises an invoice for the service rendered.

## Vendor Consignment

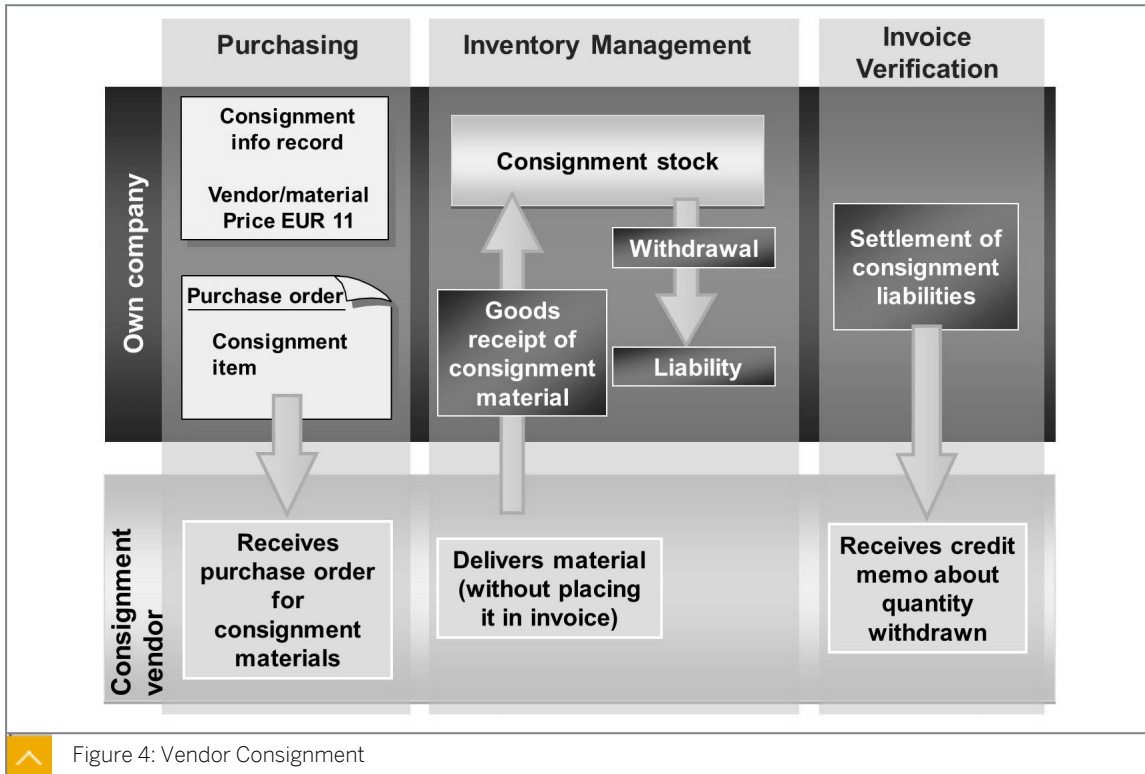


Figure 4: Vendor Consignment

Vendor consignment refers to situations where a vendor provides you with material that you store, but are not required to pay for immediately. The vendor remains the owner of the material until you remove some quantity from your consignment inventory. A liability arises for the vendor when you remove any quantity of the material from the consignment inventory. These withdrawals are settled in agreed periods.

Before you procure a material from a vendor for a consignment, you and the vendor need to agree on a price for the material. The price information is recorded in the system's consignment information record before the consignment inventory for the material is filled in your company.

### The following steps illustrate the vendor consignment process:

1. Request the material from your vendor using a consignment order.
2. Post the goods receipt with reference to the consignment order when the material is delivered. This completes the procurement process, as payment is required for the material after withdrawal, not after supply.

3. The SAP system provides a special function for settling liabilities arising out of withdrawals from a consignment stock, through a credit memo. This credit memo is produced with an appropriate message for the vendor.



Hint:

You control the procurement process with a purchase order item using the *Item category* checkbox.



Hint:

You can set all the special procurement processes as the standard for a material so that purchase requisitions are produced automatically with the necessary item category using material requirements planning (MRP).

## Organizational Levels



This section describes organizational levels of the procurement process. You should discuss the following points for each organizational level:

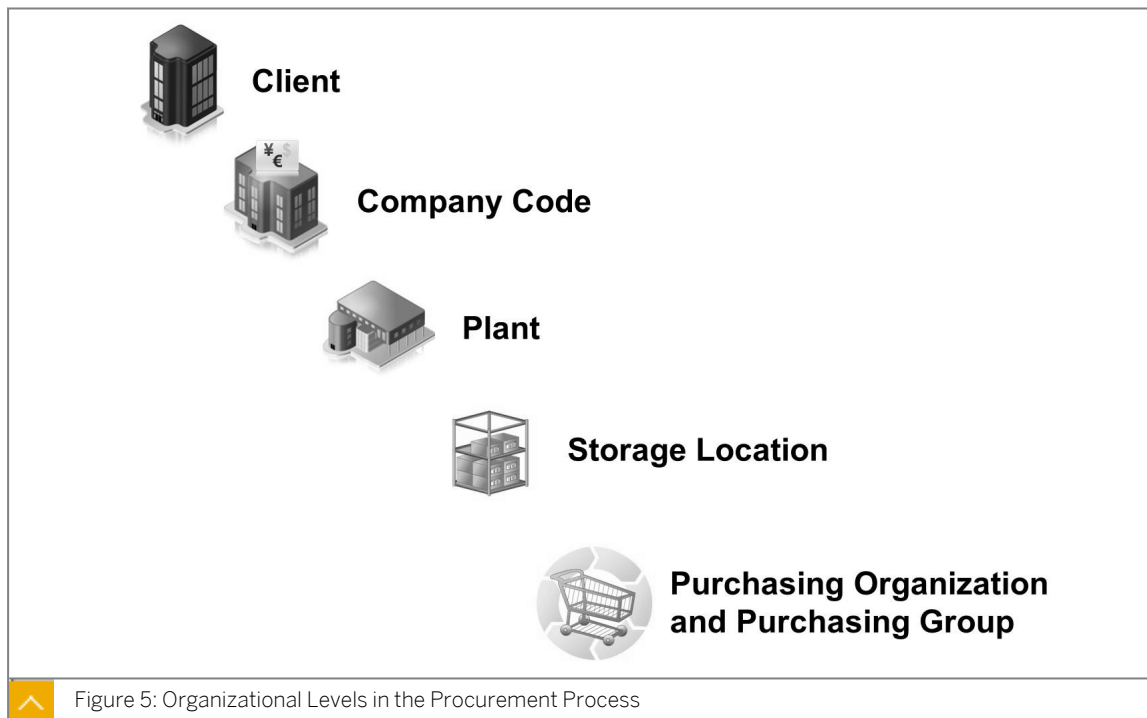
- SAP-specific definition
- Example from practical experience to illustrate the term

The Participant Handbook does not include all the slides in the show. It has only the Organizational Levels in the Procurement Process overview slide.

The following slides exist for the individual organizational levels:

- Client
- Company Code
- Plant
- Storage Location
- Purchasing Organization or Group

The information from these slides is included as text in the course material. You should point this out to the participants.



In the SAP system, organizational levels represent the legal or organizational structures of a company. The determination of organizational levels is an important procedure in your project, and is an essential prerequisite for all subsequent activities.

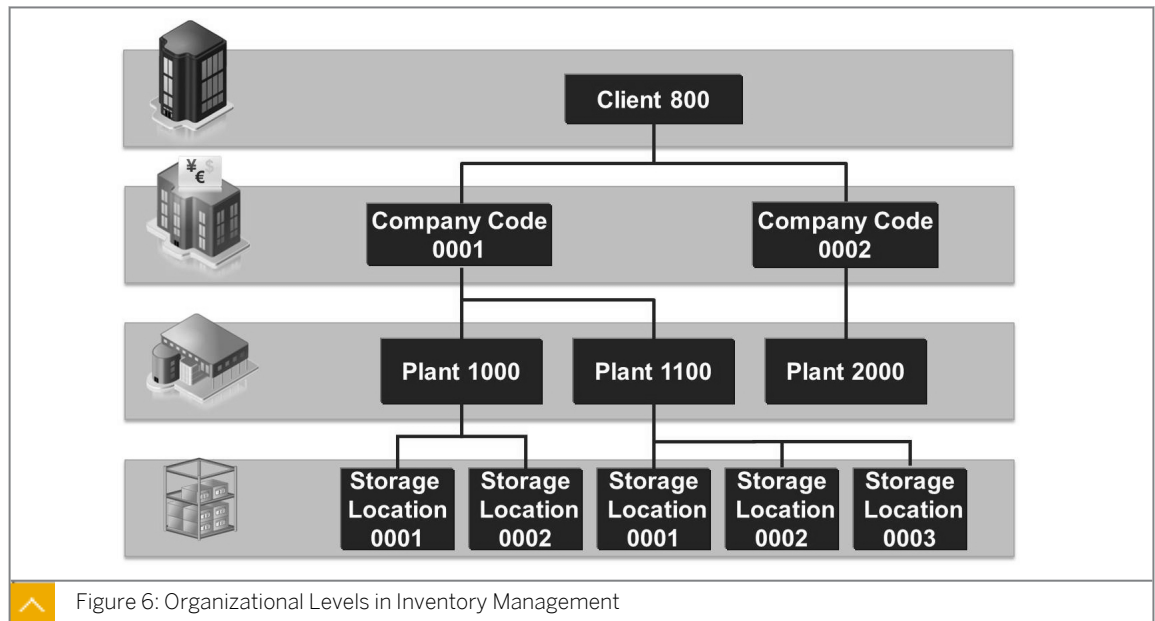
You can analyze structural and process organizations in your enterprise and then reconcile them with the SAP structures. After deciding on an organizational structure, it may be difficult to alter it.



Note:

The organizational levels are defined and assigned in Customizing for the enterprise structure.

## Client, Company Code, Plant, and Storage Location



The organizational levels in inventory management include client, company code, plant, and storage location.

### Client

The client is a unit within an SAP system that is self-contained both in legal and organizational terms, and is represented as separate master records and an independent set of tables. For example, the client could represent a corporate group.

The client is the highest hierarchical level in the SAP system. Specifications or data that you make and enter at this level apply to all company codes and other organizational units. Therefore, you do not have to enter the specifications and data at the client level more than once in the system. This ensures a uniform data status.

Access authorization is assigned on a client-specific basis. A distinct user master record must be created between each user and the client. If the *Client* field has not been pre-populated, each user must specify a client key when logging onto the SAP system. In this way, the client with whom the user will work is specified. All user input is stored, processed, and evaluated on a client-specific basis.

**A client is uniquely defined in the system by a three-digit numeric key.**

### Company Code

The company code is the smallest organizational unit in external accounting for which a complete, self-contained bookkeeping system can be maintained.

The company code tracks the entry of all events that require posting to the accounts, and creates a complete audit trail for balance sheets and profit and loss statements.

A company code represents an independent unit (that produces its own financial statements, such as a company within the corporate group (a client)).

You can set up several company codes for the same client to keep separate sets of accounts. Use the special Customizing function to copy company code-dependent specifications to a new company code.


A company code is defined in the system by means of a four-character alphanumeric key that is unique in the client.

### Plant

The plant is an organizational unit within logistics that subdivides an enterprise from the viewpoints of production, procurement, plant maintenance, and materials planning.

**A plant may represent a variety of entities within a firm, such as the following:**

- Production facility
- Central issuing storage location
- Regional sales office
- Corporate headquarters
- Maintenance location

 When creating a new plant, you can use the plant copy function. During the process, the system copies all data entries in the plant table, as well as all Customizing and related system tables in which the plant occurs as the key.

A plant is defined in the system by a four-character alphanumeric key that is unique to it in the client.

The enterprise structure is created by assigning the organizational levels to the various classifications. Hence, a client may contain several company codes, and a company code may contain several plants. However, a plant can only belong to one company code.

### Storage Location

The storage location is an organizational unit that facilitates the differentiation of stocks of materials within a plant. Inventory management on a quantity basis is carried out in the plant at the storage location level. The physical inventory is also carried out at this level.

A storage location is defined by a unique four-character alphanumeric key.



After defining the organizational levels, explain the structure and the necessary assignments among the levels.



Hint:

The key of a plant is unique in a client, and a plant can only belong to one company code. Therefore, by specifying the plant, you simultaneously specify the company code.

**The characteristics of storage locations are as follows:**

- Several storage locations may be assigned to a plant, but a specific storage location can only belong to one plant.
- Storage locations are defined specifically for a plant and are therefore assigned accordingly.
- The key of a storage location is unique within a plant.

- Within a client level, the same key can be used for different storage locations because when you specify a storage location, you have to specify the plant as well.

## Purchasing Group and Purchasing Organization



Once the basic framework of the enterprise structure exists, the purchasing-specific organization levels must be introduced and incorporated into this structure. Explain that all three variants of a purchasing organization (plant-specific, company-code-specific, and cross-company-code) may occur within one enterprise.

A purchasing group is a key organizational unit for a buyer, or group of buyers, responsible for certain purchasing activities. The purchasing group is internally responsible for the procurement of a material or class of materials. Externally, the purchasing group supplies the contact person for vendors. The purchasing group is not aligned to other units in the company structure.



Note:

Purchasing groups are not defined in Customizing for Enterprise Structure, but under *Materials Management* → *Purchasing* → *Create Purchasing Groups*.

A purchasing organization is an organizational unit within logistics that subdivides the enterprise according to the purchasing requirements.

A purchasing organization procures materials or services, negotiates terms and conditions of purchase with vendors, and assumes responsibility for the transactions.

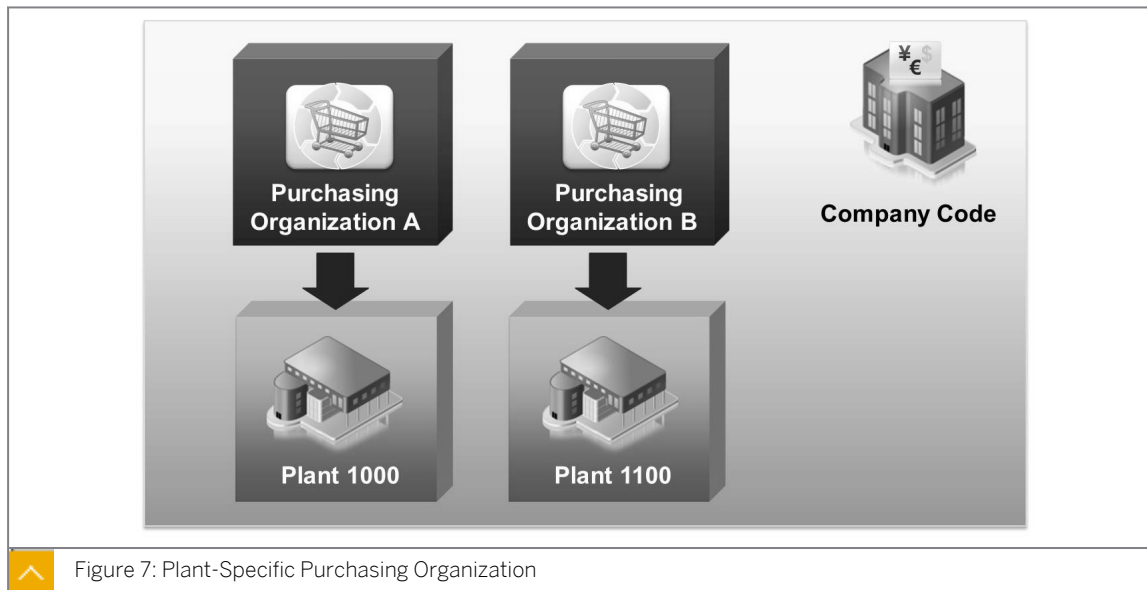
Incorporate purchasing into the company structure by assigning a purchasing organization to a company code and plants. This allows you to take into account whether purchasing is centralized or decentralized in your company. You can have a combination of these two organizational forms.

Assign several purchasing organizations to one company code. However, a specific purchasing organization can only belong to one company code. You can decide not to assign a purchasing organization to a company code (cross-company-code purchasing). There is a many-to-many relationship between purchasing organizations and plants; one purchasing organization can be assigned to many plants, and vice versa.

**The different assignment options between the company code, plant, and purchasing organization yield the following categories of a purchasing organization:**

- Plant-specific purchasing organization
- Cross-plant purchasing organization
- Cross-company code purchasing organization

## Plant-Specific Purchasing Organization



In a plant-specific procurement, a purchasing organization is responsible for procuring materials for a single plant.



Note:

**In a plant-specific procurement, you make the following assignments in Customizing for the Enterprise Structure:**

- Assign a purchasing organization to a company code under *Assignment → Materials Management → Assign Purchase Organization to Company Code.*
- Assign one plant of the company code to this purchasing organization under *Assignment → Materials Management → Assign Purchase Organization to Plant.*



## Cross-Plant Purchasing Organization

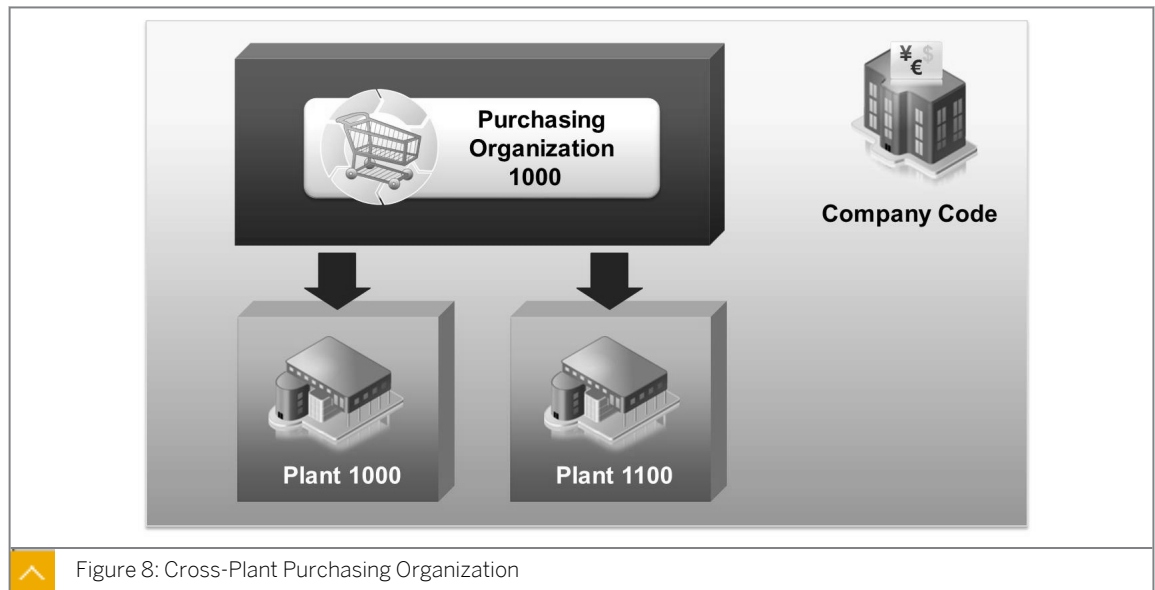


Figure 8: Cross-Plant Purchasing Organization

If a purchasing organization has to procure materials and services for several plants belonging to a company code, you can set up a cross-plant purchasing organization for each company code.

**A purchasing organization performs the following steps to set up cross-plant purchasing:**

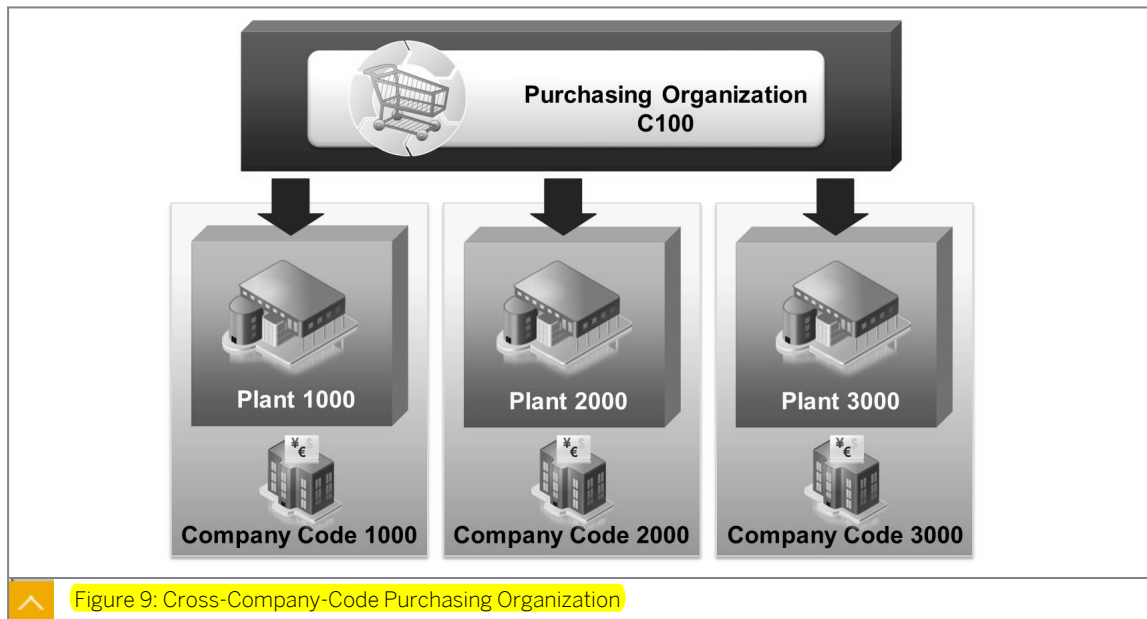
1. Assigning a purchasing organization to the desired company code.
2. Assigning the plants for which a purchasing organization is responsible.



**Hint:**

If a purchasing organization is responsible for all the plants of a company code, it is not enough to assign the company code and purchasing organization alone. You must also assign the plants to a purchasing organization that procures for them. However, assignment to a company code is not necessary if you use a cross-company-code purchasing organization.

## Cross-Company-Code Purchasing Organization



When setting up cross-company-code purchasing, the purchasing organization must not be assigned to any company code(s) in Customizing. When you create a purchase order, the system will ask you to enter the company code for which you want to procure the material.

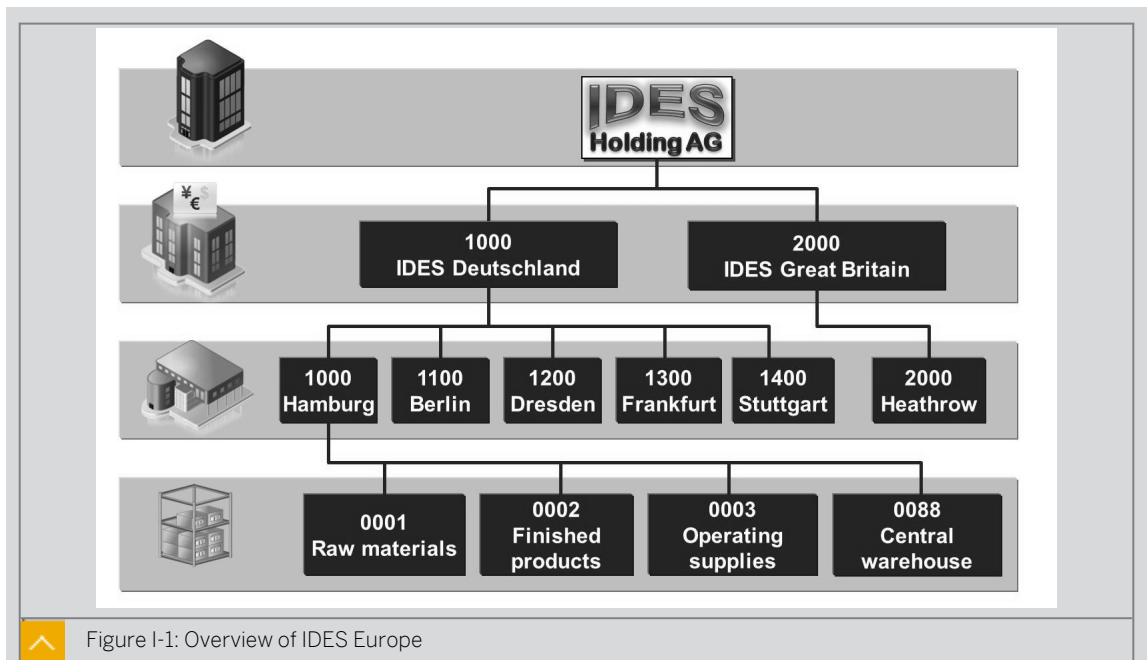


To complete this lesson, give the participants an overview of the company structure IDES PLC, which is the model company that is reproduced in the training system, because this data is used in the demos and exercises.



### Caution:

The two pictures only appear in the slides and not in the participant handbooks. Make sure participants are aware of this.

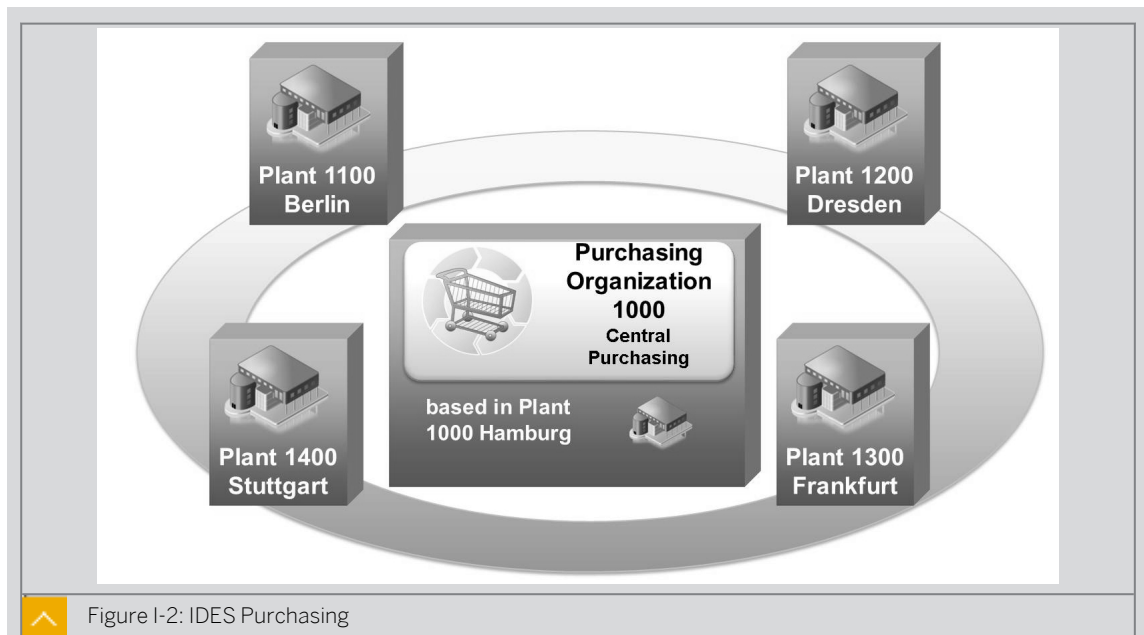


IDES is an international group with companies in Europe, Asia, and North America. In Europe, IDES has companies based in Germany and the U.K. Due to different legal regulations relating to balance sheets and profit and loss statements, IDES needs two company codes in Europe.

IDES has five production facilities in Germany and production is done as follows:

- The Berlin plant manufactures the engine housings.
- The Dresden plant manufactures the gearboxes.
- The Frankfurt plant manufactures the brake systems.
- The Stuttgart plant manufactures electrical components.
- The final assembly of the motor cycles takes place in the Hamburg plant.

IDES has four storage locations at its Hamburg plant. These locations allow differentiation between the various stocks of material held there.



IDES Germany has centralized its purchasing operations for tires, steel, electronic items, accessories, and equipment. The central purchasing department is based in Hamburg. It is responsible for procuring the above materials for all the German plants.



### FACILITATED DISCUSSION

Discuss possible procurement processes and organizational structures with the participants. Ask participants the following question: How is your company structured?



### LESSON SUMMARY

You should now be able to:

- Describe the various external procurement processes
- Explain the relevant organizational levels for procurement



## Maintaining Purchase Orders

### LESSON OVERVIEW

This lesson introduces the purchase order as an important element of the external procurement process. It provides an introduction to the structure of purchase order documents, and how the SAP system handles the way purchase documents are created and issued.

### Business Example

In your company, materials must be procured from external vendors. As an employee working in the purchasing department, you need to know about the procurement process, especially the purchase order. For this reason, you require the following knowledge:

- An understanding of the various documents that you can refer to when creating a purchase order
- An understanding of the most important elements of a purchase order
- How to enter and issue a simple purchase order



In this lesson, the participants will learn about the purchase order transaction, ME21N. The main focus is on using the transaction. This includes the basic structure of a single-screen transaction and navigation. You must refrain from answering in detail to any questions about topics that are covered later on in this course.

The participants will know from practice which data to enter in a purchase order. When creating a purchase order, they must highlight the relevant organizational levels (purchasing organization, purchasing group, and plant).



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Maintain purchase orders
- Execute print outputs for purchase orders

### Purchase Order Details



The figure is intended to help participants understand the procurement process covered here.

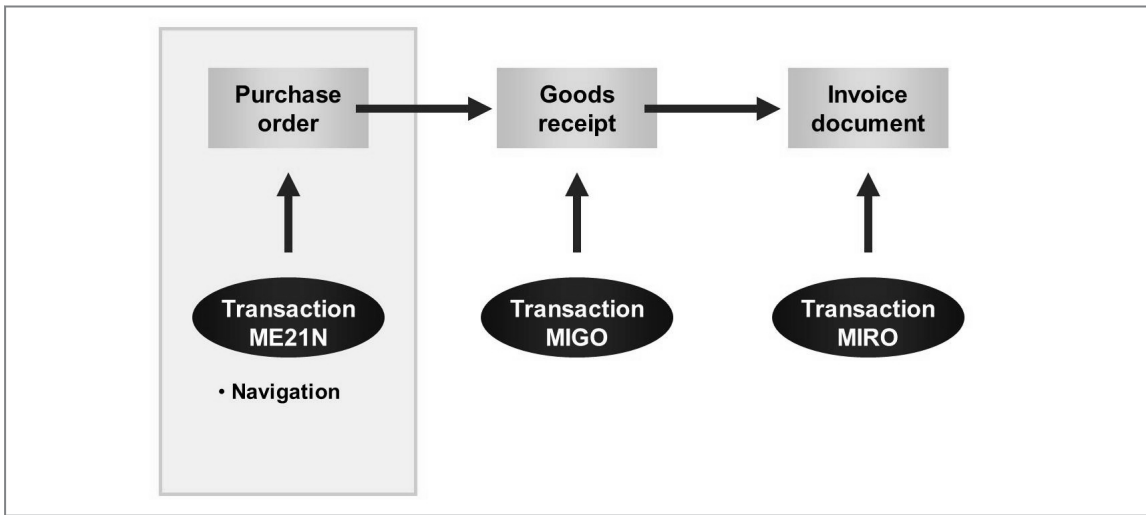


Figure 10: Basics of Procurement – Purchase Order

The figure explains the first step of a simple procurement process. The procurement process starts with the creation of a purchase order using transaction ME21N. In the procurement process you assume that important data, such as vendor and material data, already exists in the system.

A purchase order is a formal request to a vendor to supply goods or services with the conditions stated in the purchase order. You specify in the purchase order whether the material is intended for stock or for direct consumption (for example, cost center, asset, or project.) The goods receipt and invoice verification are usually carried out on the basis of a purchase order.



Explain the options for creating a purchase order and the structure of a purchase order (header data and item data).

### Purchase Order

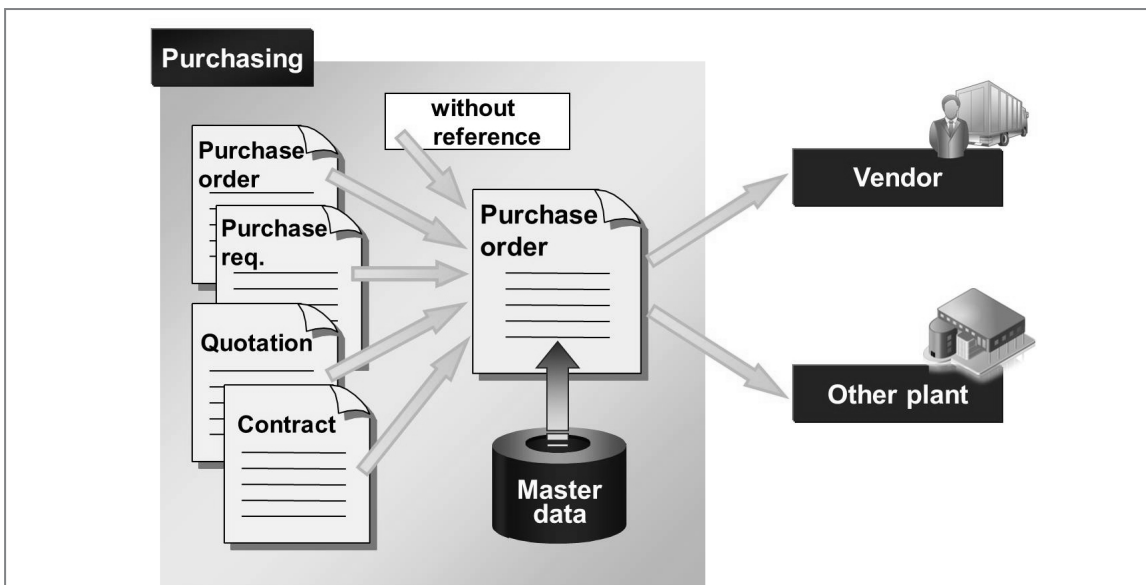


Figure 11: Purchase Order

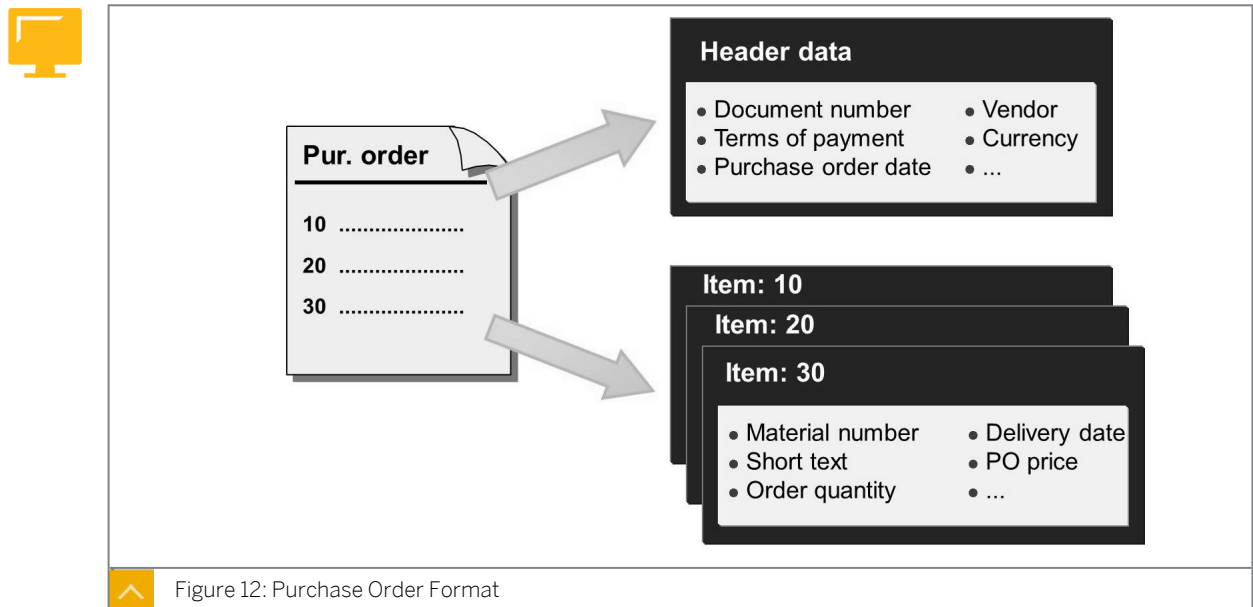
You can minimize data-entry time by creating **purchase order items with reference to an existing purchase order, purchase requisition, quotation or contract.**

You can also enter a purchase order without referring to existing documents in the system. When you enter the purchase order data, the system suggests default values. For example, the system suggests the ordering address, as well as the terms of payment and freight (*Incoterms*) from the vendor master record. If a material master record exists, the material short text and the material group are transferred automatically.

If a purchasing information record already exists in the system, the system suggests a price from the purchasing information record in the purchase order.

After creating a purchase order, you can either send the purchase order to a vendor or carry out a stock transport order in another plant belonging to your company or group.

### Purchase Order Format



#### A purchase order consists of the following sections:

- Document header

The document header contains information that refers to the entire purchase order, such as currency, the document date and the terms of payment. Examples include the document currency, document date, and terms of payment.

- Items

The items in a purchase order describe the materials or services ordered. You can maintain additional information for each item (for example, delivery schedules or item-based text).

With a single purchase order, you can procure materials or services for all plants associated with your purchasing organization.

### Maintenance of Purchase Orders



The following two figures show a simplified form of the purchase order transaction interface and how the individual screen areas can be opened and closed. After the theoretical discussion of these figures, introduce the *Purchasing* menu and the transaction `ME21N`.

1. On the *SAP Easy Access* screen, open the *Purchasing* menu and briefly explain the individual nodes.
2. Open the node *Purchase Order* and discuss the structure.
3. Choose *Purchase Order* → *Create Vendor/Supplying Plant Known*.
4. Show the individual screen areas and how to open and close them.

Introduce the following functions:

- *Create*
- *Display / Change*
- *Other Purch. Order*
- *Help*

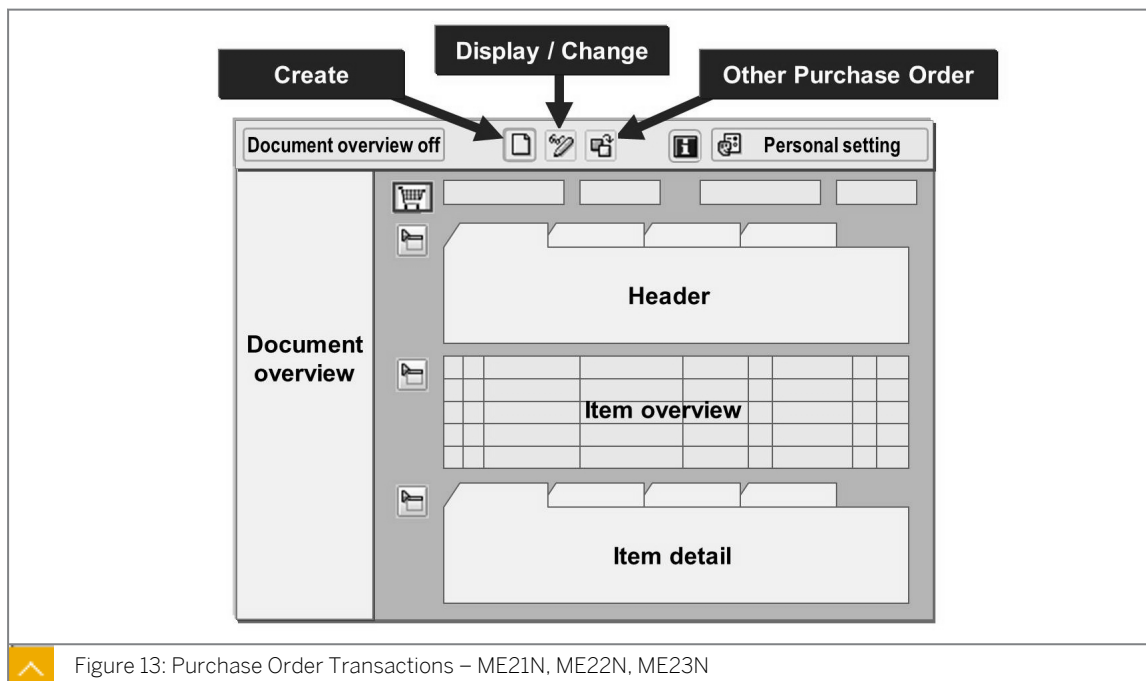


Figure 13: Purchase Order Transactions – ME21N, ME22N, ME23N

The purchase order transaction **ME21N** is a single-screen transaction where you can maintain all relevant data.

**The single-screen transaction is divided into the following screen areas:**

- **Header**  
In the header, you enter all data relevant for the entire order, such as the vendor address and organizational levels.
- **Item overview**  
In item overview, you enter the items with the most important data, such as material, quantity, delivery date, price, and plant.
- **Item detail**





In the item detail, you enter additional data for a particular item, if necessary, such as additional texts, account assignment specifications, and confirmations.

- **Document overview**

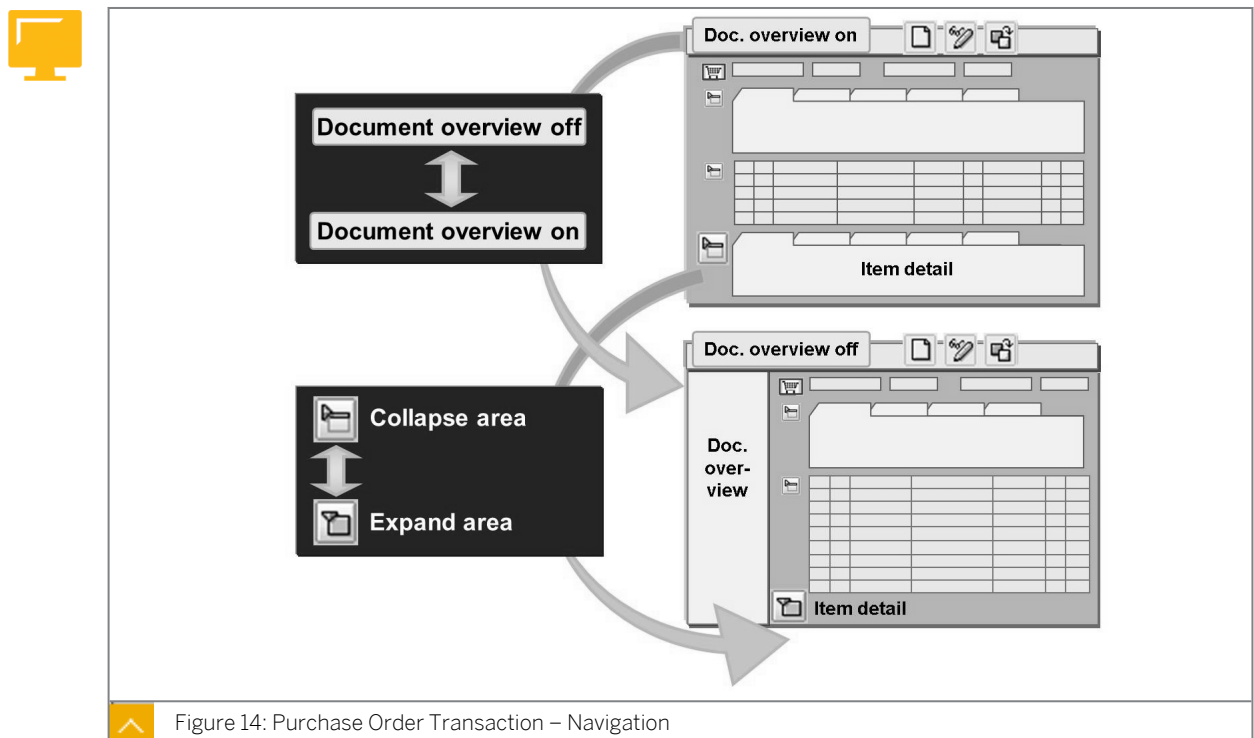
In the document overview, you can display various purchasing documents, such as purchase orders, requests for quotations, and purchase requisitions.

As of Enhancement Package 4 of SAP ERP 6.0, it is possible to integrate web-based catalogs in purchasing. This means the item data can also be copied from a catalog. If you want to connect a catalog, the catalog needs to comply with the Open Catalog Interface (OCI) standard. Only one catalog can be integrated (see SAP Notes 1092922 and 1092923). For more information about catalog connections, see the SAP documentation under *SAP ERP Central Component* → *Logistics* → *Materials Management (MM)* → *Purchasing (MM-PUR)* → *Further Functions* → *Integration of Web-Based Catalogs in Purchasing*.

User-specific requirements can be taken into account with  (*Personal settings*). Using *Personal settings*, you can set your own default settings and specify that the document overview is set automatically when the transaction is started.

In addition, a help function can be displayed like the document overview. You can display or hide this help area by choosing  (*Help*). You are still able to work in the transaction whether the help area is open or closed.

### Purchase Order Transaction – Navigation






In the ordering transaction screen, you can open, close and adjust the size of all screen areas individually. For example, if you close the header and item detail, the size of the item overview is increased.

**The change in screen size also applies to the following screens:**

- Purchase order header

- Item overview
- Item details
- Document overview
- Help function

If you close the purchase order transaction, the same screen areas will be open when you re-enter the purchase order transaction. For example, if you closed the purchase order transaction when the document overview and the header were closed, then, when you re-open the purchase order the item overview and item detail will be open.

Regardless of the function that you use to access the purchase order (create, change, display), you can switch between functions by choosing  (*Create*) or  (*Display / Change*). By choosing the  (*Other Purchase Order*) pushbutton, you can also branch directly to another purchase order or purchase requisition.

### Entry of Names Instead of Numbers

For some fields in the purchase order, you can use both names and keys.

**Using names and keys in the purchase order is valid for the following fields:**

- *Vendor*
- *Material*
- *Material group*
- *Plant*
- *Storage location*

If you enter part of the name, the system displays the corresponding data.

If the system cannot determine the data based on your entry, you will receive a list of possible entries to choose from. For example, if you enter *\*son\** in the *Vendor* field, the system would propose vendors such as Jackson, Johnson, Peterson and so on.



Hint:

For the *Vendor* and *Material* fields, you can deactivate search help under *Personal settings* on the *Basic settings* tab page.

### Purchase Orders Held

You can use the *Hold* function to store incorrect or incomplete purchase orders in the SAP system and continue processing them later. The held purchase orders are not transmitted to the vendor, although they are relevant to materials planning and controlling.

**The following functions are not possible in a held purchase order:**

- Message output (printing or transmission of the PO in message form)
- Release (approval, clearance for issue)
- Posting of a goods receipt
- Posting of an invoice

As of Enhancement Package 5 of SAP ERP 6.0, you can *park* a purchase order. If you want to create a purchasing document, the document may include all materials management information, but some financial information may still be missing. If information is missing when a purchasing document is created, you can temporarily save (park) the document and continue processing it later.

**The following functions are not possible in a parked purchase order:**

- Posting of a goods receipt
- Posting of an invoice



Hint:

If you want to use the *Park* function, you must activate the business function LOG\_MM\_CI\_3 on client level in *Customizing* under *Materials Management* → *Purchasing* → *Environment Data* → *Activate Hold and Park in Purchasing Documents*.

### Steps for Creating a Purchase Order



The screenshot shows the SAP 'Enter Purchase Order' interface. Key elements are highlighted with numbered callouts:

- 1:** Personal Setting button in the top right.
- 2:** Standard PO button in the top left.
- 3:** Vendor field containing 'C.E.B Berlin'.
- 4:** OrgData section containing:
 

Purchasing org.	1000	IDES Deutschland
Purchasing group	019	Parker, J.
Company code	1000	IDES AG
- 5:** Item table with columns: Material, Short Text, Qty, B., Del. Date, Price, Crcy.
 

	Material	Short Text	Qty	B..	Del. Date	Price	Crcy
10	M-01	Monitor	10	PC	12.09.10	1000	EUR
20	R-1130	Keyboard	15	PC	13.09.10	50	EUR
- 6:** Save button in the top right.

At the bottom, there are three buttons: 'Delete item', 'Copy item', and 'Select item from catalog'. A 'Default values' button is also present in the bottom right.

Figure 15: Enter Purchase Order



Show the slide for the procedure and mention the most important steps for creating a purchase order. Then show the following demos.

The figure shows the important steps for creating a purchase order.



## How to Create a Purchase Order



This demonstration introduces participants to transaction ME21N. Discuss the fields in which you enter data. You are setting the ground work for all further exercises and lessons about purchase orders. Therefore, make sure you give yourself enough time. Make sure that all participants can follow the demo.

1. Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.
2. Enter the following data:

Field	Value
<i>Document Type</i>	<b>Standard PO NB</b>
<i>Vendor</i>	<b>1010</b> (Sunny Electronics GmbH)
<i>Doc. date</i>	<Today's date>

3. Choose *Enter*.



Note:

If you have not maintained default values in the personal settings, the system automatically opens the *Org. data* tab page in the header data.

4. Enter the following data on the *Org. data* tab page:

Field	Value
<i>Purch. Org.</i>	<b>1000</b>
<i>Purch. Group</i>	<b>T00</b>
<i>Company Code</i>	<b>1000</b>

5. Enter the item data in *Item overview*.




Note:

In the *Material* field, enter only a part of the material short text (**Sunny**). Confirm your entry with *Enter* and then choose material M-01 from the list of possible materials.


Field	Value
<i>Material</i>	<b>M-01 (Sunny Sunny 01)</b>
<i>Quantity</i>	<b>10</b>
<i>Net Price</i>	<b>500</b>
<i>Plant</i>	<b>1000</b>

Field	Value
Stor. Location	0001


6. Choose  (Save). Make a note of the purchase order number.



In this part of the demonstration, you will create a second purchase order. The personal default values are maintained before creating a purchase order. This shows that the workload for entry can be reduced.

7. Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.
8. Choose  (*Personal Setting*).
9. In the *Personal Settings* dialog box, choose the *Default values* tab page.
10. On the *PO header* tab page, enter the following data:

Field	Value
Purchasing Org.	IDES Deutschland (1000)
Purch. Group	SCM500-00 (T00)
Company Code	IDES AG (1000)

11. Choose the *PO item* tab page to show the possible default values. Enter plant **1000**.
12. Choose  (Save).
13. Create a new purchase order with the following data:



Note:

Instead of the vendor number, enter the name **Sunny Electronics**, and instead of material number, enter part of short text **Sunny Sunny 01** in the *Material* field.

Field	Value
<b>Header data</b>	
Vendor	<b>Sunny Electronics GmbH</b> (1010)
Document Date	<Today's date>
<b>Item data</b>	
Material	<b>Sunny Sunny 01</b> (M-01)
PO Quantity	20

14. Choose  (Save). Make a note of the purchase order number.



## How to Display a Purchase Order



Introduce different options for displaying a purchase order and navigating in the purchase order. Also, discuss other data in the purchase order.

1. Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Display* (ME23N).
2. Choose *Document overview on* to open the document overview.
3. Choose (*Selection variant*) and then *My purchase orders*.
4. Double-click your first purchase order. The purchase order is displayed.
5. Choose *Header* and display the data on different tab pages:
  - *Delivery/Invoice*: Payment terms and *Incoterms*
  - *Address*: Vendor address from the vendor master record
  - *Status*: There are still no follow-on activities for the purchase order



Point out that the name of the person who entered the purchase order is displayed in the title bar.

6. Close *Header* and the *Item Overview*.
7. Choose *Item* and display the data on different tab pages:
  - *Quantities/Weights*: Weights are specified in the material master record. This data is copied into the purchase order.
  - *Conditions*: The discount, net, and effective price are displayed in addition to the price.
  - *Texts*: Enter a short description for the *Item text*. Choose (*Display/Change*) to create a text. Enter any text. Save this entry.



Point out that the *Purchase Order History* tab page is not yet displayed in the item details because no follow-on activities for the purchase order item have taken place yet.

8. Choose (*Print Preview*) to display the message.
9. Show another way of displaying a purchase order. Choose (*Other Purchase Order*).
10. In the *Select Document* dialog box, enter the number of your second purchase order and choose *Other Document* to display the purchase order.



### Note:

Here you can show how the purchase order number can be determined using the F4 help. Choose the search help *Purchasing documents per vendor*. As selection values, enter vendor **1010** and *purchasing group* **T00**.




## To Create a Purchase Order

1. From the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.



Hint:

Before you start to enter purchase order data, set your  (*Personal Settings*) (as long as you have not already made corresponding entries in your user parameters).

In *Personal settings*, you specify default values for the organizational data, such as purchasing organization and purchasing group. You can also specify default values for items such as the plant and delivery date. Specifying default values in *Personal settings* eliminates the need to enter the specified values every time you create a purchase order. If you want to change the default values for the items only, you can call them using the *Default Values* pushbutton located below the item overview field.

The personal settings take priority over the user parameters.

2. Choose the order type (for example, *standard purchase order*).
3. Enter the vendor from whom you want to order.
4. In the header data on the *Org. Data* tab page, enter the organizational levels *Purchasing Org.*, *Purchasing Group*, and *Company Code*. The data can also be determined from your default values or the user master record (as described above).
5. Enter the data for the individual items in *Item Overview*. You must specify *the material*, *quantity required*, *delivery date*, and *price*. The plant that receives the goods must be entered at item level.





Note:

If there is a purchasing information record for the material and vendor, its net price is suggested. If you have not entered a delivery date, it is calculated from the planned delivery time in the info record.



Hint:

To copy a material from a catalog, choose  (*Catalog*) to branch to a catalog. The way you navigate in the catalog depends on the catalog you have chosen.

6. After you have entered all the data, choose  (*Save*) to create the purchase order. The system automatically assigns a purchase order number.







## Create and Display a Purchase Order

### Business Example

You work in the purchasing department of your company. The process for procurement of stock material in your company includes creating a purchase order, posting the goods receipt, and processing the vendor invoice. You must familiarize yourself with purchase order processing for stock material.

The warehouse stock of standard taillights T-M500A## must be replenished.

Order 100 of these taillights from the vendor Motolux GmbH Gr.##.

1. Maintain a list of favorites.

Working with purchase orders frequently, you should include transaction ME21N in your list of favorites.

2. Maintain personal settings.

Before you create the purchase order, maintain your personal default values in the purchase order transaction.

Define the following default values for the organizational data and save these settings:

Field	Value
<i>Purchasing Org.</i>	<b>IDES Deutschland</b> (1000)
<i>Purch. Group</i>	<b>SCM500-##</b> (T##)
<i>Company Code</i>	<b>IDES AG</b> (1000)

As you do not require the online help at the moment, close the help area.

3. Create a purchase order.

Order 100 pieces of material T-M500A## (standard taillight-##) for immediate delivery from vendor T-K500A## (Motolux GmbH Gr.##).

The material is required for plant 1000 (Hamburg plant) and is to be stored in storage location 0001.

Accept the default purchase order price suggested by the system and note the purchase order number.

Purchase order number: \_\_\_\_\_

4. Display the purchase order.

Display your purchase order again and check that you have entered the data correctly.

Use the document overview and choose the selection variant *My purchase orders*.



## Create and Display a Purchase Order

### Business Example

You work in the purchasing department of your company. The process for procurement of stock material in your company includes creating a purchase order, posting the goods receipt, and processing the vendor invoice. You must familiarize yourself with purchase order processing for stock material.



The warehouse stock of standard taillights T-M500A## must be replenished.

Order 100 of these taillights from the vendor Motolux GmbH Gr.##.

#### 1. Maintain a list of favorites.

Working with purchase orders frequently, you should include transaction ME21N in your list of favorites.

##### a) The following ways enable transactions to be included in the list of favorites:

- Drag and drop:  
Drag the required transaction from the menu to your list of favorites.
- Right mouse button:  
Right-click the required transaction and choose *Add to Favorites*.
- Pushbutton  (*Add to Favorites*) in the toolbar:  
When you choose  (*Add to Favorites*), the selected entry is copied.
- Transaction code:  
Select *Favorites* in the standard toolbar, right-click and choose *Insert transaction*, and then enter transaction code ME21N.



Hint:

Note that the format of the list of favorites varies depending on the procedure you use.

##### b) You can change the description of the entries in your list of favorites by selecting the relevant favorites and choosing *Favorites* → *Change*.




#### 2. Maintain personal settings.

Before you create the purchase order, maintain your personal default values in the purchase order transaction.

Define the following default values for the organizational data and save these settings:

Field	Value
Purchasing Org.	<b>IDES Deutschland</b> (1000)
Purch. Group	<b>SCM500-##</b> (T##)
Company Code	<b>IDES AG</b> (1000)

As you do not require the online help at the moment, close the help area.

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known* (ME21N).
- b) Choose  (Personal settings).
- c) Choose the *Default values* tab page, and then *PO header*. Enter the default values.
- d) Choose  (Save) to save your personal default values. These default values are used in the purchase order until you change them again.
- e) To close the help area, choose  (Close).



Note:

Do not exit purchase order transaction ME21N after this step.

### 3. Create a purchase order.

Order 100 pieces of material T-M500A## (standard taillight-##) for immediate delivery from vendor T-K500A## (Motolux GmbH Gr.##).

The material is required for plant 1000 (Hamburg plant) and is to be stored in storage location 0001.

Accept the default purchase order price suggested by the system and note the purchase order number.

Purchase order number: \_\_\_\_\_

- a) Enter the following data:

Field	Value
Vendor	<b>T-K500A##</b>
<b>Item Overview</b>	
Material	<b>T-M500A##</b>
Quantity	<b>100</b>
Delivery Date	<Today's date>
Plant	<b>1000</b>
Stor. Location	<b>0001</b>

- b) Choose  (Save) and make a note of the PO number.




Note:

Do not exit purchase order transaction ME21N after this step.

4. Display the purchase order.

Display your purchase order again and check that you have entered the data correctly.

Use the document overview and choose the selection variant *My purchase orders*.

- a) If the document overview is not displayed, choose *Document overview on*.
- b) Choose  (*Selection variant*) and then *My purchase orders*.
- c) To display the purchase order, double-click the document number for your purchase order in the document overview.

## Messages

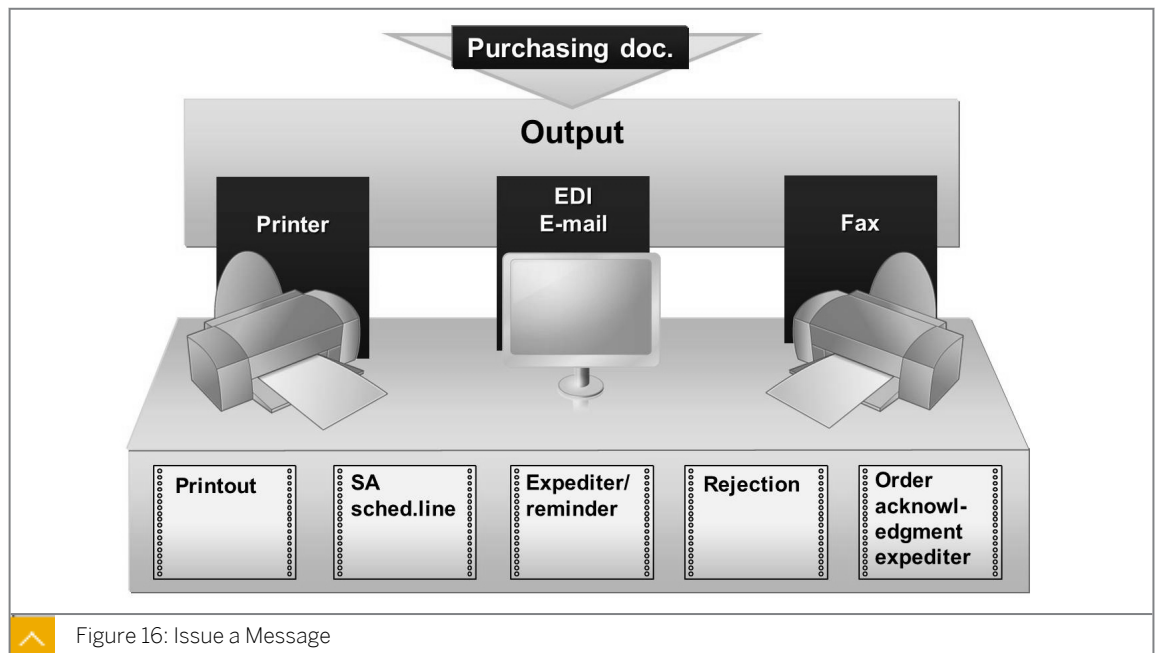



Figure 16: Issue a Message

You can issue all purchasing documents as messages. Each time you create an RFQ, a purchase order, a contract, or a scheduling agreement, you also create a system message from the document. This message is then placed in a message queue containing all messages that have not yet been transferred to the vendors.

**To issue the message (through print, by e-mail, fax, or EDI) from the message queue, you have the following options:**

- Issue immediately  
The system issues the message directly from the queue, that is, as soon as you save the document.
- Issue later  
You either schedule a background job (for the program RSNAST00) that processes the message queue at specific intervals, or you start the issue directly from the purchasing menu. You issue the messages by scheduling a background job. Start the issue manually only as needed (such as for rush orders).

For the message issue, you can specify the header texts and item-based texts the system issues. The header text contains general information and is printed at the top of the purchase order. Item texts describe a purchase order item in more detail.

You can also include and issue standard texts. In transaction ME21N, you can use the  (*Print Preview*) pushbutton to display a document on your screen before you print it.



Note:

For more information on issuing purchasing documents, see the SAP documentation under *SAP ERP Central Component* → *Logistics* → *Materials Management (MM)* → *Purchasing (MM-PUR)* → *Entering Text, Printing and Transmitting Documents*.



## How to Execute a Print Output for a Purchase Order

Issue a Purchase Order

1. Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Messages* → *Print/Transmit (ME9F)*.

This takes you to the message selection screen.

2. Enter the selection criteria for the documents to be issued as follows:

Field	Value
<i>Vendor</i>	<b>1010</b>
<i>Purchasing Organization</i>	<b>1000</b>
<i>Purchasing Group</i>	<b>T00</b>

3. Choose *Program* → *Execute*. You will receive a list of your purchase orders.
4. Select both documents and choose *Edit* → *Output message*.



## To Issue a Message Manually for a Purchase Order

The prerequisites to issue a message manually for a purchase order are as follows:



- Messages must be available in the message queue.
- The purchasing documents that form the basis of the messages must have been released.

1. From the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Messages* → *Print/Transmit (ME9F)*. This takes you to the message selection screen.
2. Enter the selection criteria for the message to be issued.



Hint:

If you want to select unprocessed messages, choose *Processing Status 0* (Not processed).

3. Choose *Program* → *Execute*. The system displays a list of messages that have not yet been issued.
4. Select the documents for issue.
5. Choose *Edit* → *Output message*.



## Execute Print Outputs for Purchase Orders

### Business Example

To issue purchasing documents as messages, you need to decide whether to issue the messages immediately or later. As an employee in the purchasing department, you must familiarize yourself with issuing messages manually for purchase orders.

Output messages

1. Display your purchase order in the print preview. When you are sure you have selected the correct purchase order and that the data is correct, print the purchasing document. The system automatically selects the output device you set in the Message Determination (for example, printer or fax machine).




## Execute Print Outputs for Purchase Orders

### Business Example

To issue purchasing documents as messages, you need to decide whether to issue the messages immediately or later. As an employee in the purchasing department, you must familiarize yourself with issuing messages manually for purchase orders.

Output messages

1. Display your purchase order in the print preview. When you are sure you have selected the correct purchase order and that the data is correct, print the purchasing document. The system automatically selects the output device you set in the Message Determination (for example, printer or fax machine).
  - a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Messages* → *Print/Transmit* (ME9F).
  - b) Adopt the selection criteria proposed by the system and choose the  (*Execute*) pushbutton.
  - c) In the overview, select your document and choose *Display Message*.
  - d) Go back to display the list of messages to be issued.
  - e) Select your document again and choose *Print*.





### **LESSON SUMMARY**

You should now be able to:

- Maintain purchase orders
- Execute print outputs for purchase orders



## Posting Goods Receipts

### LESSON OVERVIEW

This lesson demonstrates how to enter a goods receipt against a purchase order, and introduces the term movement type.

### Business Example

In your company, materials are procured from external suppliers. Delivered goods are usually stored in the warehouse. As a member of the warehouse staff, you examine how deliveries of the ordered materials are entered in the SAP system, and how goods receipts affect the purchase order. For this reason, you require the following knowledge:

- An understanding of the most important ways a goods receipt affects a purchase order
- How to enter a simple goods receipt with reference to a purchase order
- An understanding of the most important elements of a material document



As an introduction to this lesson, briefly review the procurement process to show participants the step that you will now discuss.

Point out that in many enterprises, the goods receipt process does not merely consist of posting the goods receipt. If a warehouse management system is in operation, additional steps are necessary to replicate the transportation of the material from the goods receiving area to the storage bin. This process is not covered in SCM500.



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Post a goods receipt

### Goods Receipts in Procurement



Emphasize the significance of the link to the purchase order when goods are received. Describe the effects on the purchase order history and invoice verification.

Briefly explain that the system usually generates two documents when the goods receipt is posted (material and accounting document). Tell the participants that the following updates are evidenced by these documents:

- Material document: stock quantity update
- Accounting document: stock value update

If this lesson is taking place as a part of course SCM500, you should not go into any more detail about the accounting document because valuation is discussed in the "Procurement of Stock Material" unit.

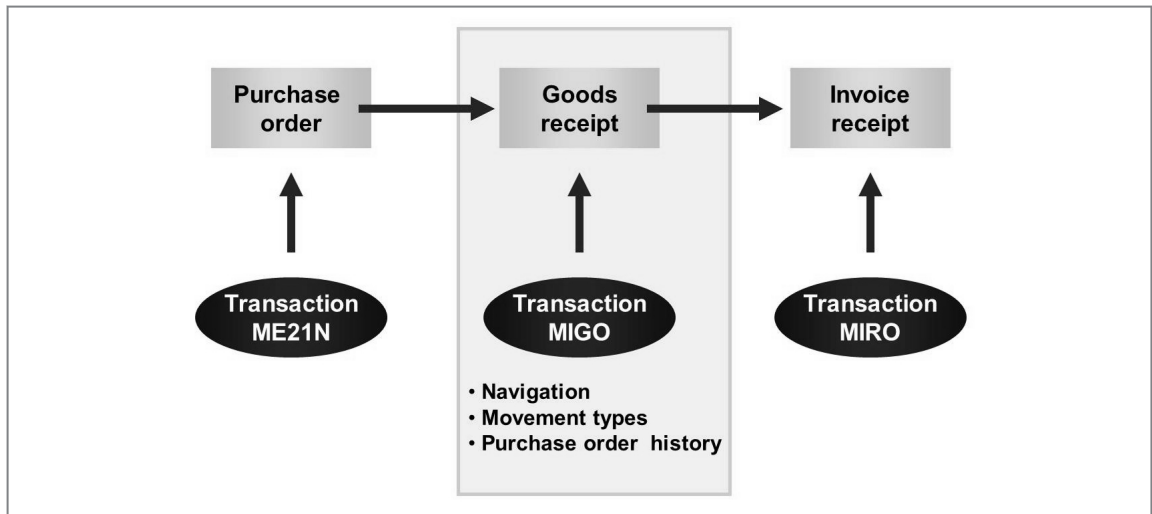


Figure 17: Basics of Procurement – Goods Receipt

The first step in a simple procurement process is the issue of a purchase order for the goods to a vendor. The second step is the goods receipt. Like the purchase order process, the goods receipt process is mapped in the SAP system with an Accounting document.

### Goods Receipt

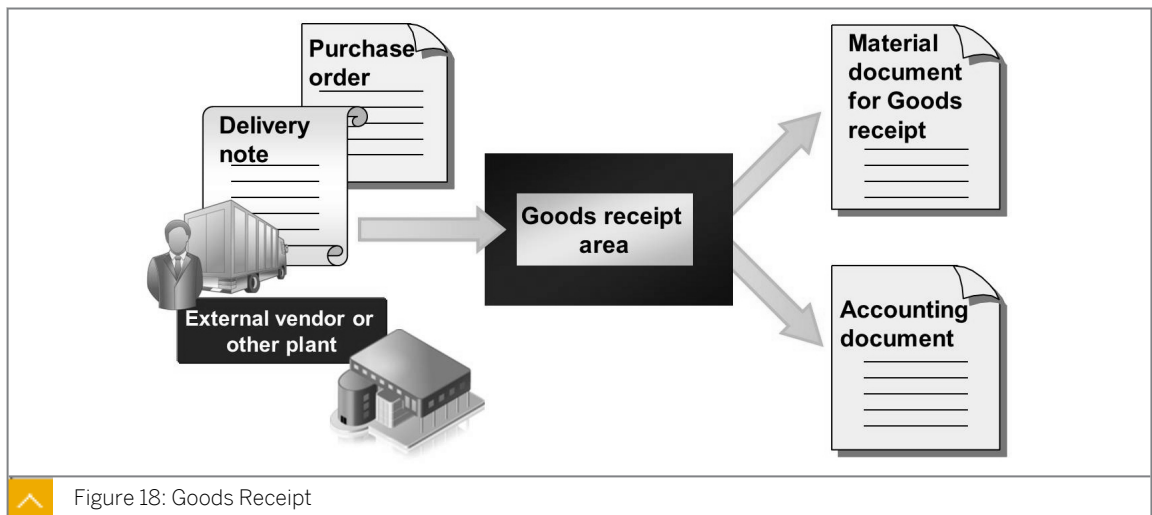


Figure 18: Goods Receipt

**At the time of delivery, the following are some of the checks that are done:**

- Whether the right material has been delivered
- Whether the right quantity has been delivered
- Whether perishable goods are within their minimum shelf life (the shelf-life expiration-date check must be active in this case.)

When goods are delivered against a purchase order, it is important that you enter the goods receipt with reference to the purchase order for all departments concerned. When you record

the receipt of goods, the system suggests all open items from the purchase order which helps you enter and check all incoming goods.

You can enter several goods receipt items against a purchase order item in one operation. This means that you can enter multiple goods receipt items at once when material is delivered in several batches or is distributed to several storage locations.

When you post a goods receipt for a purchase order, the purchase order history of the relevant purchasing document items are updated automatically. This enables the buyer to identify outstanding deliveries.

When you post the receipt of goods into the warehouse or stores, the system generates a material document containing information on the material delivered and the quantity delivered. The system records the relevant plant storage location where the material is stored. If the goods receipt is valued, an accounting document is generated. This document contains details of the account effects of the material movement.

### Goods Receipt Details



First, explain the significance of the type of goods movement in general terms. Then discuss movement type 101 in detail. This movement type is used to post goods receipts into the warehouse or direct to consumption with reference to a preceding document (purchase order and production order).

Discuss other movement types and their uses as follows:

- 102: Reversal movement type corresponding to 101
- 122: Return delivery (of goods) to vendor
- 501: Receipt (from a vendor) without purchase order
- 201: Consumption for cost center from warehouse
- 551: Withdrawal for scrapping

Then, introduce the transaction for goods movements: `MIGO`. Open the *Inventory Management* menu and discuss the individual nodes. Then open the *Goods Movement* node.



**Caution:**

When explaining transaction `MIGO`, and in the subsequent demo, clarify that the document overview in `MIGO` cannot be compared with the document overview in the purchase order transaction. Point out that the document overview in `MIGO` is a display list showing the last used documents and that a document number is only included in the list if it has been used or generated in this transaction.



Figure 19: Movement Types – Examples

When entering a goods movement, you must indicate a movement type. The movement type is a three-character key used to differentiate between the various types of goods' movements. Examples of such goods movements are *Goods Receipts*, *Goods Issues*, and *Transfer Postings*.

**The movement type field performs the following functions:**

- Assumes important control functions in inventory management
- Plays a central role in automatic account determination in the SAP system
- Determines which stock or consumption accounts are updated in financial accounting, along with other influencing factors
- Affects the screen layout for document entry and the updating of quantity fields

**Goods Movement – Transaction MIGO (Screen Items)**

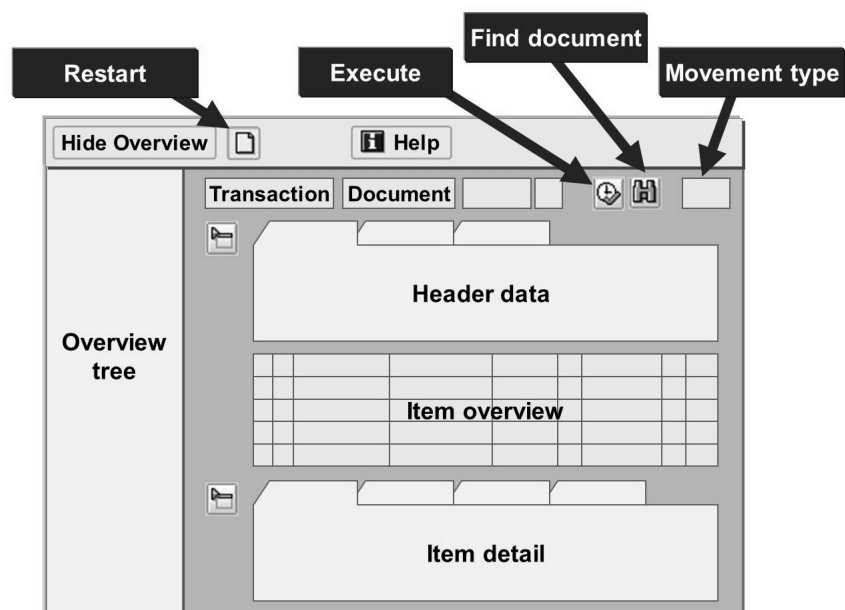


Figure 20: Goods Movement – Transaction MIGO


**The transaction for entering goods movements (MIGO) is a single-screen transaction subdivided into the following screen areas:**

- Overview tree

Your last ten documents for purchase orders, orders, reservations, material documents, and held data are displayed in this area. The system automatically inserts these documents into the overview tree. These are documents referenced when posting a goods movement, as well as material documents generated in the process. The document overview cannot be influenced by the user.



Hint:

The document overview is not intended for document searches. You can use  (*Search for Document*) for this purpose.



Hint:





From the document overview, you can only display material documents.

- Header data

The header data contains information that refers to the complete material document, such as the document and posting date, the document header text, the user who created it, and the entry date. The information is grouped on individual tab pages. The accounting document is also accessible from the header data.

- Item overview and item detail

The document items are listed in the item overview area. By clicking the number of an item in the overview, you open the detail data for the item. The details include information on reference documents and the account assignment. The information is grouped on individual tab pages.

With the exception of the item overview, you can open and close the screen areas individually. You can show or hide the overview tree using the *Show Overview* pushbutton or *Hide Overview* pushbutton. For the header data and item details, use the  (*Head.data*) pushbutton or  (*Detail Data*) pushbutton to open the screen areas. Use the  (*Close Header Data*) pushbutton or  (*Close Detail Data*) pushbutton to close them. You can open the detail data of an item by clicking the item number in the item overview.




Note:

Once you have opened the detail data for an item, you can only make changes to this item in the detail data.

### Goods Movement - Transaction MIGO

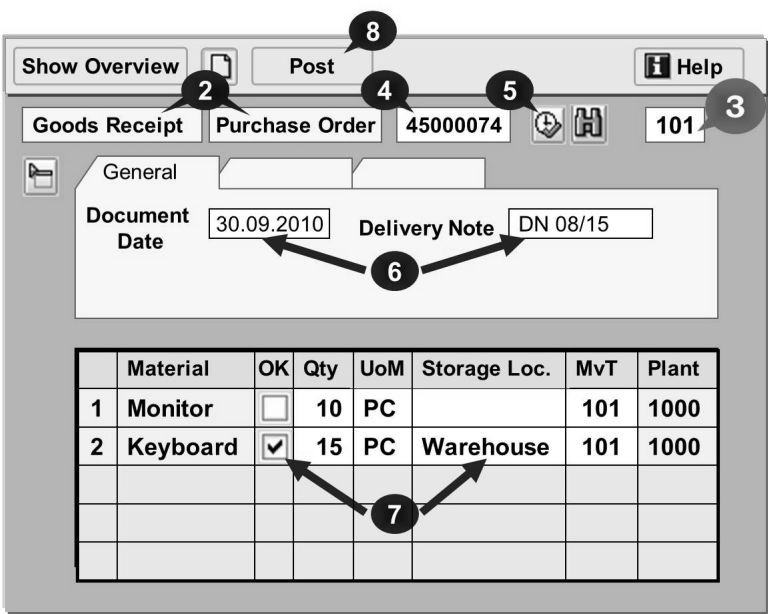
Opening and closing screen areas influences the size of other areas. For example, if you close the header and detail data, the size of the item overview increases. Each time you invoke the transaction, the screen appears in the setting you chose in the last session prior to exiting the transaction.

To terminate processing in MIGO, you do not have to leave the transaction. Choose  (Restart) to start the process again.

You can maintain personal default values for the entry of goods movements by choosing *Settings* → *Default Values*. A separate dialog box opens, in which you specify your personal default values (for the plant and storage location, for example).

When you use transaction MIGO, first specify which action you wish to perform in the *Transaction* field. If you are entering a goods movement, specify whether it is a goods receipt, goods issue, return delivery, or transfer posting. In transaction MIGO, you can display or cancel the material document from a posting you have made by choosing the transactions with the same name. For each chosen transaction, you can define the documents you need to refer to.

### Entry of Goods Receipt against a Purchase Order

	Material	OK	Qty	UoM	Storage Loc.	MvT	Plant
1	Monitor	<input type="checkbox"/>	10	PC		101	1000
2	Keyboard	<input checked="" type="checkbox"/>	15	PC	Warehouse	101	1000

Figure 21: Enter GR for a Purchase Order

The figure shows how to enter a simple goods receipt against a purchase order. You can then display the material document generated in the process.



Show the slide relating to the procedure and briefly explain the most important steps for the entry of a goods receipt against a purchase order. Then show the following demos.




#### Caution:

With the following demos, you are preparing the ground for all further exercises and lessons in which the entry of a goods movement is involved. Therefore, make sure you give yourself enough time. Make sure that all participants can follow the demo.



### How to Set Default Values in Transaction MIGO

Introduce and set default values in transaction MIGO.

1. Choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Movement (MIGO)*.
2. Choose *Settings* → *Default Values* and explain the following fields:
  - *Stor. Location* and *In Plant*: Default values are only used if no values can be determined from the reference document.
  - *Propose the OK Function in Future*: A checkbox that determines whether an item is taken into account during posting.
  - Default value for movement type is dependent on the action (operation) and the reference document. You can also change this default value directly on the entry screen.
3. Enter **0001** in the *Stor. Location* field and **1000** in the *In Plant* field.
4. Choose the  (*Adopt*) pushbutton.
5. Explain the *Change to Default Values* tip that appears when the default values are saved. Point out that you can also hide this tip by selecting the *Skip this in future* checkbox.




### How to Post a Goods Receipt for the Purchase Order Using Transaction MIGO



Before you carry out this demo, you must perform the demo *How to Set Default Values in transaction MIGO*.

Post a goods receipt using transaction MIGO.

1. Choose the transaction *Goods Receipt* and reference document *Purchase Order*.
2. Check the default value for the movement type. The value must be **101**.
3. Choose  (*Find Purch. Order*) and enter the following data:

Field	Value
<i>Vendor</i>	<b>1010</b>
<i>Material</i>	<b>M-01</b>
<i>Plant</i>	<b>1000</b>




4. Choose  (*Find*). A separate screen area with the search result appears.





Note:

Point out that your purchase orders are not automatically displayed in the document overview under *My Documents* → *Purchase Orders*.

5. Select the first purchase order and choose  (*Adopt*). Choose the  (*Close Search Result*) pushbutton.
6. Enter any *delivery note* number in the header data.
7. Select the *Item OK* checkbox for the item and display *Movement Type*, *Plant*, and *Storage location* for the item.
8. Choose  (*Post*). Show that the number of the purchase order, against which you have entered the goods receipt, is now displayed in the overview.





### How to Display the Material Document after a Goods Receipt

In the case of this goods receipt, enter the purchase order number and display the material document. Enter the material document number to display a material document.



Caution:

You can only hold this demo if you have performed the demo from the "Maintaining Purchase order" lesson.

1. Retain the information in the fields transaction or event, reference document, and movement type.
2. Enter the number of your second purchase order in *Purchasing Document Number*.
3. Choose  (*Execute*) to copy the items from the purchase order.
4. Enter any delivery note number, select the *Item OK* checkbox for the item, and choose *Post*.
5. Choose *Display* to view your material documents. The system then automatically displays *Material Document* as the reference document and suggests the number of your last material document.
6. Choose  (*Execute*) to display the material document.
7. Open the header data and navigate using the individual tab pages. Explain which values are displayed.
8. Open the item details and navigate using the individual tab pages. Explain which values are displayed.
9. Choose the *Purchase Order Data* tab page. To branch to the purchase order, double-click the purchase order number.
10. In the item details, choose the *Purchase Order History* tab page and explain the data.

11. Go back to the material document.
12. Display your first material document by double-clicking it in the overview.



### Post a Goods Receipt for a Purchase Order

1. On the SAP Easy Access screen, choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Movement (MIGO)*.




Note:


You can also choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Receipt* → *For Purchase Order* → *GR for Purchase Order (MIGO\_GR)*.

2. Choose the transaction *Goods Receipt* and the reference document *Purchase Order*.
3. Check the default value for the movement type. The value must be **101**.
4. Enter the purchase order number.



Hint:

You can also search for the purchase order. To do so, choose  (*Find Purch. Order*).

5. Choose  (*Execute*) to copy the items from the purchase order.
6. Enter the document date and the vendor's delivery note number on the *General* tab page in the header data.
7. Select the items that were delivered using the *OK* checkbox. If necessary, change the default quantity for the items and specify a storage location.



Caution:

Once you have opened the detail data for an item, you can only make changes to this item in the detail data field.

8. Post the goods receipt.




### To Display a Material Document and the Associated Accounting Document


1. On the SAP Easy Access screen, choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Movement (MIGO)*.



Note:

You can also choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Receipt* → *For Purchase Order* → *GR for Purchase Order* (MIGO\_GR).



2. Choose the transaction *Display* and *Material Document* as reference documents.
3. Enter the material document number and the document year. Choose  (*Execute*) to display the material document year.

You can also search for the material document by choosing the  (*Search format. document*) pushbutton or double-clicking a material document number from the document overview.



Caution:

Selecting a material document by double-clicking the material document number in the document overview only works if you have already chosen the transaction *Display* and *Material Document* as reference.

4. To display the accounting document, open the header data and choose the *Document info* tab page. Choose  (*FI Documents*). A dialog box appears. Select the accounting document and display it by choosing  (*Choose*).





## Post a Goods Receipt

### Business Example

As an employee in the warehouse, you are responsible for entering goods receipts in the SAP system. You enter the goods receipt with reference to your purchase order so that you can check whether the delivery matches with the purchase order. When you enter the goods receipt, the system updates the purchase order history, allowing the buyer to get information on the status of the delivery directly from the purchase order.

The ordered standard taillights T-M500A## are delivered in good condition by Motolux GmbH Gr.##. Enter the goods receipt for this delivery.

#### 1. Post the goods receipt.

When entering the goods receipt, reference the purchase order. Post the goods receipt to unrestricted-use stock at storage location 0001 (material stores) in plant 1000.

Record the delivered quantity and the delivery note number from the delivery note.



#### Hint:

When searching for your purchase order, note that the purchase order number is not displayed in the overview for the goods receipt transaction prior to selection. Use the search function to find your purchase order.

For example, search for your purchase order number for vendor T-K500A## and material T-M500A##.



<b>Delivery note</b>		Motolux GmbH Gr.## Sonnenweg 3 68145 Mannheim	
IDES Hamburg Plant Altersdorferstr. 13 22299 Hamburg		Delivery note no. Mannheim,	LS-A1## [current date]
With reference to your PO no. 45000xxxxx, we hereby deliver the following materials:			
Item	Material number	Description	Quantity/Un
10	T-M500A##	Standard taillight-##	100 pc
Best regards, Motolux GmbH Gr.##			

Figure 22: Delivery Note LS-A1

Post the goods receipt and note the material document number.

Material document number: \_\_\_\_\_

2. Display the material document for the goods receipt.
3. Display the purchase order history for the purchase order against which you entered the goods receipt. Branch directly from the material document to the purchase order history, and check whether it has been updated by the goods receipt. Compare the material document number from the purchase order history with your material document number from step 1.
4. Include the transaction for goods movements in the list of favorites.



## Post a Goods Receipt

### Business Example

As an employee in the warehouse, you are responsible for entering goods receipts in the SAP system. You enter the goods receipt with reference to your purchase order so that you can check whether the delivery matches with the purchase order. When you enter the goods receipt, the system updates the purchase order history, allowing the buyer to get information on the status of the delivery directly from the purchase order.

The ordered standard taillights T-M500A## are delivered in good condition by Motolux GmbH Gr.##. Enter the goods receipt for this delivery.

#### 1. Post the goods receipt.

When entering the goods receipt, reference the purchase order. Post the goods receipt to unrestricted-use stock at storage location 0001 (material stores) in plant 1000.

Record the delivered quantity and the delivery note number from the delivery note.



Hint:

When searching for your purchase order, note that the purchase order number is not displayed in the overview for the goods receipt transaction prior to selection. Use the search function to find your purchase order.

For example, search for your purchase order number for vendor T-K500A## and material T-M500A##.



**Delivery note**

IDES  
Hamburg Plant  
Altersdorferstr. 13  
22299 Hamburg

Motolux GmbH Gr.##  
Sonnenweg 3  
68145 Mannheim

Delivery note no. LS-A1##  
Mannheim, [current date]

With reference to your PO no. 45000xxxxx, we hereby deliver the following materials:

Item	Material number	Description	Quantity/Un
10	T-M500A##	Standard taillight-##	100 pc

Best regards,  
Motolux GmbH Gr.##

^ Figure 22: Delivery Note LS-A1

Post the goods receipt and note the material document number.

Material document number: \_\_\_\_\_

- a) Choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Receipt* → *For Purchase Order* → *GR for Purchase Order (MIGO)*.
- b) Choose the transaction *Goods Receipt* and the reference document *Purchase Order*. Enter **101** as the default value for the movement type.
- c) Choose (*Find Purch. Order*). Enter the following selection values:

Field	Value
<i>Vendor</i>	<b>T-K500A##</b>
<i>Material</i>	<b>T-M500A##</b>
<i>Delivery Date</i>	< today + 7 days >


- d) Choose (*Find*). A separate screen area with the search result appears.
  - e) Select your purchase order and choose (*Adopt*). Choose (*Close Search Result*).
  - f) Open the header data and enter **LS-A1##** in the *Delivery Note* field on the *General* tab page.
  - g) Select the *Item OK* checkbox for the item. You can select the checkbox in the detail data only if the detail data area is open.
  - h) Choose *Post* and make a note of the material document number.
2. Display the material document for the goods receipt.
- a) Choose the transaction *Display* to view your material documents. The system automatically displays *Material Document* as the reference document and proposes the number of your last material document.





- b) Choose  (Execute).



Hint:

You can choose another material document by double-clicking a document from the overview, or by choosing  (Search for mat. document).

3. Display the purchase order history for the purchase order against which you entered the goods receipt. Branch directly from the material document to the purchase order history, and check whether it has been updated by the goods receipt. Compare the material document number from the purchase order history with your material document number from step 1.
- a) Open the item detail data (by clicking the item number in the item overview, for example).
- b) Choose the *Purchase Order Data* tab page.
- c) Choose the  (*History*) pushbutton. The material document numbers match.
4. Include the transaction for goods movements in the list of favorites.
- a) Use one of the following options:
- Drag and drop
  - Right mouse button
  -  *Add to Favorites* pushbutton in the toolbar
  - Transaction code



### **LESSON SUMMARY**

You should now be able to:

- Post a goods receipt



## Entering Invoices

### LESSON OVERVIEW

This lesson deals with the checking and verification of a vendor's invoice for goods that have been supplied against a purchase order.



This lesson should impart a basic understanding of the process of invoice verification. For example, a material document and an accounting document are created in the same way as in inventory management.

### Business Example

The procurement process ends with the entry of the vendor's invoice. You are responsible for testing the functionality of *Logistics Invoice Verification* (LIV). For this reason, you require the following knowledge:

- An understanding of the most important information given in an invoice
- How to carry out a simple invoice verification process with reference to a purchase order
- An understanding of the most important effects of entering an invoice against a purchase order



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Enter an invoice

### Invoice Receipt as Part of the Procurement Process



LIV is part of *Materials Management*. It was developed to facilitate the entry of invoices relating to prior procurement processes. Although it is possible to enter individual invoice items or complete invoices without referencing a purchase order, it is more typical to do so with reference to a purchase order.

The link to the purchase order is established first, before checking the correctness of the invoice with regard to the material supplied (or service performed), the price charged, and arithmetical accuracy. Similarly, the system can only determine variances from the expected values if there is a link to the purchase order.

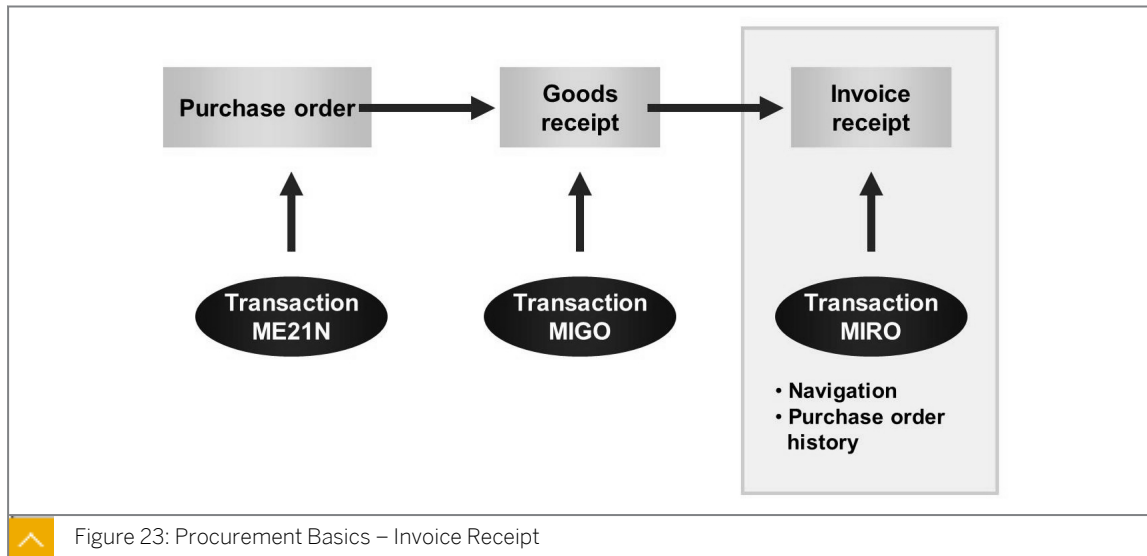


Figure 23: Procurement Basics – Invoice Receipt

The creation of an invoice completes the procurement process, which follows the processes of purchase order and goods receipt.

LIV is part of *Materials Management* (MM).

**Use LIV to perform the following tasks:**

- Enter invoices and credit memos
- Check invoices and credit memos for arithmetical correctness
- Confirm that you have been charged with the right price for the right material or service and for the right quantity

**When you post an invoice, the system performs the following tasks:**

- The data from the invoice is saved in the system.
- Invoice and accounting documents are generated.
- The saved data from the invoice documents is updated in materials management (for example, purchase order history) and in financial accounting.

The functions of LIV do not include the payment or evaluation of open liabilities. The relevant information for payment and evaluation of open liabilities is forwarded to other applications. Logistics Invoice verification creates a link between materials management and external or internal accounting.

### Invoice Receipt

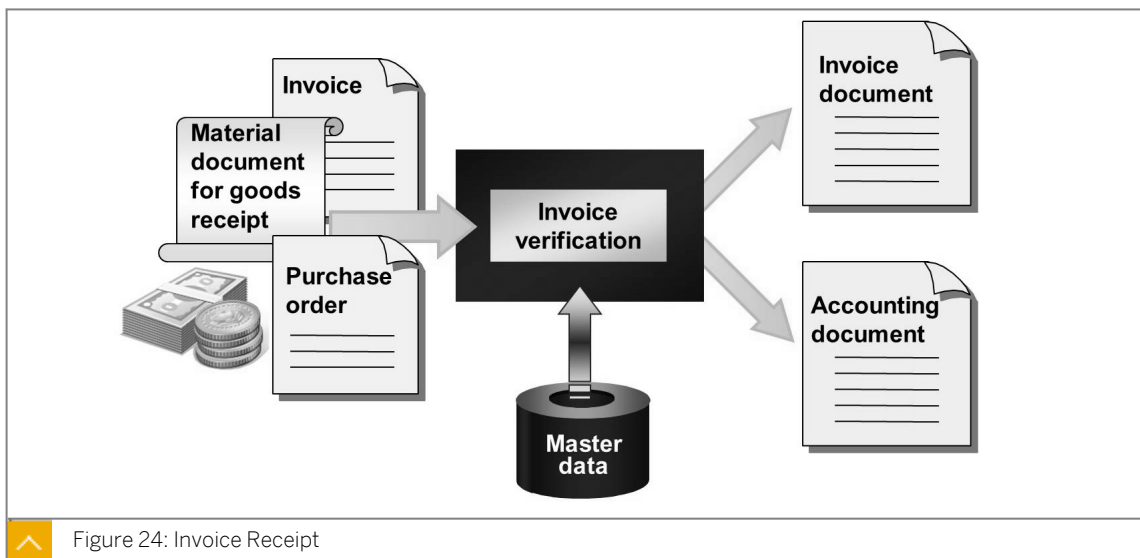


Figure 24: Invoice Receipt

When you enter an invoice with reference to a purchase order, the system proposes data from the purchase order and the goods receipts for the purchase order (for example, invoicing party, material, quantity to be invoiced, expected amount per item, and payment terms). It is possible to overwrite default values in an invoice submitted by the vendor. When attempting to overwrite default values, the system checks whether your input is permitted. In doing so, it may issue warning or error messages.

If there are discrepancies between the purchase order or goods receipt and the invoice (price or quantity differences, for instance), the system warns the user and, depending on the system settings, blocks the invoice so that it cannot be paid.

### Information in an Invoice

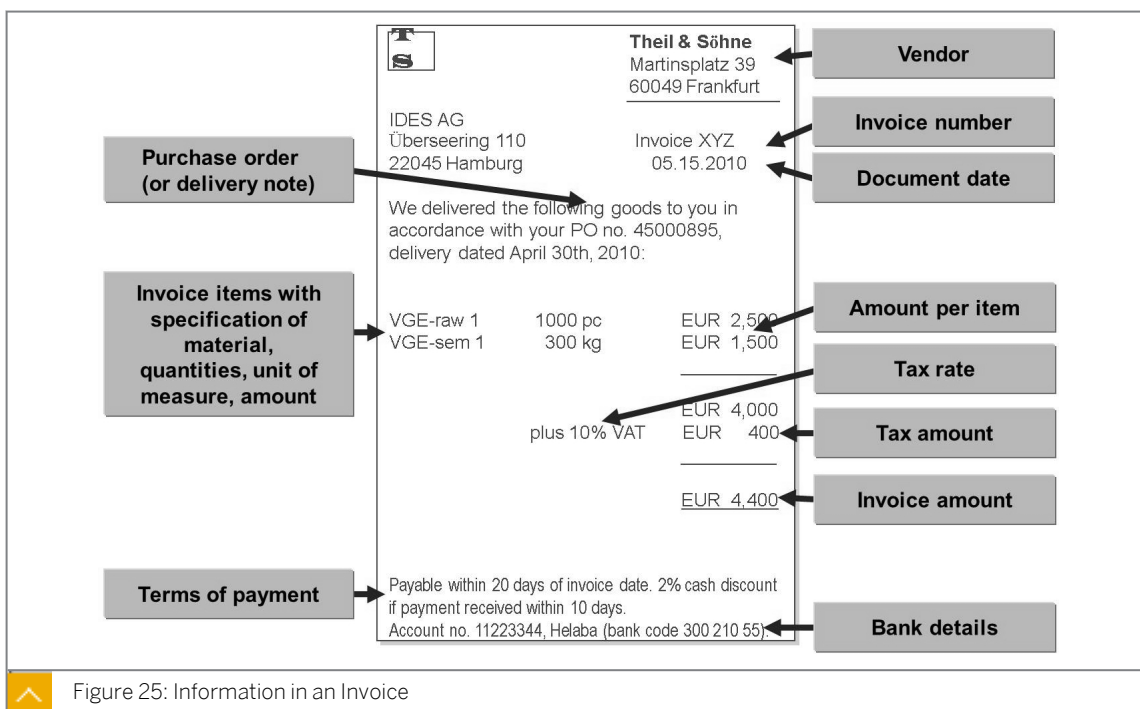


Figure 25: Information in an Invoice



Using the figure, ask the participants which data the user has entered and which data appears in the system by default.

Point out that the default values in the system may differ from the values in the vendor invoice (for example quantities and amounts of invoice items). In this case, the user must overwrite the default values with the vendor invoice values. Entering the correct data allows the system to determine the extent of any variances and block the invoice from being paid if necessary.

In invoice verification, you initially enter all the relevant data from the vendor's (creditor's) invoice, such as the gross amount, value-added tax, invoice date, reference (vendor's invoice number), and terms of payment. In subsequent processing steps, the system checks for data accuracy and compares it with data that already exists in the system from the purchase order document.



**Note:**  
The invoice document can be scanned and sent through workflow to the department responsible for invoice verification. This is an important step towards making the paperless office a reality.

Where possible, post invoices with reference to a purchase order so that the system suggests the order prices from the purchase order document, as well as the goods receipt quantities from the goods receipt documents relating to the purchase order.

**Invoice Verification with Reference to Purchase Order**

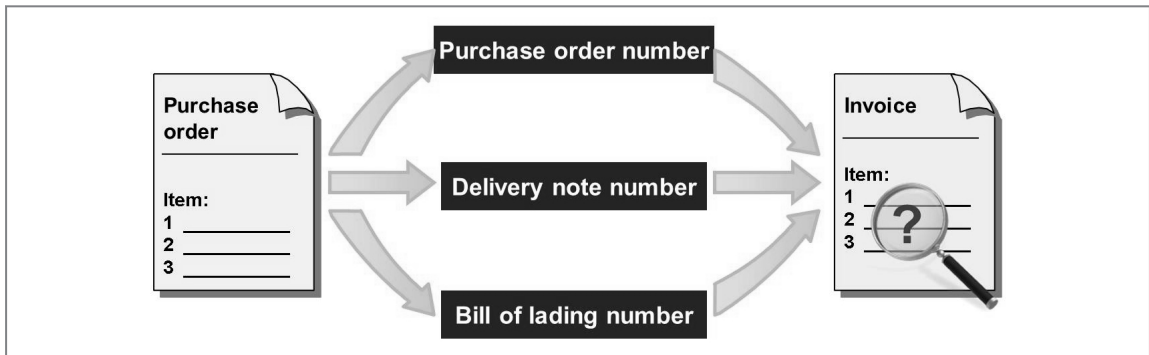


Figure 26: Invoice Verification with Reference to Purchase Order

You can assign the invoice items to a purchase order using the number of the delivery note or bill of lading, provided that these numbers were entered at the time of goods receipt.

If you enter an invoice with reference to a purchase order, the items from the purchase order are suggested with their quantities that are to be invoiced. The system calculates the quantities that are to be invoiced as the difference between the quantities delivered and the quantity already invoiced. For example, if 100 pieces have been delivered and 60 pieces have already been invoiced, 40 pieces remain to be invoiced. The system also suggests the expected amount for the items. This is the product of the quantity to be invoiced multiplied by the order price.

If the vendor invoice values are different from the suggested values, the user entering the data must overwrite the suggested values with the figures from the original invoice. If the

discrepancies between the invoice values and the expected values exceed specified tolerances, the invoice is automatically blocked for payment.

## Invoice Entry



The invoice entry transaction (MIRO) is also a single-screen transaction, to which the same navigation rules apply as to transactions ME21N and MIGO. Here, too, the document is divided into header and item data. However, there is no area for the item details in the MIRO transaction. All detail data is to be found in the item list. Explain the significance of the display variant here.

Instead of a document overview, MIRO provides a separate area, called PO Structure, in which the purchase order history of the individual invoice items is displayed.

You must use the work list only if invoices are parked or put on hold.

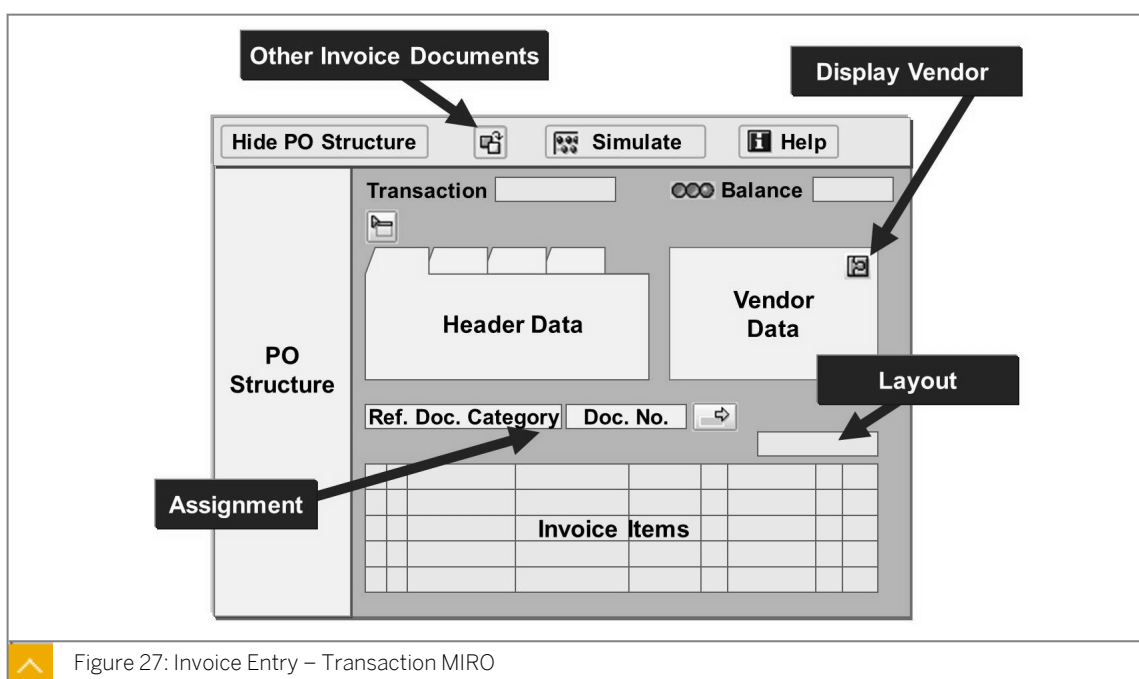




Figure 27: Invoice Entry – Transaction MIRO

Transaction MIRO for entering invoices and credit memos in LIV is a single-screen transaction. In this transaction, data is divided into header and item data. The figure shows the individual screen areas.

### The description of Invoice Entry -Transaction MIRO is as follows:

- Transaction:** In this field, indicate whether you are entering an invoice, credit memo, or subsequent debit or credit.
- Header data:** In this area, enter the header data of an invoice (for example, the invoice number and date, gross invoice amount and tax amount, invoicing party, and terms of payment).
- Assignment:** In this area, assign a reference document to the invoice so that the system proposes the invoice items to be processed.
- Invoice items:** In this list, check the proposed invoice items and change them in line with the actual invoice. You can use different layouts to change the display of the columns and their sequence.

**Vendor data:** In this area, the detail data pertaining to the invoicing party derived from the vendor master record is shown. Choose  (*Display vendor*) to branch directly to the vendor master record.




Hint:  
Vendor data is displayed only if you have entered an invoicing party or referenced (created a link to) a purchase order.

**Balance:** In this area, the balance and invoice status are displayed (for example, whether an invoice can be posted - green light - or whether the invoice will be blocked for payment during posting - yellow light).

**PO structure:** In this area, the user entering the invoice can see the purchase order histories for the purchase order items from the item overview.



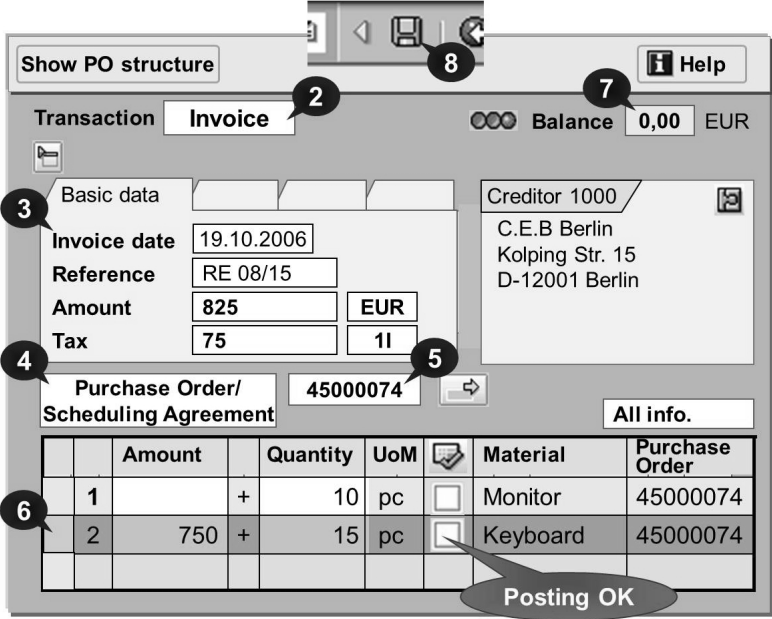
Show the figure illustrating the procedure and briefly explain the most important steps for entering an incoming invoice with reference to a purchase order. Then show the following demos.




**Caution:**  
 Therefore, make sure you give yourself enough time. Make sure that all participants can follow the demo. With the following demos, you are preparing the ground for all further exercises and lessons in which invoice entry is involved.

### Entry of an Invoice against Purchase Order





The screenshot shows the SAP 'Invoice' entry screen. It includes fields for 'Invoice date' (19.10.2006), 'Reference' (RE 08/15), 'Amount' (825 EUR), and 'Tax' (75 11). A 'Purchase Order/Scheduling Agreement' field contains '45000074'. A table below lists items: 'Monitor' (10 pc) and 'Keyboard' (15 pc), both with a quantity of 750. A 'Posting OK' message is visible at the bottom right.

 Figure 28: Entering an Invoice against Purchase Order



This figure shows how to enter an invoice against a purchase order.



## How to Enter an Invoice



Before carrying out this demo, you should have already performed the demos in the “Maintaining Purchase Orders” and “Posting Goods Receipts” lessons. In this demo, discuss the fields in which you make entries.

1. Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice* (MIRO).
2. Enter **1000** in the *Company Code* field.



Note:

The system queries the company code when you first invoke the transaction. As long as you do not switch the company code, you can enter all the invoices for the company code you initially specified. This company code is displayed in the header data on the *Basic data* tab page.

To change the company code, choose *Edit* → *Switch Company Code*.

3. In the *Transaction* field, choose *Invoice*.
4. Enter the following data on the *Basic data* tab page:

Field	Value
<i>Invoice date</i>	<Current date>
<i>Reference</i>	<b>IV-TRAINER-01</b>
<i>Amount</i>	<b>4400</b>
<i>Tax amount</i>	<b>400</b>
<i>Tax code</i>	<i>1l (input tax, 10%)</i>



Note:


The tax code should appear as a default value (*Customizing* setting).

5. Enter the following data on the *PO reference* tab page:

Field	Value
<i>Ref. Document Category</i>	<i>Purchase Order/Scheduling Agreement</i>
<i>Purchasing Document</i>	<Number of your first purchase order>



**Note:**


If you do not know the number of the purchase order, use the F4 help on the *Purchasing Document* field. As selection values, enter **1010** in the *Vendor* field, **1000** in the *Plant* field, and **M-01** in the *Material* field and choose  (*Execute*).

6. Choose *Enter*. In the item list, the purchase order item is suggested with the amount EUR 4000 and the quantity 10 pieces. The item has already been selected (a selected item is highlighted in yellow).





**Caution:**

Point out to the participants that the *Booking OK* checkbox is only for information in transaction *MIRO*. It is not intended to enable you to choose the item for posting.

7. Choose *Show PO structure* pushbutton.  
Compare the data from the item list with the data displayed in the purchase order structure for the item. The data matches. Note that 10 pieces are suggested for invoicing because 10 pieces have been delivered but not yet invoiced.
8. Point out that the balance is zero. This means that the invoice is arithmetically correct.
9. Choose  (*Post*). Make a note of the invoice number.



### How to Display the Invoice Document

1. Choose  (*Other Invoice Document*) in transaction *MIRO*. A dialog box appears in which you can enter the number and year of the invoice document. The number of your last invoice appears as the default value, which you can confirm by choosing *Enter*.
  2. Choose the various tab pages in the header data and show some of the data:
    - *Payment*: Terms of payment that have been copied from the purchase order.
    - *Details*: More details on the invoicing party are shown on the right next to the tab pages in the *Vendor Data* area.
    - *Contacts*: Specifies the processor of the purchase order and the goods receipt.
  3. Exit transaction *MIRO*.
  4. Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* → *Display Invoice Document* (*MIR4*).
  5. Leave the default values unchanged and choose  (*Display Document*).
-



## To Enter an Invoice

1. On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice (MIRO)*.




Note:

When starting transaction **MIRO** for the first time, you must specify a company code in a dialog box.

2. In the *Transaction* field, choose *Invoice*.
3. In the document header on the *Basic Data* tab page, enter the document date, number of the vendor invoice (*Reference*), and gross invoice *Amount*, as well as the *Tax amount* with a tax code.
4. Determine the assignment to a procurement transaction. You can refer to purchase orders and delivery notes of the goods receipts (as long as this information was entered during goods receipt).
5. Enter the number of the document to which the invoice refers.



Note:

You can also refer to several documents. To do so, choose  (*More Allocation Criteria*). A dialog box appears, in which you can enter several document numbers.

6. In the item list, the system proposes all purchase order items that fulfill the relevant allocation criteria.  
Compare the suggested invoice items with the items in the vendor invoice and correct the default values if necessary. The items to be posted must be selected (highlighted in yellow).



Caution:

The *Booking OK* checkbox in the invoice (transaction **MIRO**) must not be confused with the *OK* checkbox of the goods movement (transaction **MIGO**). With the *Booking OK* checkbox, you can select already checked and processed items.

This checkbox has no effect on whether or not the item is taken into account when the invoice is posted.

7. Check whether the invoice is arithmetically correct. If so, the balance is zero.
8. Post the invoice.



# Unit 1

## Exercise 4



### Enter an Invoice

#### Business Example

In invoice verification, you enter the invoice you have received from the vendor. You compare the purchase order and goods receipt data with the data in the vendor's invoice.



You can only carry out this exercise if you have already completed the exercises from the "Maintaining Purchase Orders" and "Posting Goods Receipts" lessons.

Vendor T-K500A## invoices you for delivery of the standard taillights-##. Enter the invoice using LIV.

1. Post the vendor invoice.

Enter the invoice for company code 1000.

Take the necessary data from the vendor's invoice (RE-A1 ##).

Compare the invoice price and invoice quantity with the data proposed by the system.



Invoice		Motolux GmbH Gr.## Sonnenweg 3 68145 Mannheim		
IDES Hamburg Plant Altersdorferstr. 13 22299 Hamburg		Invoice no.:	RE-A1##	
		Invoice date	[current date]	
With reference to your PO no. 45000xxxxx, we hereby invoice you for the following items:				
Item	Quantity/Un	Material number	Description	Price
10	100 pc	T-M500A##	Standard taillight-##	EUR 5,000
			Total net value:	EUR 5,000
			plus 10 % VAT	EUR 500
			<b>Invoice amount</b>	<b>EUR 5,500</b>
Subject to the agreed terms of payment.				
Kind regards, Motolux GmbH Gr.##				

Figure 29: Invoice RE-A1##

Post the invoice and note the number of the invoice document.

Invoice document number: \_\_\_\_\_.

**2.** Display the invoice document.

Display the invoice document that was generated when the invoice was posted. Analyze the purchase order history and make sure it has been updated correctly.

**3.** Extend the list of favorites.

Add the transaction for invoice entry to your favorites.

# Unit 1

## Solution 4



## Enter an Invoice

### Business Example

In invoice verification, you enter the invoice you have received from the vendor. You compare the purchase order and goods receipt data with the data in the vendor's invoice.



You can only carry out this exercise if you have already completed the exercises from the "Maintaining Purchase Orders" and "Posting Goods Receipts" lessons.

Vendor T-K500A## invoices you for delivery of the standard taillights-##. Enter the invoice using LIV.

#### 1. Post the vendor invoice.

Enter the invoice for company code 1000.

Take the necessary data from the vendor's invoice (RE-A1 ##).

Compare the invoice price and invoice quantity with the data proposed by the system.



Invoice		Motolux GmbH Gr.## Sonnenweg 3 68145 Mannheim		
IDES Hamburg Plant Altersdorferstr. 13 22299 Hamburg		Invoice no.:	RE-A1##	
		Invoice date	[current date]	
With reference to your PO no. 45000xxxxx, we hereby invoice you for the following items:				
Item	Quantity/Un	Material number	Description	Price
10	100 pc	T-M500A##	Standard taillight-##	EUR 5,000
			Total net value:	EUR 5,000
			plus 10 % VAT	EUR 500
			<b>Invoice amount</b>	<b>EUR 5,500</b>
Subject to the agreed terms of payment.				
Kind regards, Motolux GmbH Gr.##				

Figure 29: Invoice RE-A1##


Post the invoice and note the number of the invoice document.


Invoice document number: \_\_\_\_\_.

- a) Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice* (MIRO).
- b) Enter the following data on the *Basic Data* tab page:


Field	Value
<i>Invoice date</i>	<Today's date>
<i>Reference</i>	<b>RE-A1##</b>
<i>Amount</i>	<b>5500</b>
<i>Tax amount</i>	<b>500</b>
<i>Tax code</i>	<i>1l (input tax (10%))</i>


- c) On the *PO reference* tab page, choose *Purchase Order/Scheduling Agreement* as the reference document category and enter your purchase order number.




Hint:  
To search for the purchase order using the F4 help, enter the following selection values and choose  (*Execute*).


Field	Value
<i>Vendor</i>	<b>T-K500A##</b>
<i>Plant</i>	<b>1000</b>
<i>Material</i>	<b>T-M500A##</b>

Select the purchase order in the results list and choose  (*Copy*).

- d) Choose  (*Enter*). The system proposes the data from the purchase order. The default data agrees with that of the vendor invoice. The balance is zero.




Hint:  
The item is pre-selected by the system.

- e) Choose  (*Post*) and note the number of the invoice document.

2. Display the invoice document.

Display the invoice document that was generated when the invoice was posted. Analyze the purchase order history and make sure it has been updated correctly.

- a) To display the invoice directly from the transaction, enter *Invoice* (MIRO), choose *Invoice Document* → *Display*.

You can also choose  (*Other Invoice Document*). In the *Choose Invoice Document* dialog box, the system proposes the last invoice you posted. Choose *Continue*.



- b) Exit transaction MIRO.
  - c) Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* → *Display Invoice Document* (MIR4).
  - d) Choose the *Show PO structure* pushbutton, or double-click the purchase order number in the *Item overview*.
  - e) Choose the *Purchase Order History* tab page in the purchase order (item details).  
The purchase order history shows the invoice for 100 pieces in addition to the goods receipt of 100 pieces.
3. Extend the list of favorites.  
Add the transaction for invoice entry to your favorites.



### **LESSON SUMMARY**

You should now be able to:

- Enter an invoice



## Learning Assessment

1. A plant can be assigned to several company codes.

*Determine whether this statement is true or false.*

True

False

2. A purchasing organization can act for several plants.

*Determine whether this statement is true or false.*

True

False

3. A purchasing group must always be assigned to a purchasing organization.

*Determine whether this statement is true or false.*

True

False

4. A purchasing organization must always be assigned to a company code.

*Determine whether this statement is true or false.*

True

False

5. Purchase order transaction ME21N is divided into which of the following screen areas?

*Choose the correct answers.*

- A Header data
- B Storage location
- C Item overview
- D Item details
- E Document overview
- F SAP Easy Access screen

6. Which of the following do you have to indicate when entering a purchase order?

*Choose the correct answers.*

- A Client
- B Company code
- C Plant
- D Storage location
- E Purchasing organization
- F Purchasing group

7. Print and EDI are two possible message output types.

*Determine whether this statement is true or false.*

- True
- False

8. Which of the following is the first step when entering a goods receipt with reference to a purchase order?

*Choose the correct answer.*

- A Choose transaction MIGO.
- B Enter the purchase order number and choose Execute.
- C Select the OK checkbox for the items and enter a storage location.
- D Choose the transaction Goods Receipt and Purchase Order as the reference document.

9. What are the effects of the entry of a goods receipt against a purchase order in the SAP system?

*Choose the correct answers.*

- A The purchase order is deleted.
- B An accounting document can be generated.
- C A material document is generated for each item.
- D The purchase order history is updated for each item of the purchase order.
- E A material document is generated.
- F A credit memo is automatically generated for the vendor for the amount of the delivery value.

10. You can enter a goods movement without indicating a movement type.

*Determine whether this statement is true or false.*

- True
- False

11. Which of the following pieces of information are always found in a vendor invoice?

*Choose the correct answers.*

- A Invoicing party
- B Invoice date
- C Tax rate
- D Delivery note number

12. When entering an invoice, you may reference a purchase order or a delivery note.

*Determine whether this statement is true or false.*

- True
- False

13. The invoice is checked to ensure that it covers the right quantities of the right materials and services, that the price is as agreed upon, and that it is arithmetically correct.

*Determine whether this statement is true or false.*

- True
- False

14. Which of the following can you enter using transaction MIRO?

*Choose the correct answers.*

- A Subsequent delivery
- B Subsequent debit
- C Invoice
- D Subsequent adjustment
- E Credit memo



## Learning Assessment - Answers

1. A plant can be assigned to several company codes.

*Determine whether this statement is true or false.*

True

False

A plant can be assigned to only one company code. At the same time, this assignment is essential.

2. A purchasing organization can act for several plants.

*Determine whether this statement is true or false.*

True

False

The plants for which a purchasing organization acts can belong to one company code or various company codes. If a purchasing organization is assigned to a company code, then it can only apply to plants from this company code.

3. A purchasing group must always be assigned to a purchasing organization.

*Determine whether this statement is true or false.*

True

False

There is no link between a purchasing group and a purchasing organization in the system. There is no assignment of purchasing groups to purchasing organizations.

4. A purchasing organization must always be assigned to a company code.

*Determine whether this statement is true or false.*

True

False

The assignment of a purchasing organization to a company code is optional.

5. Purchase order transaction ME21N is divided into which of the following screen areas?

*Choose the correct answers.*

- A Header data
- B Storage location
- C Item overview
- D Item details
- E Document overview
- F SAP Easy Access screen

6. Which of the following do you have to indicate when entering a purchase order?

*Choose the correct answers.*

- A Client
- B Company code
- C Plant
- D Storage location
- E Purchasing organization
- F Purchasing group

You do not need to enter the client in the purchase order because you select the client when you log on to the SAP system. In the organizational data in the purchase order header, you must enter a purchasing organization, the purchasing group, and the company code. At item level, enter the plant. You can enter the storage location, but it is not required.

7. Print and EDI are two possible message output types.

*Determine whether this statement is true or false.*

- True
- False

There are different ways of processing messages. You can issue messages as printout, EDI message, fax, or e-mail.



8. Which of the following is the first step when entering a goods receipt with reference to a purchase order?

*Choose the correct answer.*

- A Choose transaction MIGO.
- B Enter the purchase order number and choose Execute.
- C Select the OK checkbox for the items and enter a storage location.
- D Choose the transaction Goods Receipt and Purchase Order as the reference document.

9. What are the effects of the entry of a goods receipt against a purchase order in the SAP system?

*Choose the correct answers.*

- A The purchase order is deleted.
- B An accounting document can be generated.
- C A material document is generated for each item.
- D The purchase order history is updated for each item of the purchase order.
- E A material document is generated.
- F A credit memo is automatically generated for the vendor for the amount of the delivery value.

A material document and an accounting document are generated for each goods receipt (exceptions: cross-company-code postings and non-valuated goods receipts). The purchase order history for a purchase order item is updated when a goods receipt is entered with reference to this item. It is also updated when you enter a return delivery or a reversal for this purchase order item.

10. You can enter a goods movement without indicating a movement type.

*Determine whether this statement is true or false.*

- True
- False

The movement type determines the kind of goods movement that is involved. It is also an important factor that influences the quantity update and the update in accounting.

11. Which of the following pieces of information are always found in a vendor invoice?

*Choose the correct answers.*

- A Invoicing party
- B Invoice date
- C Tax rate
- D Delivery note number

In a vendor invoice, you can find information such as invoicing party, the reference, the invoice date, the terms of payment, the invoice amount, the tax amount, the tax rate, and the quantities and amounts for the individual items.

12. When entering an invoice, you may reference a purchase order or a delivery note.

*Determine whether this statement is true or false.*

- True
- False

13. The invoice is checked to ensure that it covers the right quantities of the right materials and services, that the price is as agreed upon, and that it is arithmetically correct.

*Determine whether this statement is true or false.*

- True
- False

14. Which of the following can you enter using transaction MIRO?

*Choose the correct answers.*

- A Subsequent delivery
- B Subsequent debit
- C Invoice
- D Subsequent adjustment
- E Credit memo

You can enter invoices, credit memos, and subsequent debits and credits using transaction MIRO. Subsequent adjustment is an inventory management transaction that occurs in connection with the special procurement type, namely "subcontracting". Subsequent delivery also counts as a goods movement.

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### UNIT OBJECTIVES

- Create a vendor master record
- Create a material master record
- Extend a material master record
- Create vendor master data with reference
- Maintain material master data using entry aids
- Execute mass maintenance



## Maintaining Vendor Master Records

### LESSON OVERVIEW

This lesson introduces the vendor master record, which is important to both the ordering and invoice processing phases of procurement. This lesson explains the structure and the maintenance of the vendor master record.

### Business Example

Your company has entered into a business relationship with a new vendor. To place frequent orders with this vendor in future, you need to create a new master record for the vendor. For this reason, you require the following knowledge:

- An understanding of the importance of vendor master records
- How to create and maintain vendor master records
- An understanding of the organizational levels that are important to maintain vendor master records



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Create a vendor master record

### Master Data in the Procurement Process



The vendor master record is the most important master data in the procurement process. Without a vendor master record, you cannot create purchasing documents or enter invoices. Point out that the term "creditor" is also used in conjunction with invoice verification for vendor.

To start this session, you have to first create a simple purchase order (PO) (transaction ME21N) with the following data:

Field	Value
<i>Vendor</i>	<b>1000</b>
<i>Purchasing organization</i>	<b>1000</b>
<i>Purchasing group</i>	<b>T00</b>
<i>Material</i>	<b>M-01</b>
<i>Quantity</i>	<b>1</b>
<i>Plant</i>	<b>1000</b>

Explain that most of the data is taken from the master records, such as vendor, material, and purchasing info record. Access the vendor master record directly by double-clicking the vendor number.

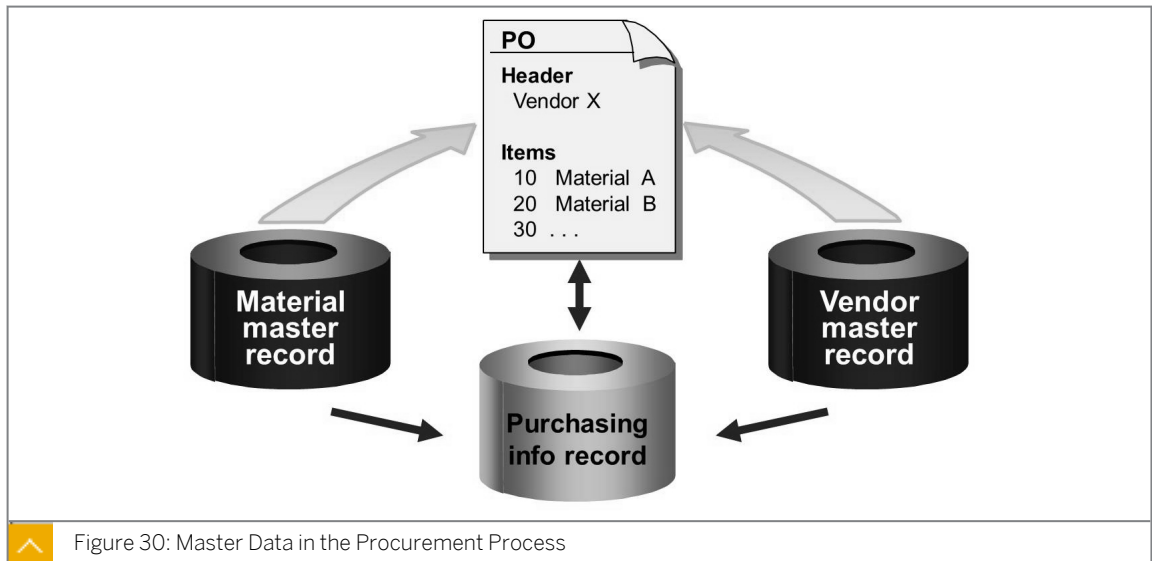


Figure 30: Master Data in the Procurement Process

Master data comprises data records that are stored in the database for a long period of time. These data records are stored in a central location, and are used and processed on a cross-application basis. This avoids multiple storage and redundancy of data.

**The following records are part of the most important data in the procurement process:**

- The vendor master record
- The material master record
- The purchasing info record

When purchasing documents are created, data is transferred by default from existing master records to the purchasing documents. This reduces the effort required to enter the data. Other data, such as units of measure, material short text, and the PO text, is also integrated from the material master record for the new document.

The data in the vendor master record includes address data and payment data. You can store vendor-specific data for a certain material, such as delivery time and purchase price, in purchasing info records.

### Vendor Master Data



After accessing the vendor master record, choose *Goto*. You can explain the structure of the vendor master record on the basis of the menu options *General data*, *Company code data*, and *Purchasing organization data*. Explain the three data areas and the associated data.

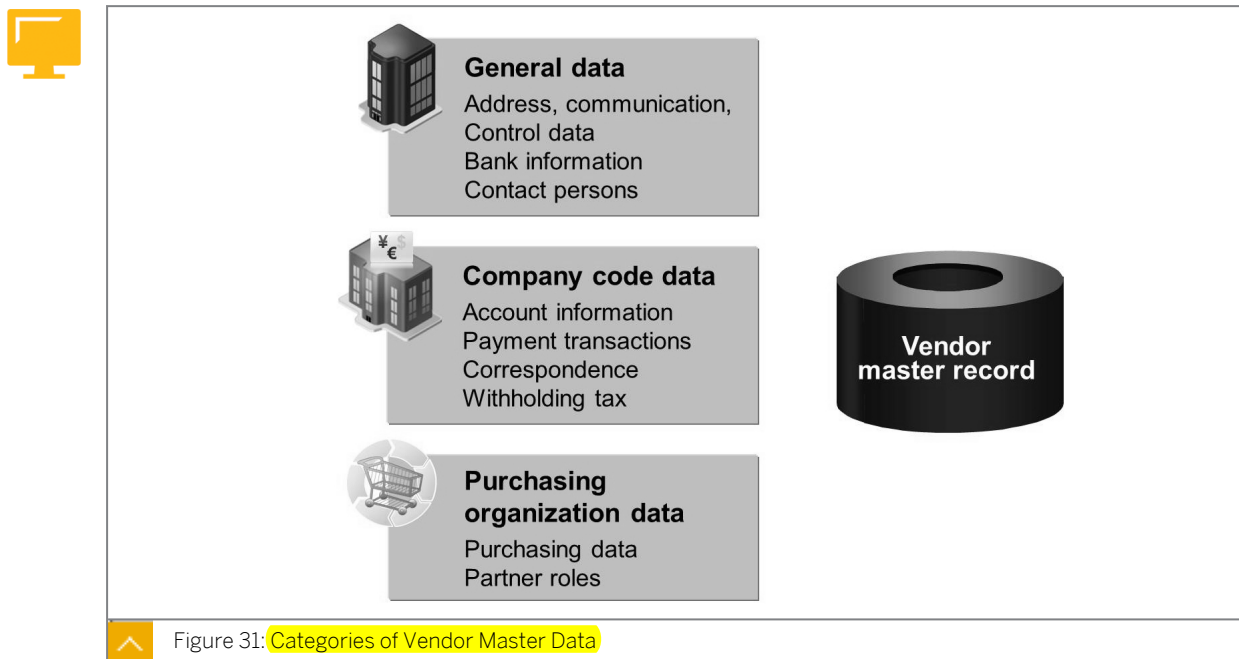
The vendor master data includes information about the vendors of a company. This information is stored in the individual vendor master records.

**In addition to the vendor's name and address, a vendor master record includes the following data:**

- Currency used for transactions with the vendor

- Terms of payment
- Names of important contacts, such as salespersons

### Categories of Vendor Master Data



For accounting purposes, the vendor is also a creditor of your company. Therefore, the vendor master record also includes accounting data, such as the reconciliation account from the general ledger. The vendor master record is maintained by both purchasing and accounting groups.

#### As a consequence, the data in the vendor master record is subdivided into various categories as follows:

- General data  
General data is valid for a single client. General data includes the vendor's address, control data, bank details, communication, and contact persons.
- Company code data  
Company code data is maintained at the company code level. Company code data includes the number of the reconciliation account, correspondence, withholding tax, and the payment methods for automatic payment transactions.
- Purchasing organization data  
Purchasing organization data is maintained for each purchasing organization. Purchasing organization data includes the purchase order currency, Incoterms, partner roles, purchasing data, and various controls pertaining to the vendor. You can also maintain different data for specific plants or for vendor subranges.

## Vendor Master Data at Organizational Levels

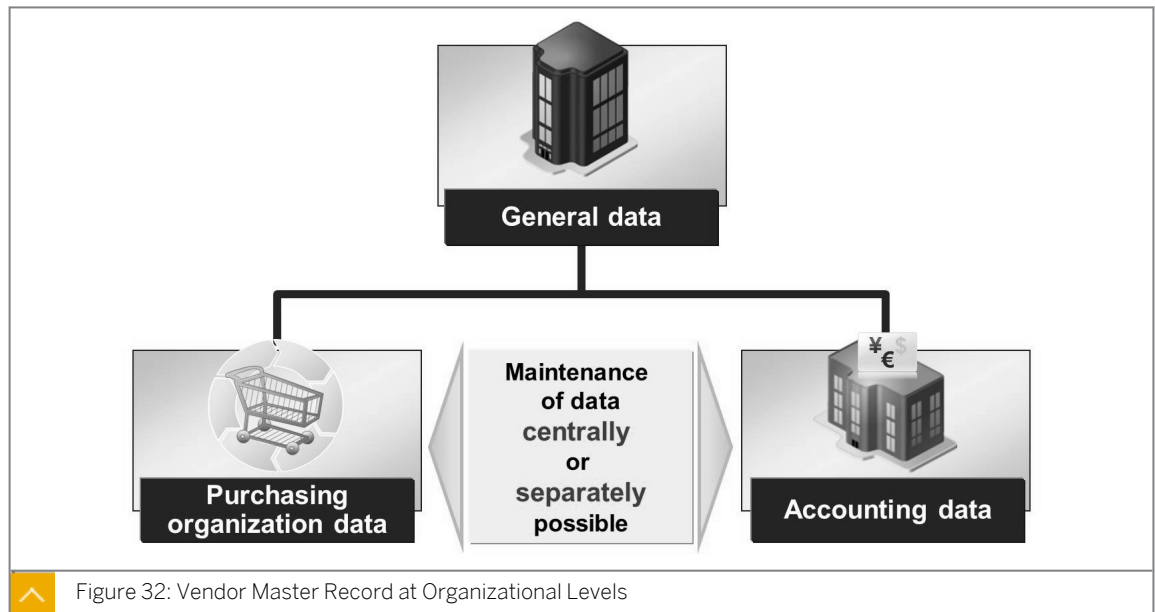


Figure 32: Vendor Master Record at Organizational Levels

You decide whether to maintain vendor master records in a central location (all data is maintained together) or on a decentralized basis (each department maintains its own data).

If you only give your purchasing staff the authorizations for transactions `MK01`, `MK02`, and `MK03` (*Logistics → Materials Management → Purchasing → Master Data → Vendor → Purchasing → Create/Change/Display*), it will allow them to maintain the general address and control data, and the purchasing-specific data. Authorized accounting personnel will have to enter the payment transaction data and the company-code-specific data.

If you give your staff the authorization to maintain the vendor master data with transactions `XK01`, `XK02`, and `XK03` (*Logistics → Materials Management → Purchasing → Master Data → Vendor → Central → Create/Change/Display*), staff can edit all the data in the vendor master record.



Hint:

Before you can order anything from a vendor, you must have previously retained the purchasing data. To enter invoices, you need to create the accounting data beforehand.

## Account Group



Explain the control function of the account group. The topic of one-time vendors is dealt with again in a later lesson (Handling Requests for Quotations and Quotation Processes). You must decide on the detail required to be presented on this topic in this lesson.

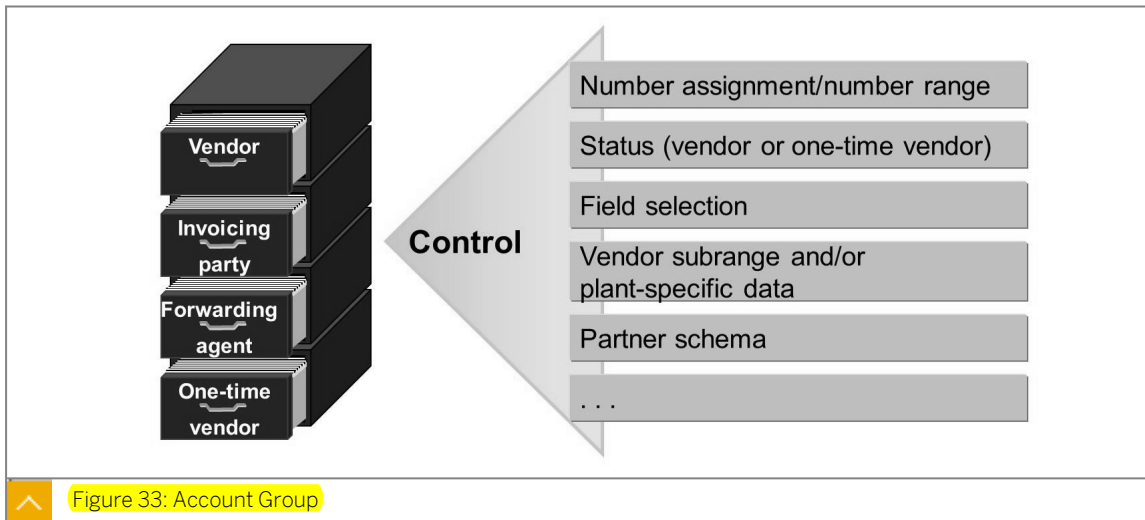


Figure 33: Account Group

When creating a vendor master record, you must decide the account group to which you are assigning this vendor. The account group has the functions to control the screens and fields relevant to your business partner that are displayed and are enabled for input.

**Among other tasks, the account group performs the following functions:**

- Determines the type of number assignment, such as internal or external
- Determines the number range. The system identifies the account number from this number range to be assigned to the vendor
- Determines the field selection, such as which fields are ready for input, which fields must be maintained, and which fields are hidden
- Determines the valid partner schema
- Determines the vendor's status, for example, if the vendor is a one-time vendor or a permanent vendor



**Note:**

You can maintain the account groups in Customizing by following this path:  
*Tools → Customizing → IMG → Execute Project → SAP Reference  
 IMG → Logistics → General → Business Partner → Vendors → Control → Define  
 Account Groups and Field Selection (Vendor).*

As external procurement and invoice verification are not possible without a vendor master record, there are special account groups created for one-time vendors. A one-time vendor master record is used in purchasing documents and invoices for a rarely used vendor who has no separate master records. This enables you to work without a vendor-specific master record if you want to procure materials or services from a vendor only once.

Unlike other master records, you can use a one-time vendor master record for several different vendors. For this reason, no vendor-specific data, such as an address or bank details, are stored for one-time vendors. This data is recorded only in the relevant document.

When you create a purchasing or invoice document for a one-time vendor, the system automatically opens an additional data screen, where you can enter specific data, such as the vendor's name, address, and bank details.



## Reconciliation Account

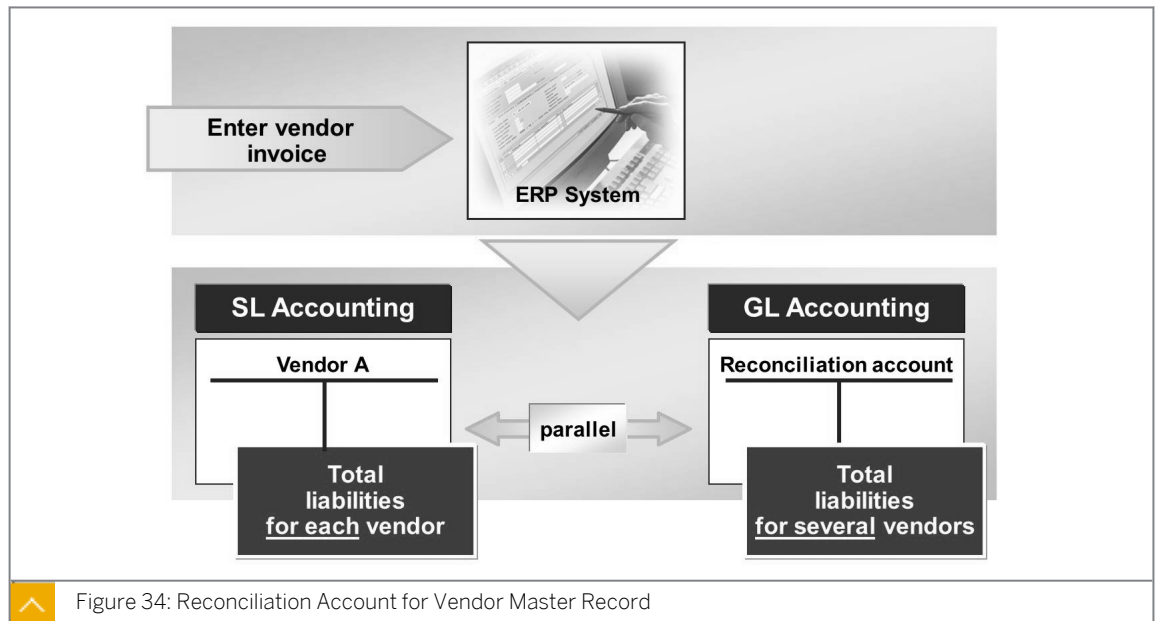


Figure 34: Reconciliation Account for Vendor Master Record

When you create a vendor master record, you need a unique number for the vendor, or creditor. This number is assigned either automatically by the system or manually by the administrator, depending on the account group. The creditor number is also used as the subsidiary ledger number in financial accounting. In subledger accounting, the total liabilities are updated for each vendor.

When creating a vendor master record, you must also create a reconciliation account. This account is a General Ledger (G/L) account in G/L accounting. A reconciliation account depicts a company's liabilities to numerous vendors in G/L accounting. When entering invoices, you enter the vendor and the system produces the reconciliation account from the vendor master record.

## Partner Roles

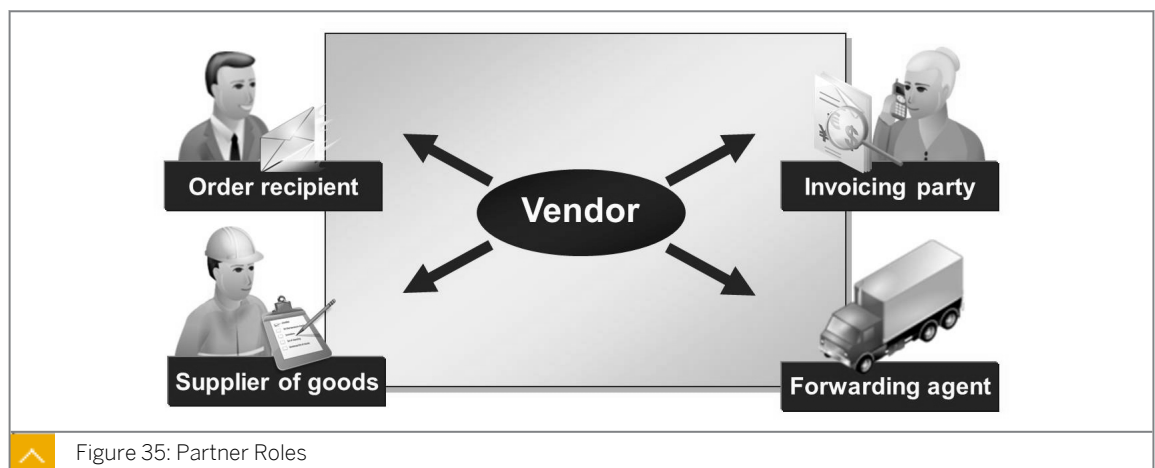


Figure 35: Partner Roles

The vendor can assume various roles within the business partners of your company. For example, during a procurement transaction, the vendor is first the order recipient, then the goods supplier, and finally the invoicing party.

The maintenance of partner roles in the vendor master record allows you to distribute one or more of these roles to different vendors. For example, using the partner role function, you can define a different creditor as a freight forwarder for a certain vendor.

## Vendor Blocking



You do not need to go into great detail on the topic of blocking vendors.

In some cases, you may no longer want to order goods from a particular vendor. This may happen when the vendor supplies products of deficient quality. In this case, you have the option of blocking the vendor in the vendor master record. Once you select the blocking checkbox, purchase orders can no longer be placed with this vendor. The block applies until you deselect the checkbox.



Hint:

If you want to stop ordering just one specific material from a vendor, block the vendor in the source list for the material, not in the vendor master record.

To block a vendor master record, choose *Purchasing* → *Master Data* → *Vendor* → *Purchasing* → *Block* (transaction MK05).

You can decide whether the vendor is to be blocked for just one purchasing organization, or for all purchasing organizations.

You also have the option of setting the Block for quality reasons checkbox. The Block for quality reasons checkbox is effective only for materials for which quality management is active in procurement. The blocking function used here determines which procurement function, such as RFQ or purchase order, is to be blocked for quality reasons.



## How to Display a Vendor Master Record

Display a central record of the purchasing-specific vendor master data.

Display a vendor master record using transaction MK03 (purchasing) and using transaction XK03 (central).



Explain that the data relevant to accounting is not displayed because the data has been limited to the purchasing data only. This applies to the change, create and display transactions.

1. Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Vendor* → *Purchasing* → *Display (Current)* (MK03).



Discuss the subdivision of data into client-specific and purchasing organization-specific data:

- General data (valid for a single client)
- Purchasing organization-specific data

Again, explain that only the data relevant to purchasing is displayed.

- Open a second session and choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Vendor* → *Central* → *Display* (XK03).



Discuss the three subdivisions of the data (general, company code and purchasing organization) according to the organizational level dependency.



Note:

Arrange the two sessions so that they overlap. This way, you can compare the existing views at a glance.



- Display *Vendor 1000* centrally.

- Enter the following data:

Field	Value
<i>Vendor</i>	<b>1000</b>
<i>Company Code</i>	<b>1000</b>
<i>Purch. Organization</i>	<b>1000</b>

- Select all views and choose *Enter*.



Explain the navigation options available under the *Goto* menu option, and the functions of the  (*Previous screen*) and  (*Next screen*) pushbuttons. Also, discuss the individual data in the various views.

- Choose *Extras* → *Administrative data* to determine the *Account group* and the user who entered the data.
- Choose *Environment* → *Account changes* → *All Changes*.
- Double-click the relevant entry to display the changes for one of the listed fields.



### How to Create a Vendor Master Record


Create a vendor master record for accounting and purchasing using transaction XK01 (central).


- Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Vendor* → *Central* → *Create* (XK01).
- Enter the following data:

Field	Value
<i>Vendor</i>	<b>T-K500Y</b>


Field	Value
<i>Company Code</i>	<b>1000</b>
<i>PurchasingOrganization</i>	<b>1000</b>
<i>Account group</i>	<b>ZTMM</b>

3. Choose *Enter*.



Note:  
Choose  (*Enter*) to go to the next view in succession. You do not have to enter data in all views.



Explain that you can also choose *Enter* or the  (*Next screen*) pushbutton.

4. Enter the following data in the *Address* screen and choose *Enter*:

Field	Value
<i>Name</i>	<b>Quick Company</b>
<i>Search term 1/2</i>	<b>SCM500-00</b>
<i>Street/House number</i>	<b>Daimlerstrasse 127</b>
<i>Postal Code/City</i>	<b>69134 Heidelberg</b>
<i>Country</i>	<b>DE</b>
<i>Region</i>	<b>08 (Baden-Wuerttemberg)</b>
<i>Language</i>	<i>German</i>

5. Enter the following data in the *Accounting information* screen and choose *Enter*:

Field	Value
<i>Recon. account</i>	<b>160000</b>

6. Enter the following data in the *Payment transactions Accounting* screen and choose *Enter*:

Field	Value
<i>Payt Terms</i>	<b>0002</b>
<i>Payment methods</i>	<b>S Check</b>

7. Enter the following data in the *Purchasing data* screen and choose *Enter*:

Field	Value
<i>Order currency</i>	<b>EUR</b>
<i>Terms of paymnt</i>	<b>0002</b>
<i>Incoterms</i>	<b>FOB Mannheim</b>

---

Field	Value
<i>Salesperson</i>	<b>Dolly Duck</b>
<i>Telephone</i>	<b>06221-986547</b>

8. Save the data.
-





## Create a Vendor Master Record

### Business Example

Your company has entered into a business relationship with a new vendor. As a part of your job, you need to approve invoices for payment and carry out other processes to order from this vendor. For this reason, you must know how to create a new vendor master record.

Create a master record for a new vendor with the purchasing and accounting data.

The purchasing and accounting data for new vendor, **Highspeed Gr.##**, is available. Since your company will now purchase products or services from this source on a regular basis, create a master record for this vendor.

### Task 1

1. Vendor master record maintenance based on the organizational levels.  
You already know that vendor master data is maintained on the basis of organizational levels. For which organizational levels do you enter data in the vendor master record?

### Task 2

Creation of vendor master data is based on menu paths.

1. Which menu paths can you use to create a vendor master record in purchasing?
2. How do these differ?

### Task 3

Create vendor master record.

1. Create a vendor master record **T-K500Y##** centrally for the organizational levels *Company Code 1000* and *Purchasing Organization 1000*. Create this vendor master record with the *Account group ZTMM*.



Hint:

You do not have to enter anything in the following views:

- *General data*
- *Company code data*
- *Purchasing organization data*
- *Control*
- *Payment transactions*
- *Correspondence*
- *Withholding tax*
- *Partner functions*

#### Task 4

Change vendor master record.

1. The vendor master data for vendor **T-K500Y##** has been created. Now, requisitions for certain materials procured from this vendor can be automatically converted into purchase orders. To facilitate this change, set the necessary indicator in the vendor master record. Change the control data in the *Purchasing data* of the vendor master record accordingly.

Entry in the field: \_\_\_\_\_

The vendor has now informed you that **Mr. Fred Fisher** is the contact person for purchasing. His telephone number is **089-123654**. Enter this information in the *Purchasing data* specific to the *Purchasing Organization*.



Hint:

You can also enter the details of the sales person in the *Contact persons* data field. These details form part of the cross-client data. You can store additional information about your contact person here, such as department or material status. You can also enter more than one contact person from a department.







## Create a Vendor Master Record

### Business Example

Your company has entered into a business relationship with a new vendor. As a part of your job, you need to approve invoices for payment and carry out other processes to order from this vendor. For this reason, you must know how to create a new vendor master record.

Create a master record for a new vendor with the purchasing and accounting data.

The purchasing and accounting data for new vendor, **Highspeed Gr.##**, is available. Since your company will now purchase products or services from this source on a regular basis, create a master record for this vendor.

### Task 1

1. Vendor master record maintenance based on the organizational levels.

You already know that vendor master data is maintained on the basis of organizational levels. For which organizational levels do you enter data in the vendor master record?

- a) You enter data for the organizational levels client, company code, purchasing organization, and plant/sub-range in the vendor master record.

### Task 2

Creation of vendor master data is based on menu paths.

1. Which menu paths can you use to create a vendor master record in purchasing?

- a) You can create vendor master data using the following menu paths:

- *Logistics → Materials Management → Purchasing → Master Data → Vendor → Central → Create (XK01).*
- *Logistics → Materials Management → Purchasing → Master Data → Vendor → Purchasing → Create (MK01).*

2. How do these differ?

- a) These approaches differ in the following way:

- With transaction **XK01**, you can create all vendor master data. On the other hand with transaction **MK01**, you create only general data and data specific to purchasing. Company code-specific data can be created only with transaction **XK01**.

### Task 3

Create vendor master record.

1. Create a vendor master record **T-K500Y##** centrally for the organizational levels *Company Code 1000* and *Purchasing Organization 1000*. Create this vendor master record with the *Account group ZTMM*.



Hint:

You do not have to enter anything in the following views:

- *General data*
- *Company code data*
- *Purchasing organization data*
- *Control*
- *Payment transactions*
- *Correspondence*
- *Withholding tax*
- *Partner functions*

a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Vendor* → *Central* → *Create* (xK01).

b) Enter the following data on the *Initial* screen and choose *Enter*.

Field	Value
<i>Vendor</i>	<b>T-K500Y##</b>
<i>Company Code</i>	<b>1000</b>
<i>Purchasing Org.</i>	<b>1000</b>
<i>Account group</i>	<b>ZTMM</b>

c) Enter the following data on the *Address* screen and choose *Enter*:

Field	Value
<i>Title</i>	<b>Company</b>
<i>Name</i>	<b>Highspeed Gr.##</b>
<i>Search term 1/2</i>	<b>SCM500-##</b>
<i>Street/House number</i>	<b>Lincolnstraße 99</b>
<i>Postal Code/City</i>	<b>81549 Munich</b>
<i>Country</i>	<b>DE (Germany)</b>
<i>Region</i>	<b>09 (Bavaria)</b>
<i>Language</i>	<b>German</b>

d) Enter the following data on the *Accounting information Accounting* screen and choose *Enter*:

Field	Value
<i>Recon. account</i>	160000

- e) Enter the following data on the *Payment transactions Accounting* screen and choose *Enter*:

Field	Value
<i>Payt Terms</i>	0002

- f) Enter the following data on the *Purchasing data* screen:

Field	Value
<i>Order currency</i>	EUR
<i>Terms of paymnt</i>	0002



Note:

There is no input required in the *Control*, *Payment transactions*, *Correspondence*, and *Partner functions* screens.

- g) Save the data.

#### Task 4

Change vendor master record.

- The vendor master data for vendor **T-K500Y##** has been created. Now, requisitions for certain materials procured from this vendor can be automatically converted into purchase orders. To facilitate this change, set the necessary indicator in the vendor master record. Change the control data in the *Purchasing data* of the vendor master record accordingly.

Entry in the field: \_\_\_\_\_

The vendor has now informed you that **Mr. Fred Fisher** is the contact person for purchasing. His telephone number is **089-123654**. Enter this information in the *Purchasing data* specific to the *Purchasing Organization*.

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Vendor* → *Purchasing* → *Change (Current)* (MK02).

- b) Enter the following data on the *Initial* screen:

Field	Value
<i>Vendor</i>	T-K500Y##
<i>Purchasing Organization</i>	1000

- c) Select the *Purchasing data* checkbox and choose *Enter*.
- d) Enter the following data on the *Purchasing data* view:

Field	Value
<i>Salesperson</i>	<b>Mr. Fred Fisher</b>
<i>Telephone</i>	<b>089-123654</b>

- e) Select the *Automatic purchase order* checkbox and save the data.



Hint:

You can also enter the details of the sales person in the *Contact persons* data field. These details form part of the cross-client data. You can store additional information about your contact person here, such as department or material status. You can also enter more than one contact person from a department.



### **LESSON SUMMARY**

You should now be able to:

- Create a vendor master record



## Maintaining Material Master Records

### LESSON OVERVIEW

This lesson introduces the material master record, which is one of the central master records in logistics. This lesson explains the structure and the maintenance (creation, extension, changing, and display) of the material master record.

### Business Example

Various departments in your company access existing material master records. You need to create and extend material master records. For this reason, you require the following knowledge:

- An understanding of material master records
- How to create and maintain material master records
- An understanding of the organizational levels that are important to maintain material master records



This lesson introduces and examines the structure of the material master record. The organizational levels also play a significant role for the material master record. On completion of this lesson, it is important that the participants know which material master record data is required for the procurement process. In addition, they should be able to name the relevant organizational levels. Also clarify that other data is entered depending on other organizational levels, such as sales and distribution data.



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Create a material master record
- Extend a material master record

### Material Master Record



Start by asking which information about a material should be entered in a centrally administered data record and how this data is best organized.

#### You should emphasize the following points:

- Each user department does not have to create its own material master record as this would result in data redundancy. For example, all the data about a material that is independent of specific vendors, customers, or production routings, should be stored in a central master record.

- To facilitate individual departments in accessing the data that is relevant to their needs, the data should be grouped according to user department. This may also mean that a piece of information or data field is displayed in different views.

In addition, you must be able to enter data depending on the organizational level because of different requirements within the company.

For example, in plant A, a material is required for production, whereas in plant B, it is used only as a spare part. As a result, different MRP procedures must be used, depending on the plant.

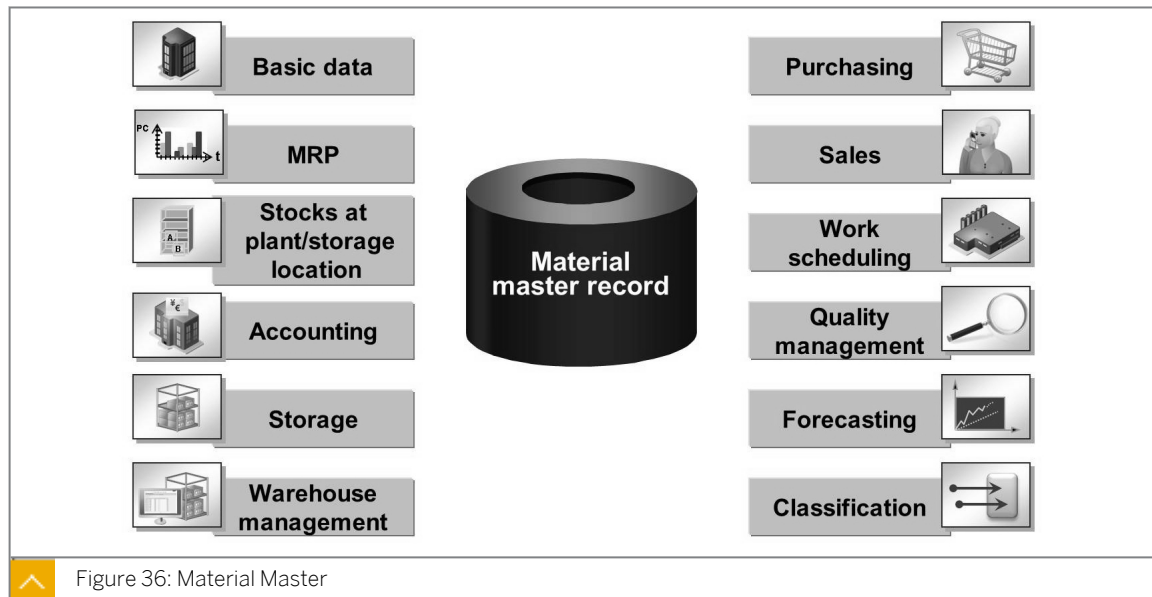


Figure 36: Material Master

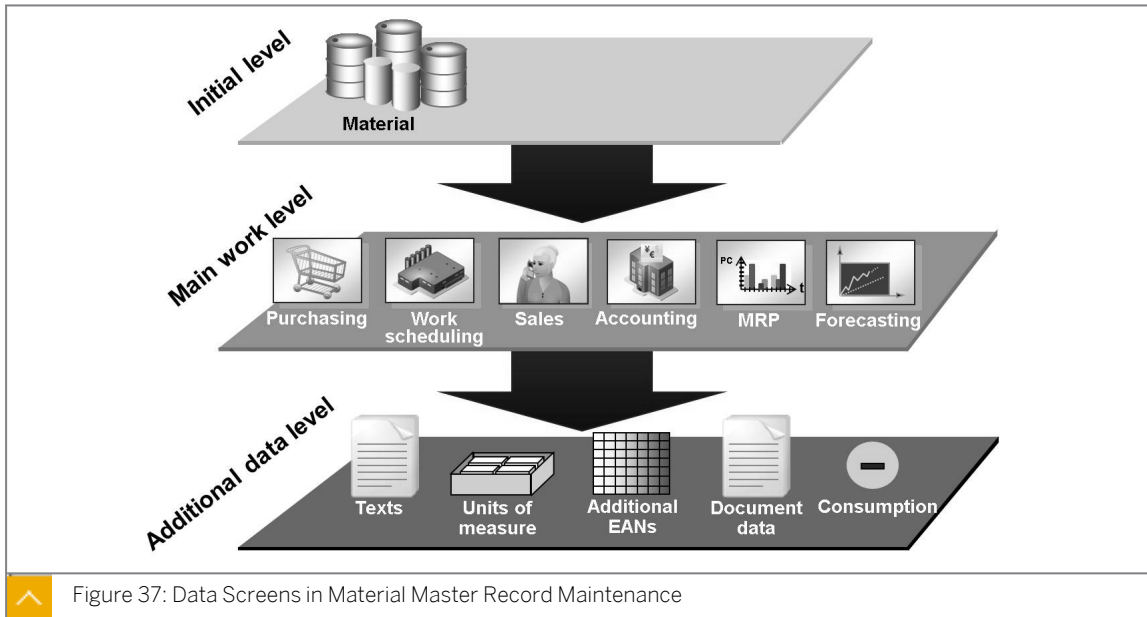
The material master record is a company's central source of material-specific data. It is used in all areas of logistics. The integration of all material data in a single database object eliminates the problem of data redundancy. All areas, such as purchasing, inventory management, materials planning, and invoice verification, can jointly use the stored data.

**The data stored in the material master is required for many activities, including the following:**

- Purchasing, for ordering purposes
- Inventory management, for posting goods movements and physical inventory management
- Accounting, for material valuation
- Materials planning, for material requirements planning

Various user departments within a company work with material data, and each department stores different information relating to it, so, the data in a material master record is subdivided according to specific user department. Therefore, each user department has its own view of a material master record and is responsible for maintaining this data.

## Material Master Record Maintenance

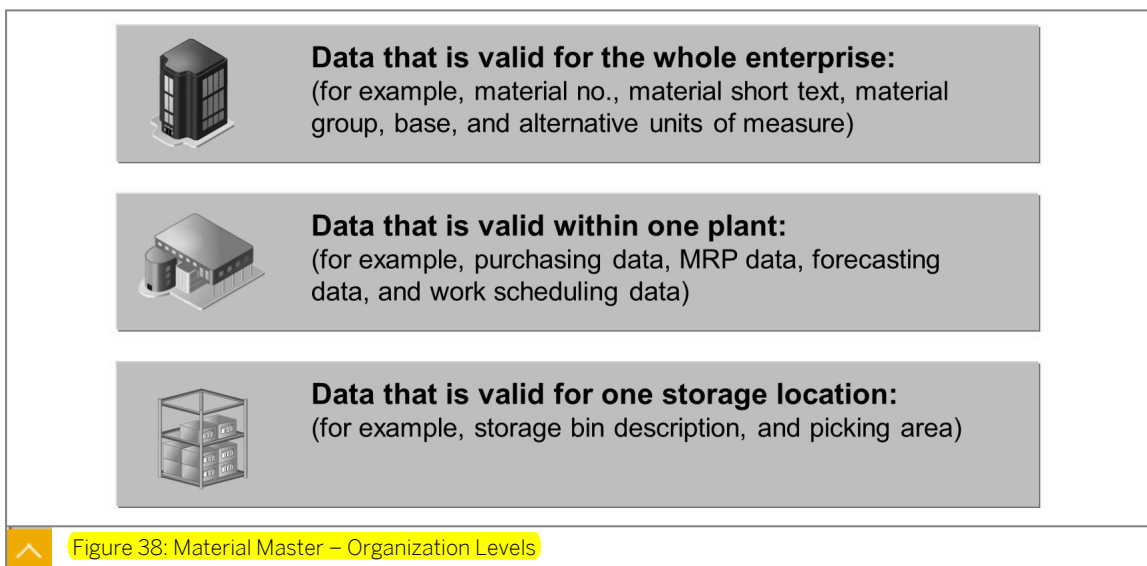


The data screens in material master record maintenance are subdivided into the following types:

- **Main work level**  
These are the screens for the individual user departments, such as basic data, materials planning, and so on.
- **Additional data level**  
On these screens you find additional information, such as alternative units of measure, material short descriptions, and consumption values.

The data retained within a view may be valid for different organizational levels.

## Material Master at Organization Levels





Some material data is valid for all organizational levels, while some material data is valid only for certain levels. To ensure that the material data can be administered centrally, without unnecessary load on the database due to redundant information, the material master is organized to reflect the structure of a company.

**Material data is distinguished in the structure in the following ways:**

- **Data at client level**

General material data that is valid for the whole company is stored at client level.

- **Data at plant level**

All data that is valid within a plant and for all storage locations belonging to it is stored at plant level.

- **Data at storage location level**

All data that is valid for a particular storage location is stored at storage location level.

These organizational levels are relevant for the external procurement process. Client, plant, and storage location matter when you enter data for purchasing, inventory management, and accounting. Other organizational levels can be relevant for other departments. For example, the sales and distribution data is entered depending on the sales organization and the distribution channel and for the warehouse management data, you must specify a warehouse number and storage type.

### Creation of Material Master Records



Explain the standard screen sequence for maintaining a material master record by displaying the material M-01 and going through the individual steps. This demo also enables you to explain that data is maintained depending on the organizational levels.

**Material master records are created based on the organization level using the following steps:**

1. Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current* (MM03).
2. Enter the Material Number **M-01** and choose *Enter*.
3. Select only *Basic Data 1* in the *Select View(s)* dialog box to demonstrate that the *Organizational Levels* dialog box is not displayed.
4. Return to the initial screen.
5. Now select *Basic Data 1* and *Purchasing* in the *Select View(s)* dialog box to demonstrate that You can now enter the *Plant* in the *Organizational Levels* dialog box.
6. Display the basic data without entering a *Plant*. All fields are displayed on the basic data screen.
7. Choose the purchasing data and display the individual data.
8. Choose *Org. Levels* and enter *Plant 1000*. Now the plant-dependent purchasing data is displayed.

### Maintenance of Material Master Records

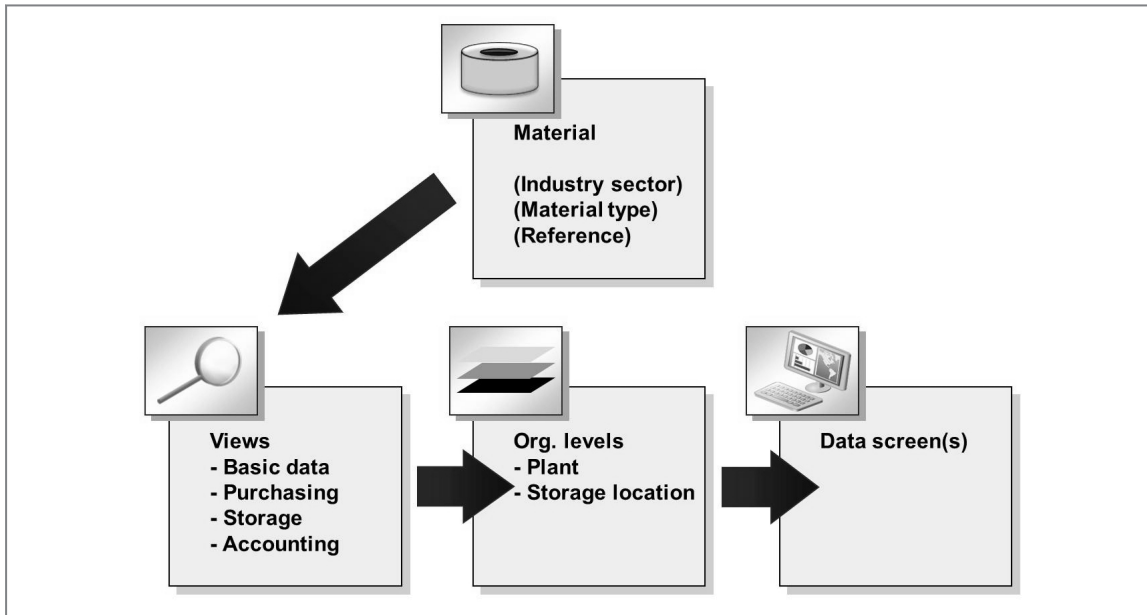


Figure 39: Maintaining a Material Master Record – Screen Sequence

Material data is structured by user department and organizational level and is also evident in material master record maintenance. When processing material master records, you have to pass through several dialog screens before you start to add or change data.

On the initial screen, you will see two successive dialog boxes. In the first dialog box, specify the views that you want to process. In the second dialog box, specify the relevant organization levels. Next, you will see the data screens. You can influence the default screen sequence by configuring the presets.

### Material Type

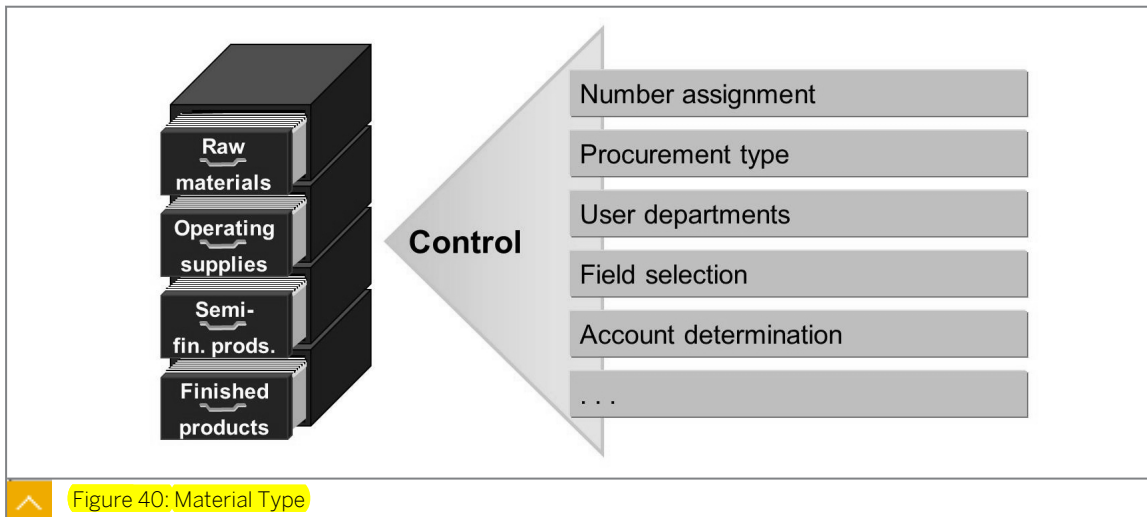


Figure 40: Material Type



When explaining the material type, show how it corresponds to the account group.

When creating a new material master record, you must choose a material type and an industry sector to assign the material. Materials with the same properties are assigned to the same material type. Examples of material types are raw materials, semifinished products, and finished products.

**The material type controls the following functions among other things:**

- The type of number assignment (internal or external)
- The permissible number range intervals
- The user department-specific view that is proposed for entry
- The procurement type that is allowed for a material, (that is, whether the material is produced in-house, procured externally, or both)

Along with the plant, the material type determines the way a material is maintained in inventory management. This includes updating either the quantity changes in the material master record or the value changes in the stock accounts of financial accounting, or both.

Furthermore, the material type determines which accounts are updated when a receipt is posted to or an issue is posted from the warehouse for a material.

Various types of material are available for use in the standard SAP system. If your company needs additional material types, you can define these according to your requirements in *Customizing*.

**Industry Sector**

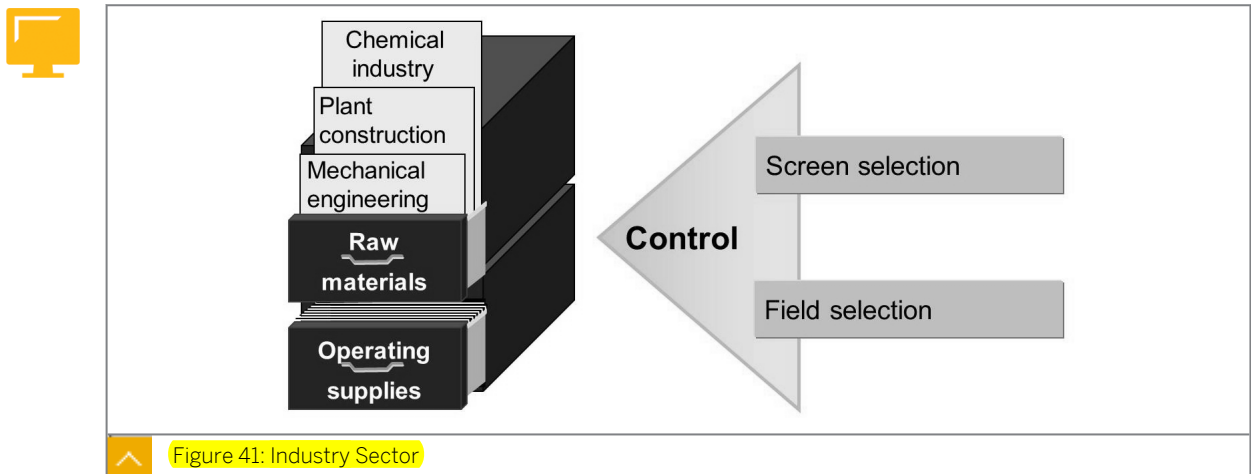


Figure 41: Industry Sector

Like the material type, the industry sector also has a control function.

**When you create a material master record, the industry sector determines the following functions:**

- Which screens are displayed and in which order
- Which industry-specific fields are displayed on each screen

The material you assign to an industry sector cannot be changed later.

In *Customizing*, you can define new industry sectors and maintain the field reference for field selection control according to your company-specific requirements. You can maintain most of the data in the material master record directly. However, some information is automatically updated by the system. When you enter goods movements, for example, the system updates

the stock and consumption data. You can choose *Information on material*, to find the statistical information, such as the date of original creation and the date of the last change.

Some data in the material master is used for information purposes only, for example, description, size, and dimensions. Other material data has a control function in an application. For example, the valuation class determines what G/L accounts will be posted to.



### How to Maintain a Material Master Record

Create a new material master record with the data of the individual user departments.

A special type of headlight is needed to manufacture a new motorcycle model. This headlight is procured externally. After consulting the other departments involved, you create a material master record of the *Material Type Raw material* for the headlight. The material is initially to be used in *Plant 1000*. It is necessary to create several views with the data of the individual user departments.

1. Create a new material master record with the number **T-M500Y##**. Choose the Industry sector *Mechanical Engineering* and the *Material Type Raw material*.

Create the *Basic Data 1*, *Purchasing*, *Purchase Order Text*, and *General Plant Data / Storage*. 1 views for *Plant 1000* and *Stor. Location 0001*.

Enter the following data in the *Basic Data* view:

The short description of the material is **Headlight ExtraBright-##**. The base unit of measure used for the headlight is piece (**PC**). The headlight is assigned to material group **003** (Bulbs). The gross weight is **4** kg and the net weight is **3.8** kg.

Because you use the headlight in German-speaking countries, you also maintain the material description in German.

German description for the headlight is **Scheinwerfer Extrahell-##**.



Hint:

You can enter short descriptions in other languages in the additional data.

Choose  *Additional data*.

Enter the following data in the *Purchasing* view.

Purchasing group **T##** is responsible for procuring the headlight. The goods receipt processing time for this material is **1** day. Reminder letters (expeditors) regarding undelivered goods are to be sent 10, 20, and 30 days after the date on which delivery is due. **Under or overdelivery of the material is not accepted. Choose the suitable purchasing value key.**


Enter the following data in the *Purchase Order Text* view.

The purchase order text reads as follows: **The material supplied must be in accordance with our technical specification no. 65432.**

You can also enter the following purchase order text in German: **Das gelieferte Material muss unsere technische Spezifikation Nr. 65432 erfüllen.**



Hint:

Choose  (*Create text*) to create the purchase order text in other languages.

When you create a purchase order, the system uses the language from the vendor master record as the default purchase order language. The material short text and the purchase order text are adopted from the material master record and output in the purchase order document in the purchase order language.

General Plant Data/Storage 1:

The headlight is to be stored in storage bin **BL-01** at storage location 0001.

When you have entered all the data, save your new material master record.

a) Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create (General)* → *Immediately* (MM01).

b) Enter the following data on the *Initial Screen* and choose *Continue*:

Field	Value
<i>Material</i>	<b>T-M500Y##</b>
<i>Industry sector</i>	<i>Mechanical Engineering (M)</i>
<i>Material Type</i>	<i>Raw material (ROH)</i>

c) Select the following views on the *Select View(s)* screen and choose *Continue*:

- *Basic Data 1*
- *Purchasing*
- *Purchase Order Text*
- *General Plant Data / Storage 1*

d) Enter the following data in the *Organizational Levels* dialog box and choose *Continue*:

Field	Value
<i>Plant</i>	<b>1000</b>
<i>Stor. Location</i>	<b>0001</b>

e) Enter the following data on the *Basic data1* screen:

Field	Value
<i>Material short text</i>	<b>Headlight Extra Bright-##.</b>
<i>Base Unit of Measure</i>	<b>PC</b>
<i>Material Group</i>	<b>003</b>
<i>Gross Weight</i>	<b>4</b>
<i>Weight unit</i>	<b>KG</b>
<i>Net Weight</i>	<b>3,8</b>


f) Choose the *Additional Data* pushbutton and enter the following data:

Field	Value
<i>Language</i>	<b>DE</b>

Field	Value
Material Description	<b>Scheinwerfer Extrahell-##</b>

- g) Choose the *Main data* pushbutton and enter the following data in the remaining views:

Field	Value
Purchasing Group	<b>T##</b>
Purchasing value key	<b>1</b>
GR Processing Time	<b>1</b>



Note:  
To get to the next view in each case, choose *Enter*.

- h) Enter the following text:

Language	Text
English	<b>The material supplied must be in accordance with our technical specification no. 65432</b>

- i) Choose the *Create Text* pushbutton and select the following data:

Field	Value
Create text in	German
Copy from	English

- j) Enter the following data on the *Plant data/Stor. 1* screen and choose *Save*:

Field	Value
Storage Bin	<b>BL-01</b>

2. Display the material master record. Which views are proposed for display?

- a) Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current (MM03)*.
- b) Enter the *Material T-M500Y##*.
- c) Choose *Select View(s)*.
- d) The system proposes the following views: *Basic Data 1, Basic Data 2, Purchasing, Foreign Trade:Import Data, Purchase Order Text, General Plant Data / Storage 1, General Plant Data / Storage 2, Plant Stock, and Storage Location Stock*.



## Create a Material Master Record

### Business Example

You are responsible for creating and maintaining material master records in your enterprise. For this reason, you must know how to create a material master record for a new headlight.

Create a new material master record with the data of the individual user departments.

A special type of headlight is needed for the manufacture of a new motorcycle model. This headlight is procured externally. After consulting the other departments involved, you create a material master record of the *Material Type Raw material* for the headlight. The material is initially to be used in *Plant 1000*. It is necessary to create several views with the data of the individual user departments.

#### 1. Create material master record.

Create a new material master record with the number **T-M500Y##**. Choose the *Industry sector Mechanical Engineering* and the *Material Type Raw material*.

Create the *Basic data 1*, *Purchasing*, *Purchase order text*, and *Plant data/stor. 1* views for *Plant 1000* and *Stor. Location 0001*.

Enter the following data on the *Basic Data* view

The short description of the material is **Headlight ExtraBright-##**. The base unit of measure used for the headlight is piece (**PC**). The headlight is assigned to material group **003** (Bulbs). The gross weight is **4** kg and the net weight is **3.8** kg.

Because you use the headlight in German-speaking countries, you also maintain the material description in German.

German description: **Scheinwerfer Extrahell-##**.



Hint:

You can enter short descriptions in other languages in the additional data.

Choose  *Additional data*.

Enter the following data in the *Purchasing* view

Purchasing group **T##** is responsible for procuring the headlight. The goods receipt processing time for this material is **1** day. Reminder letters (expeditors) regarding undelivered goods are to be sent 10, 20, and 30 days after the date on which delivery is due. Under or overdelivery of the material is not accepted. Choose the suitable purchasing value key.


Enter the following data in the *Purchase Order Text* view.

The purchase order text reads as follows: **The material supplied must be in accordance with our technical specification no. 65432.**

You can also enter the purchase order text in German: **Das gelieferte Material muss unsere technische Spezifikation Nr. 65432 erfüllen.**



Hint:

Choose  (*Create text*) to create the purchase order text in other languages.

When you create a purchase order, the system uses the language from the vendor master record as the default purchase order language. The material short text and the purchase order text are adopted from the material master record and output in the purchase order document in the purchase order language.

The headlight is to be stored in storage bin **BL-01** at storage location **0001**.

When you have entered all the data, save your new material master record.

2. Display the material master record. Which views are proposed for display?





## Create a Material Master Record

### Business Example

You are responsible for creating and maintaining material master records in your enterprise. For this reason, you must know how to create a material master record for a new headlight.

Create a new material master record with the data of the individual user departments.

A special type of headlight is needed for the manufacture of a new motorcycle model. This headlight is procured externally. After consulting the other departments involved, you create a material master record of the *Material Type Raw material* for the headlight. The material is initially to be used in *Plant 1000*. It is necessary to create several views with the data of the individual user departments.

#### 1. Create material master record.

Create a new material master record with the number **T-M500Y##**. Choose the *Industry sector Mechanical Engineering* and the *Material Type Raw material*.

Create the *Basic data 1*, *Purchasing*, *Purchase order text*, and *Plant data/stor. 1* views for *Plant 1000* and *Stor. Location 0001*.

Enter the following data on the *Basic Data* view

The short description of the material is **Headlight ExtraBright-##**. The base unit of measure used for the headlight is piece (**PC**). The headlight is assigned to material group **003** (Bulbs). The gross weight is **4** kg and the net weight is **3.8** kg.

Because you use the headlight in German-speaking countries, you also maintain the material description in German.

German description: **Scheinwerfer Extrahell-##**.



Hint:

You can enter short descriptions in other languages in the additional data.

Choose  *Additional data*.

Enter the following data in the *Purchasing* view

Purchasing group **T##** is responsible for procuring the headlight. The goods receipt processing time for this material is **1** day. Reminder letters (expeditors) regarding undelivered goods are to be sent 10, 20, and 30 days after the date on which delivery is due. Under or overdelivery of the material is not accepted. Choose the suitable purchasing value key.


Enter the following data in the *Purchase Order Text* view.

The purchase order text reads as follows: **The material supplied must be in accordance with our technical specification no. 65432.**

You can also enter the purchase order text in German: **Das gelieferte Material muss unsere technische Spezifikation Nr. 65432 erfüllen.**



Hint:

Choose  (*Create text*) to create the purchase order text in other languages.

When you create a purchase order, the system uses the language from the vendor master record as the default purchase order language. The material short text and the purchase order text are adopted from the material master record and output in the purchase order document in the purchase order language.

The headlight is to be stored in storage bin **BL-01** at storage location **0001**.

When you have entered all the data, save your new material master record.

- a) Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create (General)* → *Immediately* (MM01).
- b) Enter the following data on the *Initial* screen and choose *Continue*:

Field	Value
<i>Material</i>	<b>T-M500Y##</b>
<i>Industry sector</i>	<i>Mechanical Engineering (M)</i>
<i>Material Type</i>	<i>Raw material (ROH)</i>

- c) Select the following views on the *Select View(s)* screen and choose *Continue*:
  - *Basic Data 1*
  - *Purchasing*
  - *Purchase Order Text*
  - *General Plant Data / Storage 1*
- d) Enter the following data in the *Organizational Levels* dialog box and choose *Continue*:

Field	Value
<i>Plant</i>	<b>1000</b>
<i>Stor. Location</i>	<b>0001</b>

- e) Enter the following data on the *Basic data1* screen:

Field	Value
<i>Materialshort text</i>	<b>Headlight Extra Bright-##.</b>
<i>Base Unit of Measure</i>	<b>PC</b>
<i>Material Group</i>	<b>003</b>
<i>Gross Weight</i>	<b>4</b>
<i>Weight unit</i>	<b>KG</b>
<i>Net Weight</i>	<b>3,8</b>

- f) Choose the *Additional Data* pushbutton and enter the following data:

Field	Value
<i>Language</i>	<b>DE</b>
<i>Material Description</i>	<b>Scheinwerfer Extrahell-##</b>

- g) Choose the *Main data* pushbutton and click the *Purchasing* tab page to enter remaining values. Enter the following data in the remaining views selected:

Field	Value
<i>Purchasing Group</i>	<b>T##</b>
<i>Purchasing value key</i>	<b>1</b>
<i>GR Processing Time</i>	<b>1</b>



Note:

To get to the next view in each case, choose *Enter*.

- h) Choose *Purchase order text* tab page and enter the following text:

Language	Text
<i>English</i>	<b>The material supplied must be in accordance with our technical specification no. 65432</b>

- i) Choose the *Create Text* pushbutton and select the following data:

Field	Value
<i>Create text in</i>	<i>German</i>
<i>Copy from</i>	<i>English</i>

- j) Enter the following data on the *Plant data / Stor. 1* screen and choose *Save*:

Field	Value
<i>Storage Bin</i>	<b>BL-01</b>

2. Display the material master record. Which views are proposed for display?

- Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current (MM03)*.
- Enter the *Material T-M500Y##*.
- Choose *Select View(s)*.

- d) The system proposes the following views: *Basic Data 1, Basic Data 2, Purchasing, Foreign Trade:Import Data, Purchase Order Text, General Plant Data / Storage 1, General Plant Data / Storage 2, Plant Stock, and Storage Location Stock.*

## Extend Material Master Record



It is important for participants to understand that there is no separate transaction for extending a material master record, even if this is sometimes implied when this term is used at SAP. Extension means that data is stored either for further organizational levels or for further user departments. This data must always be added using the *Create* function.

The *Change* function is used for material master record data. You can only change data that has already been created.

Demo: To clarify the difference, first display the data for *Material T-M500A00* and make a note of the existing views and organizational levels. Then switch to the *Change* function for the material. The view selection does not offer additional views and you cannot choose any additional organizational levels.

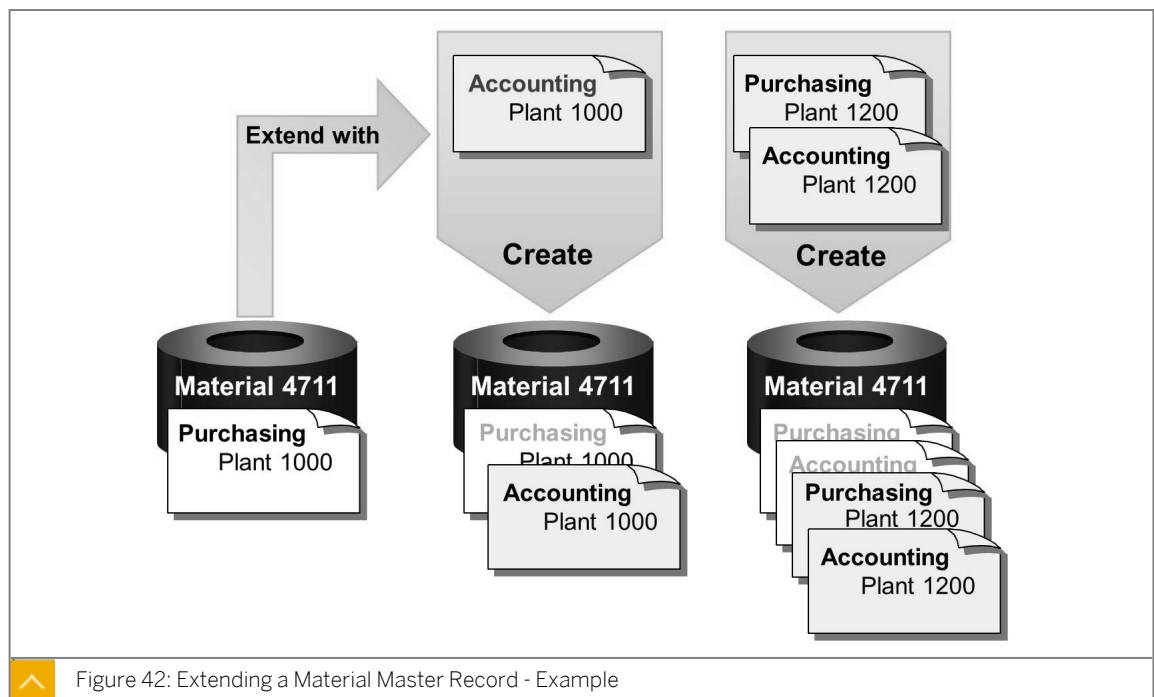


Figure 42: Extending a Material Master Record - Example

Once a department has created data for a material, the material master record exists in the database. If a user from another department wishes to enter data later, he or she does not have to create the material master record from the beginning, but only has to extend the existing record by adding the information from his or her department. The material master is also extended when data pertaining to the material is extended to further organizational levels.

You use the *Create* material master transaction (MM01) to extend a material master record by adding missing views or organizational levels.



### Caution:

With the *Change* material transaction (MM02), you can only change the data of views and organizational levels that are already maintained.

Any changes you make to data in a material master record, such as creating or changing are logged in a change document. This means that you can trace the change history at any time.



## Extend a Material Master Record

### Business Example

As a part of your job, you are responsible for creating and maintaining the material master records in your enterprise. For this reason, you must know how to extend a material master record.

1. The accounting data has been provided for *Material T-M500Y##*. Extend the material master record by adding the accounting data for *Plant 1000*. The material is assigned to the *Valuation Class Raw materials 1*. The material is valued according to the *Moving average price* procedure. The valuation price amounts to *EUR 80*.



## Extend a Material Master Record

### Business Example

As a part of your job, you are responsible for creating and maintaining the material master records in your enterprise. For this reason, you must know how to extend a material master record.

1. The accounting data has been provided for *Material T-M500Y##*. Extend the material master record by adding the accounting data for *Plant 1000*. The material is assigned to the *Valuation Class Raw materials 1*. The material is valued according to the *Moving average price* procedure. The valuation price amounts to *EUR 80*.
  - a) Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create (General)* → *Immediately (MM01)*.

- b) Enter the following data on *Initial Screen*:

Field	Value
<i>Material</i>	<b>T-M500Y##</b>
<i>Industry sector</i>	<i>Mechanical Engineering (optional)</i>
<i>Material Type</i>	<i>Raw material (optional)</i>

- c) Choose *Continue*.
    - d) Select the *Accounting 1* view in the *Select View(s)* dialog box.
    - e) Choose *Continue*.
    - f) Enter *Plant 1000* in the *Organizational Levels* dialog box.
    - g) Choose *Continue*.
    - h) Enter the following data in the *Accounting 1* view:

Field	Value
<i>Valuation Class</i>	<b>3000 (raw materials 1)</b>
<i>Price control</i>	<b>▼ (Moving average price)</b>
<i>Moving price</i>	<b>80</b>

- i) Choose *Save*.





### **LESSON SUMMARY**

You should now be able to:

- Create a material master record
- Extend a material master record



## Using Entry Aids for Master Data Maintenance

### LESSON OVERVIEW

For master data maintenance, different functions are used to simplify data entry. This lesson covers entry aids for the vendor master record and the material master record.

### Business Example

You often need to process material and vendor master records. As a part of this job function, you test the entry aids that are provided for these master records. For this reason, you require the following knowledge:

- An understanding of the different entry aids for the maintenance of the vendor master record and material master record
- How to create a vendor master record with reference
- How to create a material master record with reference material
- How to use collective entry for storage location data in the material master record



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Create vendor master data with reference
- Maintain material master data using entry aids

### Entry Aids for Vendor Master Record



To supplement the vendor master record and material master record maintenance topics, this lesson discusses ways of simplifying material and vendor maintenance. Mass maintenance is also covered in this lesson as a central tool for maintaining master data and documents.

Easily maintain the vendor master record by copying the data from an existing vendor master record. This is valid for adding additional organizational levels to a master record and for creating a new vendor master record.

**Important:** Vendor-specific data such as the address and bank data is not copied.

Optional: Copy the vendor T-K500Y (or T-K500A00) to vendor T-K500X.

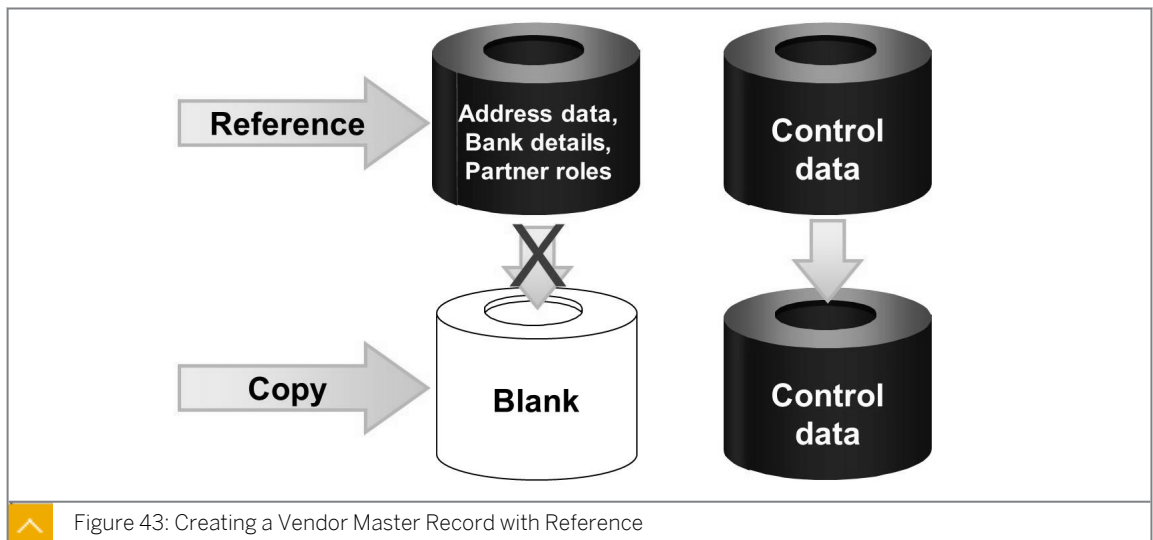


Figure 43: Creating a Vendor Master Record with Reference

To create a vendor master record, use an existing vendor as a reference. The system copies the general master data from the existing vendor. The control data is also copied from the reference, but you can overwrite it. However, the system does not copy all the data (for example, the address, bank information, and business partner). The system prompts you to maintain this data.

**The transfer of information from the existing vendor depends on the following factors:**

- When only copying data that is not vendor-specific, the address and the blocking indicator are not copied.
- When displaying data that you have already entered for your vendor, the saved data is not overwritten by the reference data.
- When you specify the areas to be transferred from the reference, you define the area that needs to be copied from the reference. For example, if you do not specify a purchasing organization, the system does not transfer the purchasing data.

**The following are the two scenarios occurring during system transfer of data:**

- General data created

This depends on whether you have already created the general data, which includes name, address, and phone number. Only the company code data is transferred when you specify the reference company code. When you create the data for the purchasing organization, the system transfers only this corresponding data from the reference.

- General data not created

Only the language and country from the reference address data is transferred.



### How to Create a Vendor Master Record with Reference

1. On the SAP Easy Access screen, choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Vendor* → *Central* → *Create (xK01)*.
2. On the *Create Vendor: Initial Screen*, enter the following data:

Field	Value
<i>Vendor</i>	<b>22338</b>
<i>Company Code</i>	<b>1000</b>
<i>Purchasing Organization</i>	<b>1000</b>
<i>Account group</i>	<b>LIEF</b>

3. In the *Reference* section, enter the following data:

Field	Value
<i>Vendor</i>	<b>T-K500A00</b>
<i>Company code</i>	<b>1000</b>
<i>Purchasing Organization</i>	<b>1000</b>

4. Choose *Enter* to go to the next screen.  
 5. On *Create Vendor: Address* screen, enter the following data:

Field	Value
<i>Name</i>	<b>Company No. One</b>
<i>Search term 1/2</i>	<b>Demo</b>

6. You can see that data has been copied on the subsequent views. Choose *Enter* for subsequent screens until the *Last data screen reached* dialog box appears.  
 7. Save your entries.

### Entry Aids for Material Master Record



Explain the different entry aids provided by SAP for the maintenance of material master data.

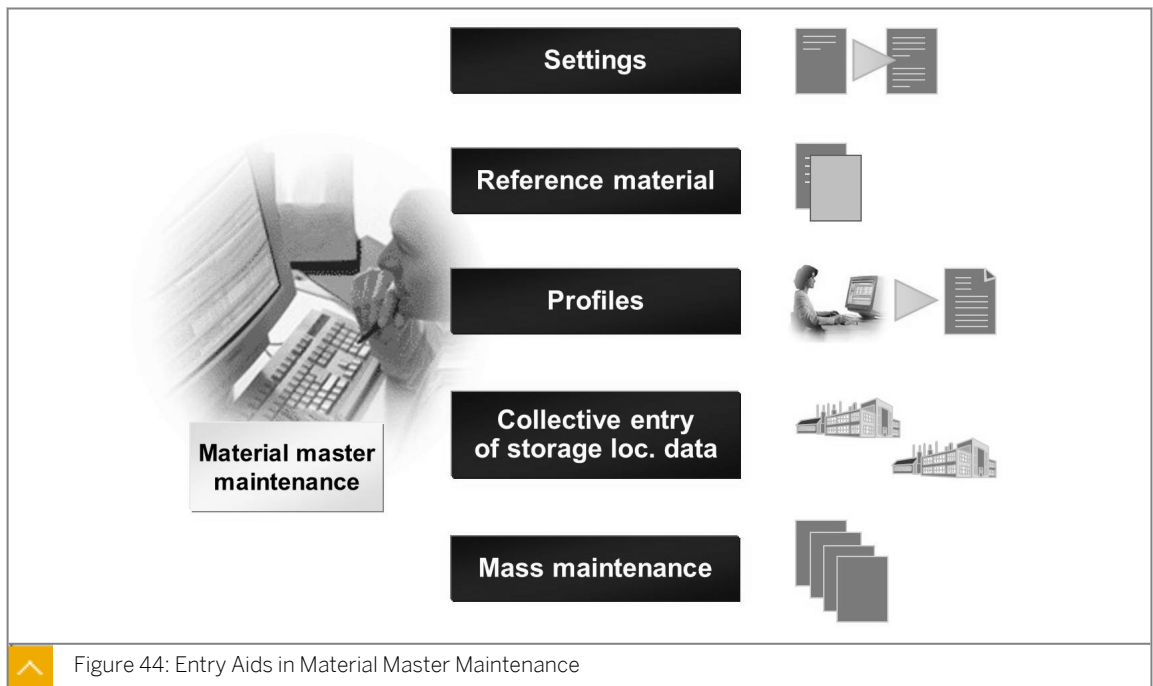


Figure 44: Entry Aids in Material Master Maintenance

**The entry aids that facilitate material master maintenance are as follows:**

- Settings
- Reference material
- Profiles
- Collective entry of storage location data
- Mass maintenance

**Entry Aids in Material Master Maintenance – Settings, Reference Material, and Profiles**

**Settings**

Use presettings to avoid entering or selecting the same data more than once. You can preset the screen views that you frequently manage in the *Select Views* dialog box. You can preset the dialog box to display only if you specifically request it. Similar presettings are possible for the *Organizational Levels* dialog box.

In *Create Material* (transaction `MM01`), choose *Defaults* → *Industry Sector* to specify the industry sector and then hide this field.



**Note:**

The default values specified in this section are user-specific and can be overwritten or reset at any time.

**Reference Material**

When you create a material master record, you can also copy the data from an existing master record. On the initial screen, enter the number of the reference material in the corresponding field. Then, a dialog box allows you to specify the organizational levels of the reference material in the additional fields.

**If you want to copy the purchasing data for a material, determine the following:**

- That you only want to copy the purchasing data valid for a single client reference. In this case, do not enter a plant for the reference.
- That the plant-specific data also needs to be copied from the reference. In this case, you specify the plant for which the reference material has been created.

### Profiles

To automatically plan or forecast a material, you must first create data for it in the material master record. To simplify entry of this data, you can use MRP and forecast profiles. Profiles are used to store MRP or forecast parameters independently of the material master record. A profile is a collection of information for the default values of a material master record. The information stored in a profile is standard information required for maintaining different materials repeatedly in the same or a similar group

If you create MRP or forecast data for a material, you can enter the profiles in the *Organizational Levels* dialog box.

### Entry Aids in Material Master Maintenance – Collective Entry of Storage Location Data and Mass Maintenance

#### Collective Entry of Storage Location Data

Material can be physically stored in various storage locations. To save storage location-specific data for a material master record, you must create or extend the material master record for each storage location that is affected.

**If the material master record already exists, the storage location-specific data can be added manually or automatically as follows:**

- Manually

Manually enter the storage locations for a material master record using collective entry. This is much faster than entering the data individually for each storage location. In the Material Master menu, the function is under *Other* → *Enter Storage Locations* (transaction **MMSC**).

- Automatically

The system automatically adds the storage location data to the material master record with the first goods receipt posting. All data that refers to the storage location affected is updated in the material master record. The system must be configured accordingly in Customizing for *Inventory Management and Physical Inventory* under **Create Storage Location Automatically**.

#### Mass Maintenance

You can use a special mass change function to change several material master records at once. For example, if existing data needs to be changed due to new circumstances. Only experienced users must execute this function.



#### How to Make Presettings as an Entry Aid

Presettings for industry, view selection, and organizational levels.

1. Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current* (MM03).

2. Enter **T-M500Y##** in the *Material* field. Confirm your entries.
3. Choose *Defaults* → *Industry Sector or Defaults* → *Views or Defaults* → *Organizational Levels*.
  - a) Preset the *Purchasing and Accounting 1* views.
  - b) Enter **1000** in the *Plant* field in the *Organizational Levels* dialog box.  
Explain the meaning of the *View selection only on request* and *Org.levels/profiles only on request* checkbox.
4. Confirm you entries to show the effects of your settings.  
The selected views and plant 1000 are already suggested in the dialog box.  
Point out that these default settings are also used when creating and changing data.



### How to Create a Material Master Record with Reference

Create a material using an existing reference.



Add the purchasing data, the accounting data, and the general plant data/storage for plant 1200 and storage location 0001 to the material T-M500Y##. Copy the data from plant 1000, storage location 0001.

1. Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create (General)* → *Immediately* (MM01).
2. On *Create Material Initial Screen*, enter **T-M500Y##** in the *Material* field (## is a free group number).
3. Choose *Continue*.
4. Select the following views on the *Select View(s)* screen:
  - *Purchasing*
  - *General Plant Data / Storage 1*
  - *Accounting 1*



Explain the meaning of the *Create views selected* checkbox. Inform the participants that they have to confirm all views by choosing *Enter* if they have not set this indicator, so that the views are created. (This is important for an exercise later on.)

5. Choose *Continue*.
6. Enter the following values in the *Organizational Levels* dialog box:

Field	Value
<i>Plant</i>	<b>1200</b>
<i>Stor. Location</i>	<b>0001</b>

7. Enter the following data in *Copy from* section:

Field	Value
<i>Plant</i>	<b>1000</b>
<i>Stor. Location</i>	<b>0001</b>



Explain why you create organizational levels for the reference. If no organizational levels are specified for the reference, then only the valid cross-client data is copied and not plant or storage-location-specific data.


8. Choose *Continue*.
9. Adopt the data from views *Purchasing* and *General Plant Data / Storage 1*. Select the *Accounting 1* tab page.
10. Enter the following data on the *Accounting 1* tab page:

Field	Value
<i>Valuation Class</i>	<b>30001 (raw materials 2)</b>
<i>Price control</i>	<b>S</b>
<i>Moving price</i>	<b>&lt;delete&gt;</b>
<i>Standard price</i>	<b>80</b>

11. Save your entries.



Check whether the material was created correctly for the second plant.  
To do so, choose *Logistics* → *Materials Management* → *Material Master* → *Other* → *Materials List (MM60)*.

12. Select *Material T-M500Y##* as the only selection value in the *Material* list.
13. Choose  (*Execute*).



### How to Use Collective Entry of Storage Locations

Create storage location-specific data using collective entry.

1. Choose *Logistics* → *Materials Management* → *Material Master* → *Other* → *Enter Storage Locations (MMSC)*.
2. Enter the following data in the *Enter Storage Locations Collectively: Initial Screen*:

Field	Value
<i>Material</i>	<b>T-M500Y##</b>
<i>Plant</i>	<b>1200</b>

Confirm your entries.



3. In the *Storage locations* section of the *Enter Storage Locations Collectively: List* screen, enter the following data:

Storage Location	Bin
0002	LP - 02
0003	LP - 03

4. Save your entries.
-





## Maintain Material Master Data Using Entry Aids

### Business Example

You are responsible for creating and maintaining material master records in your company. As a part of your job, you need to add data for another plant to the material master record for the headlights.

As a reference, use the data of the material that you have already entered for plant 1000.

Maintain material master data using entry aids.

The headlight is now also used in plant 1200. Extend the material master record with the data for this plant.

#### 1. Copy material master record.

Create the material master record T-M500Y## for plant 1200 and storage location 0001. As a reference, use the data from the material master record that has already been created for plant 1000 and storage location 0001.

Create the views Purchasing, Accounting 1, and General Plant Data/Storage 1.



#### Hint:

When working with reference materials, it is a good idea to select the *Create views selected* checkbox in the *Select Views* dialog box. If you select this checkbox, you can save your data immediately from the view copied first. Then you do not have to choose *Enter* to confirm each of the selected views.



#### Caution:

Remember to enter the organization levels (plant 1000, storage location 0001) as a reference.

Save your entries and then make sure that all data is adopted correctly.

#### 2. Change material master record.

Change the purchasing and accounting data for material T-M500Y## for plant 1200. The data changes should update immediately.

In plant 1200, the system should always propose that the material is posted to quality inspection stock when it is received. The material is also assigned to the valuation class 3001 in this plant, and is valued with the standard price of EUR 80.

Save your entries after the change.

#### 3. Display change documents for a material.

Find out when the accounting data for material T-M500Y## in plant 1200 was last changed.

Date: \_\_\_\_\_

4. Enter material data for several storage locations.

You store material T-M500Y## in plant 1200 in several storage locations. Enter the data for these additional storage locations using collective entry for storage locations.

SLoc	Bin
0002 :	BL-02
0003 :	AB-10

5. Materials List.

Check whether your material has been created for plants 1000 and 1200. Display the material list for material T-M500Y## and plants 1000 and 1200.

It is particularly important to check if the valuation data is consistent with the information from the previous exercises.



Hint:

Try to limit the information you specify in the materials list as much as possible, so that the system does not have to search too many data records.



## Maintain Material Master Data Using Entry Aids

### Business Example

You are responsible for creating and maintaining material master records in your company. As a part of your job, you need to add data for another plant to the material master record for the headlights.

As a reference, use the data of the material that you have already entered for plant 1000.

Maintain material master data using entry aids.

The headlight is now also used in plant 1200. Extend the material master record with the data for this plant.

#### 1. Copy material master record.

Create the material master record T-M500Y### for plant 1200 and storage location 0001. As a reference, use the data from the material master record that has already been created for plant 1000 and storage location 0001.

Create the views Purchasing, Accounting 1, and General Plant Data/Storage 1.



#### Hint:

When working with reference materials, it is a good idea to select the *Create views selected* checkbox in the *Select Views* dialog box. If you select this checkbox, you can save your data immediately from the view copied first. Then you do not have to choose *Enter* to confirm each of the selected views.




#### Caution:

Remember to enter the organization levels (plant 1000, storage location 0001) as a reference.

Save your entries and then make sure that all data is adopted correctly.

- a) Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create (General)* → *Immediately* (MM01).
- b) On the *Create Material (Initial Screen)*, enter **T-M500Y###** value in the *Material* field and Copy from material field.  
Choose *Continue*. If necessary, confirm the message that the material type and industry sector will be copied from the material master record.
- c) Select the following views:


- *Purchasing*
- *General Plant Data / Storage 1*
- *Accounting 1*



Caution:  
Select the *Create views selected* checkbox.

Choose *Continue*.

d) Enter the following data in the *Organizational Levels* dialog box:



Caution:  
Do not forget the entries for the reference.

Field	Value	Copy from
<i>Plant</i>	<b>1200</b>	<b>1000</b>
<i>Stor. Location</i>	<b>0001</b>	<b>0001</b>


- e) Choose *Continue*.
- f) Save your entries.



2. Change material master record.

Change the purchasing and accounting data for material T-M500Y## for plant 1200. The data changes should update immediately.

In plant 1200, the system should always propose that the material is posted to quality inspection stock when it is received. The material is also assigned to the valuation class 3001 in this plant, and is valued with the standard price of EUR 80.

Save your entries after the change.

- a) Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Change* → *Immediately* (MM02).
- b) Enter **T-M500Y##** in the *Material* field on the initial screen and choose  (*Continue*).
- c) Select the following views:
  - *Purchasing*
  - *Accounting 1*

Choose  (*Continue*).
- d) Enter **1200** in the *Plant* field in the *Organizational Levels* dialog box.  
Choose  *Continue*.
- e) Select the *Post to insp. stock* checkbox on the *Purchasing* tab page.

- f) Enter the following data on the *Accounting 1* tab page:

Field	Value
<i>Valuation Class</i>	<b>3001 (Raw materials 2)</b>
<i>Price control</i>	<b>S</b>
<i>Moving price</i>	<delete>
<i>Standard price</i>	<b>80</b>

- g) Save your entries.



3. Display change documents for a material.

Find out when the accounting data for material T-M500Y## in plant 1200 was last changed.

Date: \_\_\_\_\_

- a) Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display Changes* → *Active Changes* (MM04).
- b) Enter the following data on the initial screen:

Field	Value
<i>Material</i>	<b>T-M500Y##</b>
<i>Plant</i>	<b>1200</b>

- c) Choose  (*Execute*).
- d) To display details of a change, place the cursor on the required line and click  (*Choose*). Display the details of the change that was made with transaction MM02.

4. Enter material data for several storage locations.

You store material T-M500Y## in plant 1200 in several storage locations. Enter the data for these additional storage locations using collective entry for storage locations.

SLoc	Bin
<b>0002 :</b>	<b>BL-02</b>
<b>0003 :</b>	<b>AB-10</b>

- a) Choose *Logistics* → *Materials Management* → *Material Master* → *Other* → *Enter Storage Locations* (MMSC).
- b) Enter the following data on the initial screen:

Field	Value
<i>Material</i>	<b>T-M500Y##</b>
<i>Plant</i>	<b>1200</b>

- c) Confirm your entries.

d) Enter the following data and save your entries:

SLoc	Bin
0002 :	BL-02
0003 :	AB-10

### 5. Materials List.

Check whether your material has been created for plants 1000 and 1200. Display the material list for material T-M500Y## and plants 1000 and 1200.

It is particularly important to check if the valuation data is consistent with the information from the previous exercises.



Hint:

Try to limit the information you specify in the materials list as much as possible, so that the system does not have to search too many data records.

a) Choose *Logistics* → *Materials Management* → *Material Master* → *Other* → *Materials List* (MM60).

b) Enter the following data on the initial screen:

Field	Value
<i>Material</i>	T-M500Y##
<i>Plant</i>	1000 to 1200

c) Choose  (Execute).

Material T-M500Y## should be created in plants 1000 and 1200. In plant 1000, the material should be valued with a moving average price of EUR 80. In plant 1200, however, the material should be valued with a standard price of EUR 80.





### **LESSON SUMMARY**

You should now be able to:

- Create vendor master data with reference
- Maintain material master data using entry aids



## Performing Mass Maintenance

### LESSON OVERVIEW

Use the cross-application mass maintenance tool to change many objects simultaneously. These objects include material and vendor master data, info records, and purchasing documents. This lesson covers the overview of the mass maintenance functions and explains it using a simple example of the process.



This lesson offers a brief description of the central tool for maintaining master data and documents (mass maintenance) transaction MASS.

This function should only be used by users who have very good knowledge of the respective application or the object to be changed. The users should also have knowledge of the respective tables and field names and possible dependencies.

### Business Example

The restructuring of your purchasing department changes the requirements of the individual buyers. To correctly document these new requirements for the procurement of materials, the purchasing group in the purchasing data must be changed in many material master records. To carry out this change using the mass maintenance tool, you require the following knowledge:

- An understanding of the objects that can be processed using the mass maintenance function
- An understanding of the flow of mass maintenance

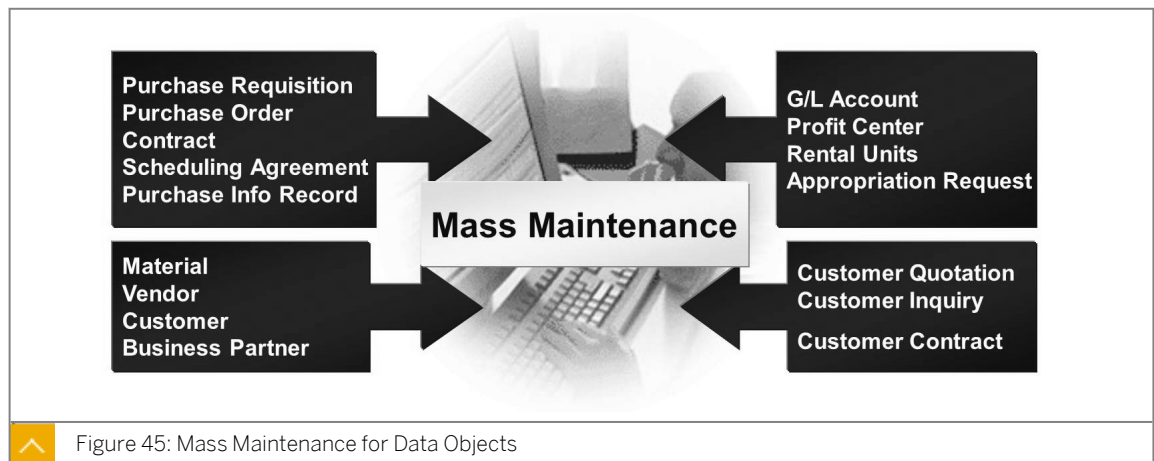


### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Execute mass maintenance

## Overview of Mass Maintenance



Mass maintenance is a generic cross-application tool that used to change large quantities of data or to create a new data.



### Caution:

With mass maintenance, you can change many objects simultaneously. This tool should only be used by persons having knowledge of tables and field names in the SAP system and their interdependencies.

This tool can be used by the applications listed in the figure.

### The capabilities of the mass maintenance tool for data objects are as follows:

- You can change the data in the material master records quickly and easily in one simple step. For example, you have the option of changing the purchasing group or adjusting the Goods receipt (GR) processing time in several materials all at once.
- You can perform mass maintenance online or in the background. If you want to change many objects at the same time, choose background mode to avoid overloading the system. Upon completion, the system issues a log showing the executed changes and any errors that occurred.
- The system performs a consistency check for the changed data. The system does not make any changes that would lead to data inconsistencies. It flags these entries in the log.

### Mass Maintenance Process Flow

You can find the mass maintenance tool under *Logistics → Central Functions*.

### The following are the tips that are provided to help you use the mass maintenance tool:

- Use the object type to decide the application for which you want to use it for.
- Access mass maintenance from the menu of an application, so that the correct object type appears automatically. The menu path is *Logistics → Materials Management → Material Master → Material → Mass Maintenance*.

Mass Maintenance Execution Object type

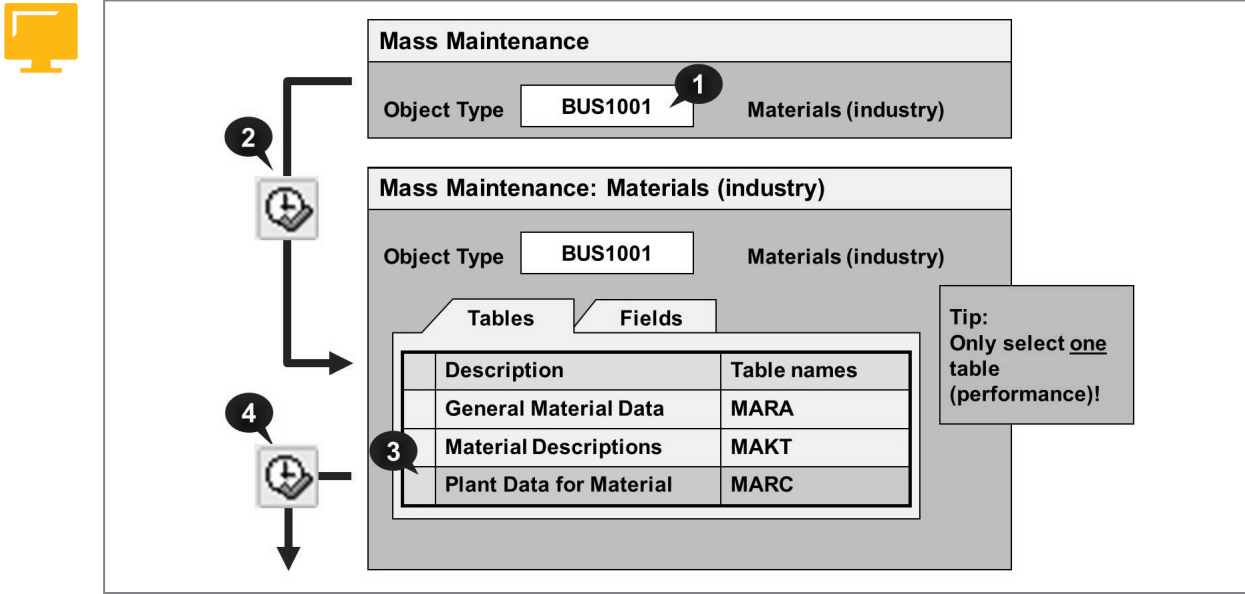


Figure 46: Perform Mass Maintenance (Step 1)

The steps to execute mass maintenance (1) are as follows:

1. Select the *Object Type* field. The system displays the relevant tables and fields.
2. Choose (Execute).
3. Select the tables in which you want to change data. Select several tables if you want to make the changes in all the tables at the same time for data consistency. Otherwise, edit the tables one at a time to avoid poor system performance.
4. Choose (Execute).

Mass Maintenance Execution - Data records

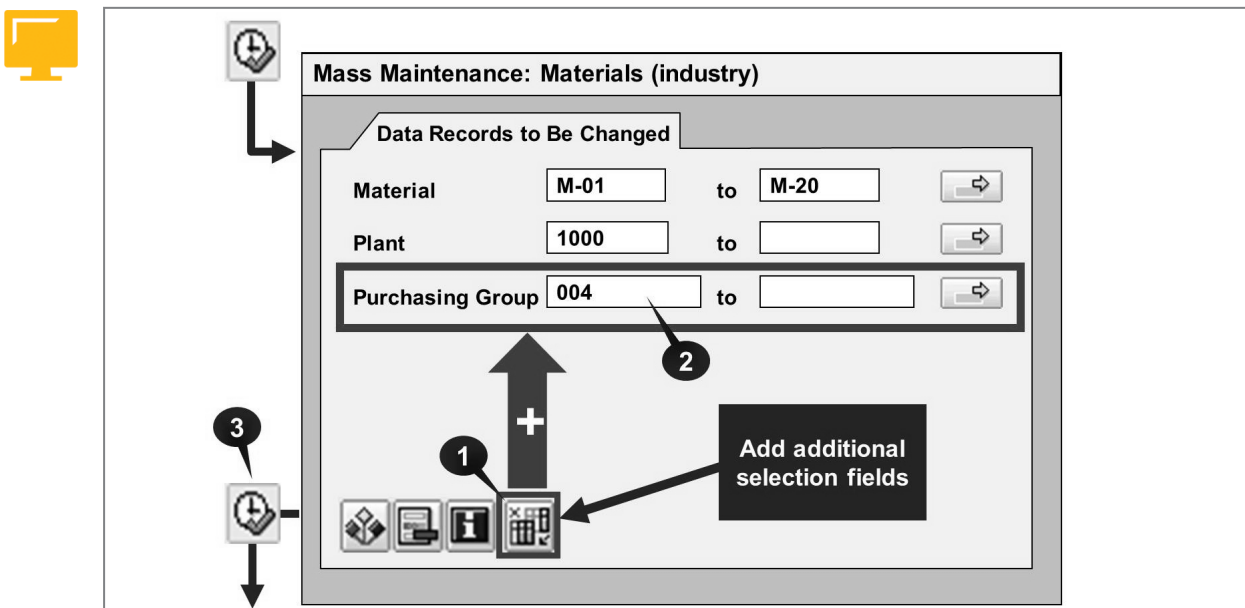




Figure 47: Perform Mass Maintenance (Step 2)

**The steps to execute mass maintenance (2) are as follows:**

1. Choose  (*Select fields*) to select further fields.
2. Enter the data records to be changed in the *Purchasing Group* field.
3. Choose  (*Execute*) to start the selection of data records.



Note:

To limit the number of objects to change, enter the required selection criteria. Depending on the number of selected data records, the system asks if you want to execute the changes online or in the background.

**Mass Maintenance Execution – Plant data**

**Mass Maintenance: Materials (Industry)**

Restrictions

Select fields

Plant data for material


Carry Out a Mass Change

Select column

Material	Plant	Purchase...	GR proc...
New values			1
Replace Only			
M-02	1000	004	2
M-03	1000	004	1
M-04	1000	004	1

Figure 48: Perform Mass Maintenance (Step 3)

**The steps to execute mass maintenance (3) are as follows:**

1. Choose  (*Select fields*) to select the fields you want to change and enter the new values in the corresponding columns.
2. Select the column header and the data records to be changed.
3. Choose the *Carry Out a Mass Change* pushbutton to execute a mass change.



Note:

You also have the option of changing a field entry only when it has a particular value. To do this, choose the *Restrictions* pushbutton and enter the new value in the first line and the value to be replaced in the second line.

4. Save you entries. The system performs a consistency check.



### How to Execute Mass Maintenance

Perform mass maintenance using a simple example of the process.

1. On the SAP Easy Access screen, choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Mass Maintenance* (MM17).  
The *Mass Maintenance: Materials (industry)* screen appears.

2. On the *Tables* tab page, choose the *Plant Data for Material* value in the *Short Description* field.

a) Choose (*Execute*).

3. Enter the following data on the *Data Records to Be Changed* tab page:

Field	Value
<i>Material</i>	<b>M-02 To M-04</b>
<i>Plant</i>	<b>1000</b>

a) Choose (*Execute*).

4. Choose (*Select fields*). The *Select fields* dialog box appears.

5. In the *Select fields* dialog box, choose the *Purchasing Group* from the *Pool* list.

a) Select (*Choose*).

b) Choose *Continue*.

6. Enter the following data in the *Purchasing Group* column on the *Plant Data for Material* tab page:

Field	Value
<i>Material</i>	<b>New Values</b>
<i>Purchasing Group</i>	<b>005</b>

7. Select the *Purchasing Group* column header and choose (*Carry Out a Mass Maintenance*).

Mass maintenance for the selected materials begins.

8. Save your entries.

The field values in the *Purchasing Group* column header changes.



### LESSON SUMMARY

You should now be able to:

- Execute mass maintenance



## Learning Assessment

1. To enter invoices submitted by a vendor, what must you specify in the company code data?

*Choose the correct answer.*

- A Account group
- B Reconciliation account
- C Field
- D Order number

2. For which organizational levels do you enter data in the vendor master record?

*Choose the correct answers.*

- A Client
- B Company code
- C Purchasing organization
- D Plant/sub-range
- E One-time vendor

3. When you create a master record for a vendor, you must enter all relevant data for purchasing and accounting in one single step.

*Determine whether this statement is true or false.*

- True
- False

4. When creating a vendor master record, you have to specify an account group.

*Determine whether this statement is true or false.*

- True
- False

5. Which of the following are required for storing data in a material master?

*Choose the correct answers.*

- A Purchasing data for ordering purposes
- B Inventory management data for posting goods movements
- C Accounting data for material valuation
- D Materials planning data for material requirements planning
- E Purchasing requisition data

6. You wish to create a master record for a material you intend to procure externally for warehouse stock. Which views must you create (as a minimum) to be able to map this procurement process in the system?

*Choose the correct answers.*

- A Purchasing
- B Accounting
- C General plant / storage
- D MRP

7. When creating a material master record, you have to specify a material type. Among other things, the material type controls:

*Choose the correct answers.*

- A The type of number assignment
- B The permissible length of the material short text
- C Whether a material may be ordered internally or externally
- D Which views (user-department-specific data) can be maintained
- E Whether a material may not be procured from certain vendors

8. Which organizational levels play a role in the maintenance of material master records?

*Choose the correct answers.*

- A Client
- B Sales area
- C Plant
- D Storage location



9. All data that is valid within a plant and all storage locations belonging to it are stored at client level.

*Determine whether this statement is true or false.*

True

False

10. Which of the following are three different entry aids that you can use for processing material master records?

*Choose the correct answers.*

A Presettings for industry sector, views and organizational levels

B Collective entry of storage location data

C Use of reference material

D Use of user profiles

11. When creating a vendor master record with reference, you can decide whether or not the address data is to be copied from the reference.

*Determine whether this statement is true or false.*

True

False

12. If you use another material master record for reference when creating a material, the data is always copied from the reference.

*Determine whether this statement is true or false.*

True

False

13. A profile is a key you can use to store MRP or forecast parameters independently of the material master record.

*Determine whether this statement is true or false.*

True

False

14. Which of the following objects can be processed using the mass maintenance function?

*Choose the correct answers.*

- A Material master data
- B Vendor master data
- C Info records
- D Purchasing documents
- E Statement of work document

15. The cross-application mass maintenance tool can be used to change many objects simultaneously.

*Determine whether this statement is true or false.*

- True
- False

16. You can perform mass maintenance online and in the background simultaneously.

*Determine whether this statement is true or false.*

- True
- False

17. The users of the mass maintenance tool should have knowledge of the respective tables and field names and possible dependencies.

*Determine whether this statement is true or false.*

- True
- False



## Learning Assessment - Answers

1. To enter invoices submitted by a vendor, what must you specify in the company code data?

*Choose the correct answer.*

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- C Field
- D Order number

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- C Purchasing organization
- D Plant/sub-range
- E One-time vendor

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 D Purchasing documents  
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 False

16. You can perform mass maintenance online and in the background simultaneously.

*Determine whether this statement is true or false.*

- True  
 False

17. The users of the mass maintenance tool should have knowledge of the respective tables and field names and possible dependencies.

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 False

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### UNIT OBJECTIVES

- Use conditions in purchase orders
- Create requests for quotations

- Enter incoming quotations
- Create purchase orders with reference
- Maintain purchasing info records
- Use material valuation
- Display the stock overview
- Analyze the results of a goods movement
- Explain the postings for a procurement process with delivery costs
- Analyze the results of an invoice entry





## Using Conditions in Purchasing

### LESSON OVERVIEW

This lesson provides an introduction to the condition technique in purchasing.



Introduce the objectives and the business scenario. Explain what conditions are, the various types of conditions (for example, surcharges or discounts, freight, customs), and the documents and master data which use conditions. Mention that conditions can be specified as an absolute, as a percentage, or as dependent on the quantity, and be distinguished as **time-dependent and time-independent conditions.**

### Business Example

The prices negotiated with your vendors often consist of several components, such as material price, discounts, surcharges, and freight costs. As a member of the project team, you would like to determine whether the SAP system can process various conditions. For this reason, you require the following knowledge:

- An understanding of the documents and master data in which conditions are used
- An understanding of the difference between time-dependent and time-independent conditions

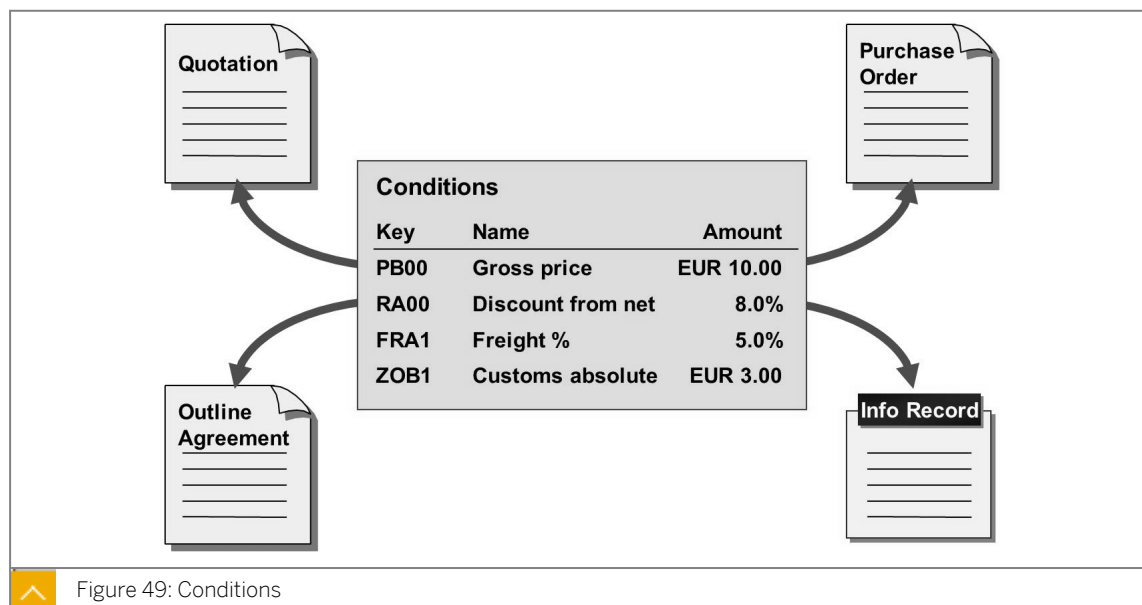


### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Use conditions in purchase orders

## Conditions in Purchasing

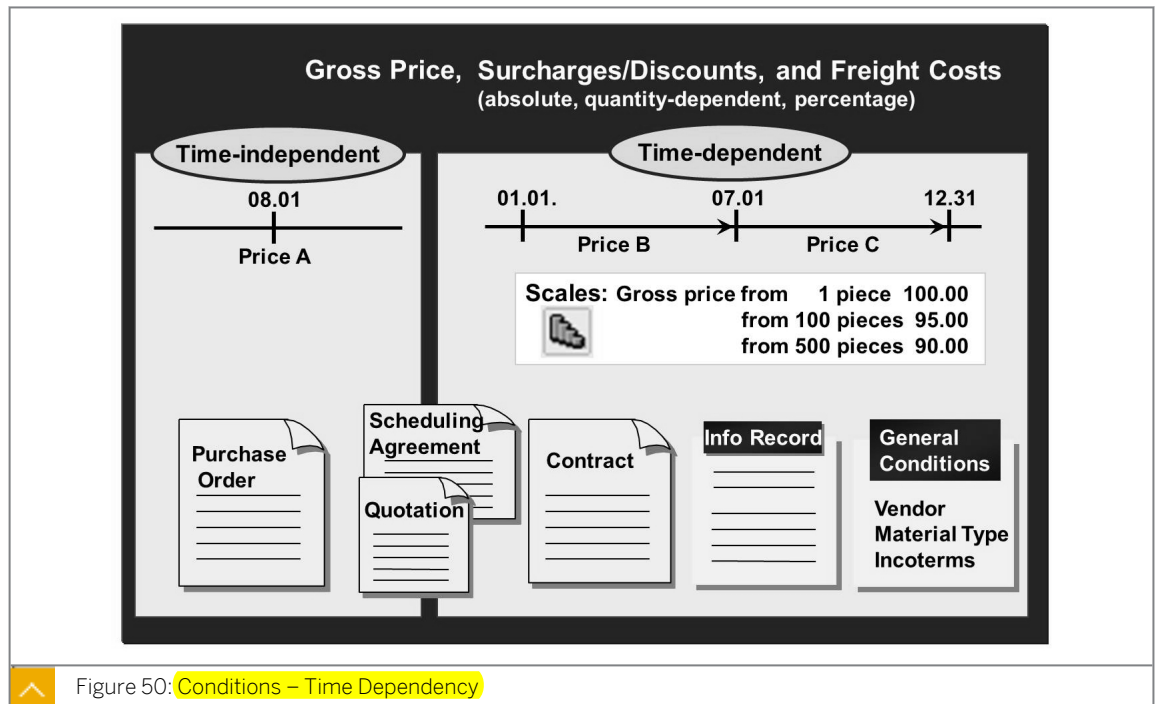


Conditions are agreements with vendors regarding prices, surcharges, and discounts. Conditions determine net and effective prices in a purchasing document. Conditions are maintained while entering quotations, info records, outline agreements (contracts and scheduling agreements), and purchase orders. General conditions are stored at different levels, for example, at vendor level which are used by the system for price determination.

### The following types of conditions are used in purchasing:

- Conditions in a contract apply to all contract release orders created with reference to the contract.
- Conditions in a purchasing info record apply to all purchase order items that contain the material and vendor in the purchasing info record.
- With general conditions, you can also display price agreements that do not only apply to individual quotations, outline agreements, purchase orders, or info records, for example, if a vendor has a price reduction on all purchase orders as a two month special offer. You can enter general conditions in *Purchasing* → *Master Data* → *Conditions*.

## Time Dependency of Conditions



Conditions can be time-dependent or time-independent.

Time-dependent conditions are only valid during a specific time period, and include conditions in info records, contracts, and general conditions.

Conditions in purchase orders are time-independent. Validity in these conditions corresponds to that of the relevant purchasing document. (You cannot determine a validity period.)

You can use the document type to control whether time-dependent conditions are available for quotations and scheduling agreements using the *Time-dependent conditions* checkbox in Customizing.

You can define both time-dependent and time-independent conditions at header and item level. Header conditions apply to all items in the document. However, item conditions apply only to the respective item.

For time-dependent conditions, for example, you can create price scales and map the dependency of the price to the quantity.



Hint:

If the conditions show an exception in the info record, they are stored at info-record level.

### Condition Type and Calculation Schema



Step	Counter	Condition type	Description	From	...
1	1	PB00	Gross price		
10	1	RB00	Absolute discount		
...	...	...			...
10	9	ZA01	Surcharge % of gross	1	
...	...	...			...
20	0	Net value including discounts			
...	...	...			...
31	1	FRA1	Freight %	20	
...	...	...			...
35	1	SKTO	Cash discount	20	
40	0	Effective price			

Figure 51: Calculation Schema

Price factors such as gross price, discounts, freight costs, customs, and taxes, are mapped using condition types.

The condition types determine how a price factor is calculated and are categorized as follows:

- Absolute
- Percentage
- Quantity-dependent


The system also uses condition types to define the reference magnitude for scales. The unit of scale value refers to quantity, item value, or weight.

You can assign an access sequence to a condition type. An access sequence is a search strategy that the system uses to define the sequence in which condition records for a condition type are read.

The condition types that play a role in price determination are grouped together in a calculation schema. The calculation schema provides a framework for price determination by defining the sequence in which the condition types are taken into account.

The calculation schema determines the following:

- Subtotals



Hint:  
For time-dependent conditions, no subtotals (for example, net and effective price subtotals) are formed.

- Extent to which manual processing of price determination is possible

- Basis (reference level) on which the system calculates surcharges and discounts in percentages
- Prerequisites that must be fulfilled so that a particular condition type is taken into consideration

You can define different calculation schemes (for example, for individual purchasing organizations and vendors).



### How to Use Conditions in Purchase Orders

1. Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.

2. Enter the following data:

Field	Value
<i>Vendor</i>	1000
<i>Doc. date</i>	<Today's date>

3. Choose *Enter*.

4. Enter the following data on the *Org.Data* tab page:

Field	Value
<i>Purch. Org</i>	1000
<i>Purch. Group</i>	T00
<i>Company Code</i>	1000

5. Enter the following item data on the *Item Overview* tab page:

Field	Value
<i>Material</i>	M-02 (Sunny Xa1)
<i>PO Quantity</i>	10
<i>Plnt</i>	1000

6. Open the item details and choose the *Conditions* tab page.

7. Enter the following conditions:



Note:

Condition type PBXX is already displayed in the list. To insert the other condition, use the F4 help for the *Condition Type* field. You can show the participants that the condition types vary considerably.

CnTy	Amount
<i>PBXX (Gross Price)</i>	400

CnTy	Amount
<i>FRB1 Freight (Value)</i>	<b>100</b>
<i>MM00 Minimum Qty (Amount)</i>	<b>20</b>

Explain that the conditions are listed according to the calculation schema in the list of conditions.

Ask the participants whether the conditions are time-dependent, and explain the answer. (Conditions in the purchase order are time-independent.)

8. Save your entries.

---



### LESSON SUMMARY

You should now be able to:

- Use conditions in purchase orders



## Handling Requests for Quotations and Quotation Processes

### LESSON OVERVIEW

This lesson covers the transactions for entering a request for quotations (RFQs) and quotations. It provides an overview of how to request quotations from a vendor that does not have a specific master record in the system.



Introduce the objectives and the business scenario. Show and discuss Request for Quotation (RFQ) and quotation processing.

RFQ and quotation processing consists of two steps:

- Creating and issuing an RFQ
- Entering and comparing quotations and, if necessary, issuing rejections

You will also find the subdivision in this lesson and the exercises.

After explaining and showing the demo for RFQ creation, you can decide to do task 1 of the exercise, and then cover the quotation entry in task 2.

### Business Example

To determine the most favorable terms and conditions, you request quotations from several vendors before you procure materials for the first time. As an employee in purchasing, you would also like to test request for quotation and quotation processing. For this reason, you require the following knowledge:

- How to create several RFQs for an RFQ activity
- How to enter the incoming quotations for your RFQs
- How to execute a price comparison for your quotations

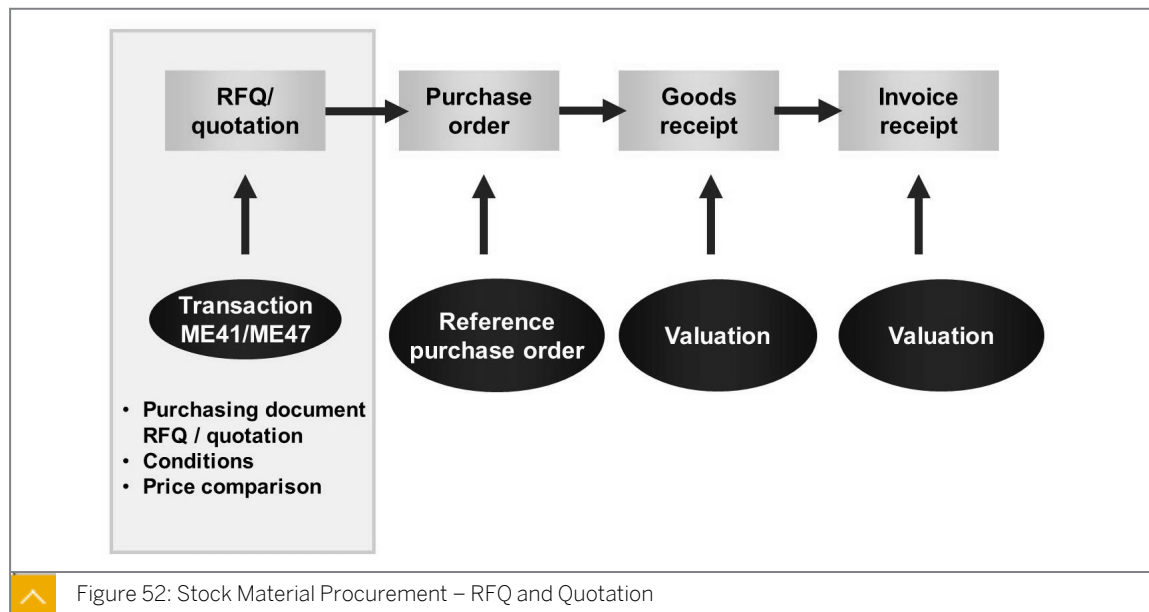


### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Create requests for quotations
- Enter incoming quotations

## Procurement Process Using Requests for Quotations



The first step of a procurement process consists of two activities, beginning with sending an RFQ to multiple vendors, followed by the comparison of incoming quotations in the system based on conditions of the individual vendor.



### Note:

During the course of the procurement process, use the data from the quotations already entered. **You can create the purchase order with reference to one of the quotations;** however, you must also update conditions from the quotation in a purchasing info record.

As a buyer, you have the task of converting requirements for materials or services into purchase orders.

An RFQ activity with various vendors is a means of determining a source of supply.



## RFQ and Quotation

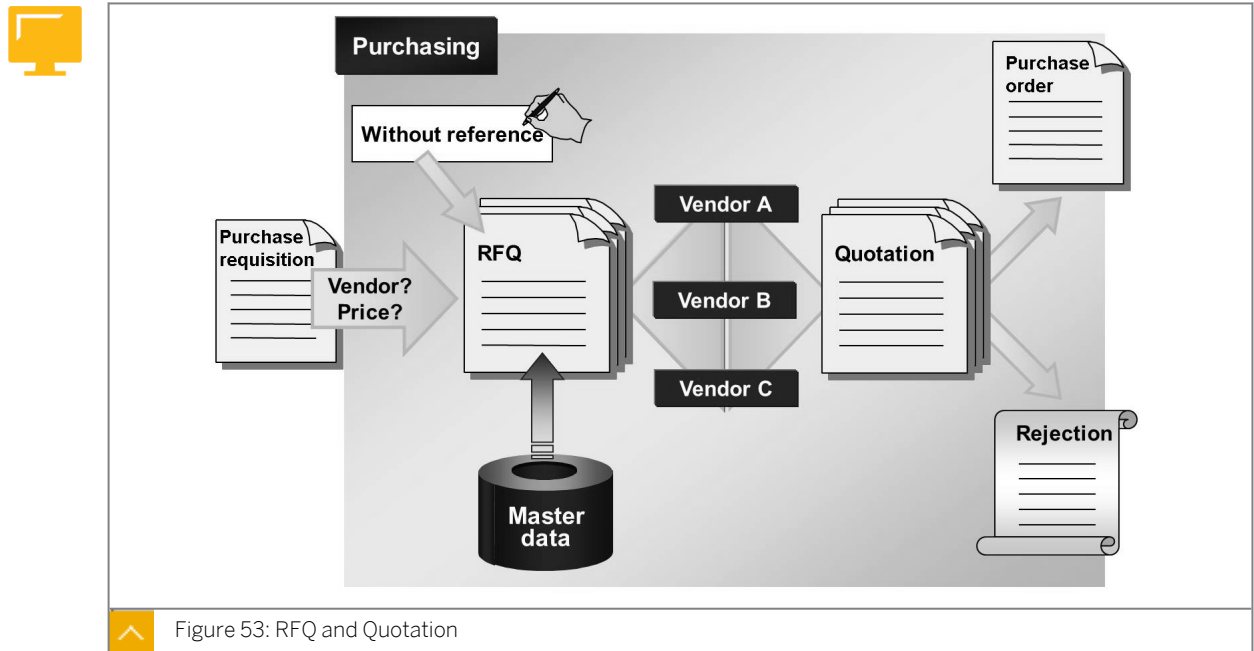


Figure 53: RFQ and Quotation

**The steps in the RFQ and quotation process are as follows:**

1. Enter an RFQ for the material or service that is to be procured. You can create RFQs manually, copy them from another RFQ, or use a purchase requisition or outline agreement as a reference. The advantage of using other purchasing documents as a reference is that you can adopt data from the reference instead of entering it manually. After creating the RFQs, you send them to the selected vendors.
2. The vendors send their quotations or rejections. The vendors' price and delivery date specifications are entered directly in the original RFQ in a transaction for quotation maintenance. In this way, an RFQ becomes a quotation.
3. Determine the most favorable items or quotation using a quotation comparison. You can also save the conditions for the shortlisted quotations in a purchasing info record.

## Collective Number

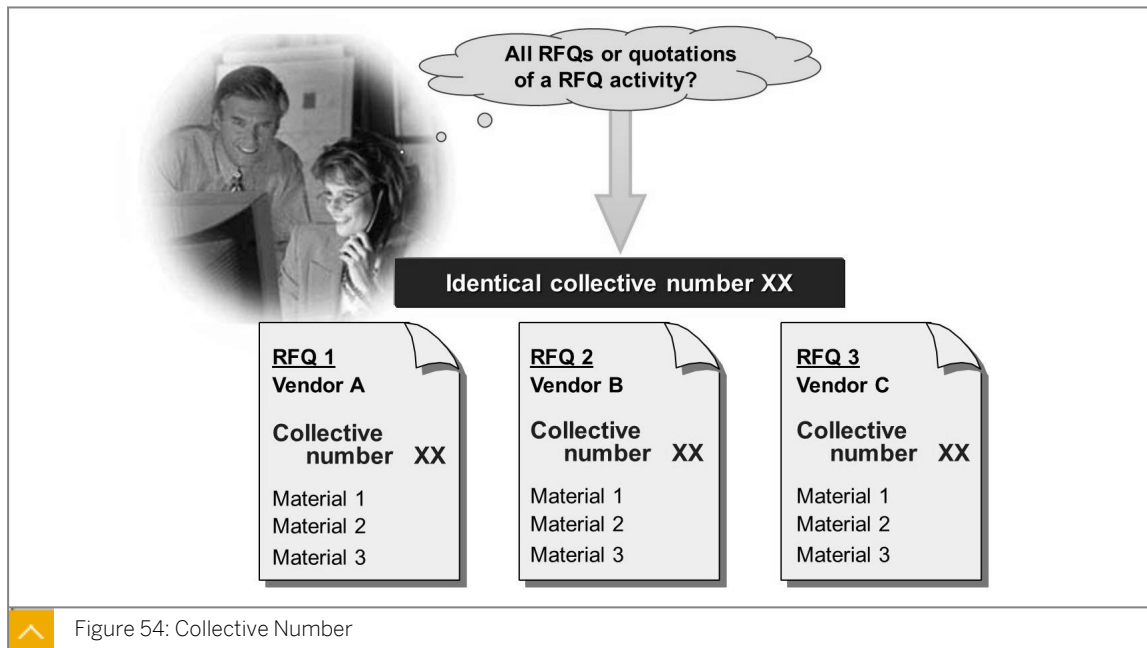


Figure 54: Collective Number

You can link several RFQs that belong to a group using a collective number that you enter in the header data of the RFQ. When analyzing RFQs and quotations, you can use the collective number as a selection criterion.

The collective number can have a maximum of ten characters and can be alphanumeric.

## One-Time Vendor



In this lesson, introduce and explain the one-time vendor in detail. You can shorten the discussion if the lesson is held as part of course SCM500. In this case, the one-time vendor is also covered in the "Maintaining Vendor Master Records" lesson. You must decide which information is important for the participants.

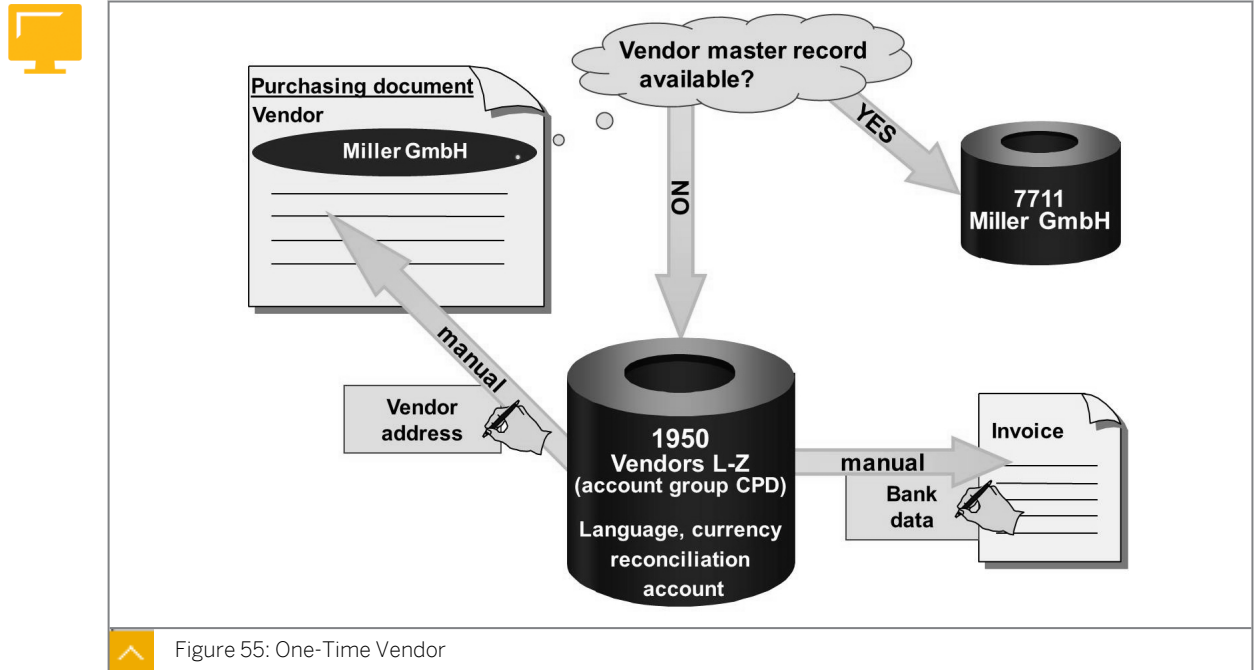


Figure 55: One-Time Vendor

You can create special master records for vendors from whom you request or procure materials infrequently. These are one-time vendor master records.

A one-time vendor master record is used to avoid creation of unnecessary master records. You cannot save vendor-specific data in the master record for one-time vendors. You use a one-time account group when creating a one-time vendor master record. This account group is used to hide the vendor-specific fields in the material master.

**When creating a purchasing document with a one-time vendor, you must create the vendor address manually. If you enter an invoice with a one-time vendor as the invoicing party, you have to enter information such as missing bank data manually.**

The vendor-specific data that you enter manually is saved only in the relevant documents and not in the one-time vendor master record. However, you can still execute evaluations for one-time vendors using the vendor name as the search term.

Function Process – Creating RFQs

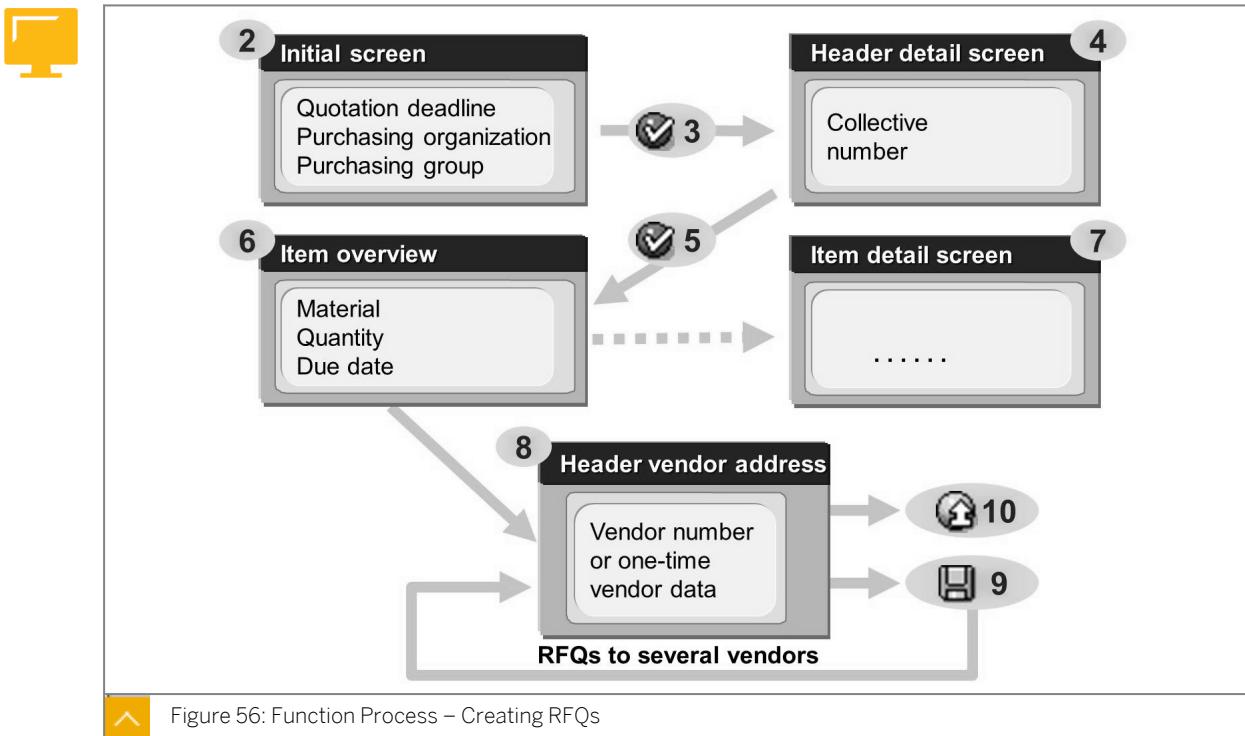


Figure 56: Function Process – Creating RFQs

The figure shows the procedure for creating RFQs and displays the most important steps for creating an RFQ manually.



**How to Create and Issue Requests for Quotations**

Explain the process of creating an RFQ.

RFQ Processing

To get the best purchase price for the Universal-taillight-##, California (material master record T-M500B##), send RFQs to multiple vendors.

1. Create RFQs.

Create RFQs for a base quantity of 100 pieces of material T-M500B## for three vendors, and enter the RFQs for the collective number GR##. **Do not specify a plant in the RFQ.**



Hint:

If you create a purchase order with reference to a quotation, you can freely select the plant in the purchase order item only if no plant is specified in the RFQ item. If a plant is specified in the RFQ item, you can order for this plant only.

You should therefore specify a plant for an RFQ only if you want to procure the material for this plant.

You would like to transact with a prospective new vendor. To test the vendor's abilities, send an RFQ for the required headlight. Because you do not want to create an individual master record for a prospective vendor, use one-time vendor master record 1950.

For further RFQs, contact vendors T-K500A## and T-K500B##.

Create three RFQs using the entries above and below:

Field	Value
<i>RFQ Date</i>	<Current date>
<i>Quotation Deadline</i>	<Current date + 2 weeks>
<i>Purch. Organization</i>	<b>1000</b>
<i>Purchasing Group</i>	<b>T##</b>
<i>Delivery Date</i>	<Current date + 1 month>
<i>Plant</i>	Do not specify a plant

First vendor: 1950 (one-time vendor)

Enter a name and address for the one-time vendor.

RFQ number: \_\_\_\_\_

Second vendor: T-K500A## (Motolux GmbH Group##)

RFQ number: \_\_\_\_\_



Third vendor: T-K500B## (Rasch Group##)

RFQ number: \_\_\_\_\_

- a) On the *SAP Easy Access* menu, choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Request for Quotation* → *Create* (ME41).

- b) Enter the following data on the *Initial* screen:

Field	Value
<i>RFQ Date</i>	<Current date>
<i>Quotation Deadline</i>	<Current date + 2 weeks>
<i>Purch. Organization</i>	<b>1000</b>
<i>Purchasing Group</i>	<b>T##</b>
<i>Delivery Date</i>	<Current date + 1 month>
<i>Plant</i>	<No entry>

- c) Choose  *Enter*.
- d) On *Header Data* screen, enter **GR##** in the *Coll.No.* field and choose  *Enter*.
- e) Enter the following data on the *Item Overview* screen:



Field	Value
Material	T-M500B##
RFQ Quantity	100

- f) Choose *Header* → *Vendor Address*. Enter **1950** in the *Vendor* field and provide an address.
  - g) Save your entries and note the RFQ number.
  - h) For other vendors, such as T-K500A## and T-K500B##, when the vendor number is provided, the system copies the address data from the vendor master record. Save your entries and note the RFQ number.
  - i) Exit the transaction.
2. Display and print RFQ

Print your three RFQs as messages. Select all messages for the RFQs in purchasing group T##. Before you print the messages, display the RFQ for main vendor T-K500A## as a print preview on your screen.

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Request for Quotation* → *Messages* → *Print/Transmit* (ME9A).
- b) Enter the following selection values:

Field	Value
Document Number	<delete>
Purchasing Organization	1000
Purchasing Group	T##

- c) Choose  *Execute*.
- d) Select the entry in the list for vendor T-K500A## and choose *Display Message*.
- e) In the print preview, go back.
- f) Choose  *Select all* and then choose *Output Message*.



### Create Request for Quotations

If you request quotations from multiple vendors, you must create an RFQ document in the system for each vendor. To rationalize the relevant entry process, you first enter the data that is identical in all documents (materials, quantities, dates, and collective RFQs). Then, you enter the vendor assignment.


1. On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Request for Quotation* → *Create* (ME41).
2. Enter values for *RFQ Type*, *Quotation Deadline*, *Purch. Organization*, and *Purchasing Group*. You can also enter the default values for the items (if you enter the *Delivery Date*,

for example, this date appears as the default value for each item). You can change the default value at any time.



Note:


If you want to request quotations for materials across plants, ensure that you have not specified a plant in the default values for the items.

3. Choose  *Enter*. This takes you to the *Header Data* screen.



Note:



If the *Coll. No.* is not set as a required field, this will take you directly to the *Item Overview* screen.

4. Enter a collective number.
5. Choose  *Enter*. This takes you to the *Item Overview* screen.
6. For each item, enter the desired material with quantity and delivery date.



Note:

You can request quotations for materials with or without a master record. If there is no master record for a material, leave the material number field blank and enter only a short text. For these items, you must also enter the material group and the purchase order unit manually.

7. To check or extend the detail data of an item, select the item and then choose *Item → Details* or choose  *Item Details* pushbutton.
8. Choose *Header → Vendor Address* or the  *Vendor Address* pushbutton.  
Enter the number of the vendor. The system then copies the address data from the vendor master record. When entering a one-time vendor number, you must enter the complete address manually.
9. Save your entries.  
For the other vendors to receive the RFQ, enter the vendor number and save the document.
10. Exit the function.







## Create Requests for Quotations

### Business Example

You have added a new material to your product range. Start an RFQ and quotation activity to determine from which vendor you can procure the material at the best price.

Create, display, and print request for quotations (RFQs).

RFQ Processing

To get the best purchase price for the Universal-taillight-##, California (material master record T-M500B##), send RFQs to multiple vendors.

#### 1. Create RFQs

Create RFQs for a base quantity of 100 pieces of material T-M500B## for three different vendors, and enter the RFQs for the collective number GR##. Do not specify a plant in the RFQ.



Hint:

If you create a purchase order with reference to a quotation, you can freely select the plant in the purchase order item only if no plant is specified in the RFQ item. If a plant is specified in the RFQ item, you can order for this plant only.

You should therefore specify a plant for an RFQ only if you want to procure the material for this plant.

You would like to transact with a prospective new vendor. To test the vendor's abilities, send an RFQ for the required headlight. Use the one-time vendor master record 1950 because you do not want to create an individual master record for the vendor. For further RFQs, contact vendors T-K500A## and T-K500B##.

Create three RFQs using the entries above and below:

Field	Value
RFQ Date	<Current date>
Quotation Deadline	<Current date + 2 weeks>
Purch. Organization	1000
Purchasing Group	T##
Delivery Date	<Current date + 1 month>
Plant	Do not specify a plant

First vendor: 1950 (one-time vendor)

Enter a name and address for the one-time vendor.

RFQ number: \_\_\_\_\_

Second vendor: T-K500A## (Motolux GmbH Group##)

RFQ number: \_\_\_\_\_

Third vendor: T-K500B## (Rasch Group##)

RFQ number: \_\_\_\_\_

**2. Display and print the RFQ**

Print your three RFQs as messages. Select all messages for the RFQs in purchasing group T##. Before you print the messages, display the RFQ for main vendor T-K500A## as a print preview on your screen.



## Create Requests for Quotations

### Business Example

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If you create a purchase order with reference to a quotation, you can freely select the plant in the purchase order item only if no plant is specified in the RFQ item. If a plant is specified in the RFQ item, you can order for this plant only.

You should therefore specify a plant for an RFQ only if you want to procure the material for this plant.

You would like to transact with a prospective new vendor. To test the vendor's abilities, send an RFQ for the required headlight. Use the one-time vendor master record 1950 because you do not want to create an individual master record for the vendor. For further RFQs, contact vendors T-K500A## and T-K500B##.

Create three RFQs using the entries above and below:

Field	Value
RFQ Date	<Current date>
Quotation Deadline	<Current date + 2 weeks>
Purch. Organization	1000
Purchasing Group	T##
Delivery Date	<Current date + 1 month>
Plant	Do not specify a plant

First vendor: 1950 (one-time vendor)

Enter a name and address for the one-time vendor.

RFQ number: \_\_\_\_\_

Second vendor: T-K500A## (Motolux GmbH Group##)



RFQ number: \_\_\_\_\_

Third vendor: T-K500B## (Rasch Group##)

RFQ number: \_\_\_\_\_

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Request for Quotation* → *Create* (ME41).
- b) Enter the following data on the *Initial* screen:

Field	Value
<i>RFQ Date</i>	<Current date>
<i>Quotation Deadline</i>	<Current date + 2 weeks>
<i>Purch. Organization</i>	<b>1000</b>
<i>Purchasing Group</i>	<b>T##</b>
<i>Delivery Date</i>	<Current date + 1 month>
<i>Plant</i>	<No entry>

- c) Choose  *Enter*.
- d) On the *Header Data* screen, enter **GR##** in the *Coll.No.* field and choose  *Enter*.
- e) Enter the following data on the *Item Overview* screen:

Field	Value
<i>Material</i>	<b>T-M500B##</b>
<i>RFQ Quantity</i>	<b>100</b>



- f) Choose *Header* → *Vendor Address*. Enter **1950** in the *Vendor* field and provide an address.
  - g) Save your entries and note the RFQ number.
  - h) Repeat steps f) and g) for vendors T-K500A## and T-K500B##. For these vendors, the system copies the address from the master record.
  - i) Exit the transaction.
2. Display and print the RFQ

Print your three RFQs as messages. Select all messages for the RFQs in purchasing group T##. Before you print the messages, display the RFQ for main vendor T-K500A## as a print preview on your screen.

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Request for Quotation* → *Messages* → *Print/Transmit* (ME9A).

b) Enter the following selection values:

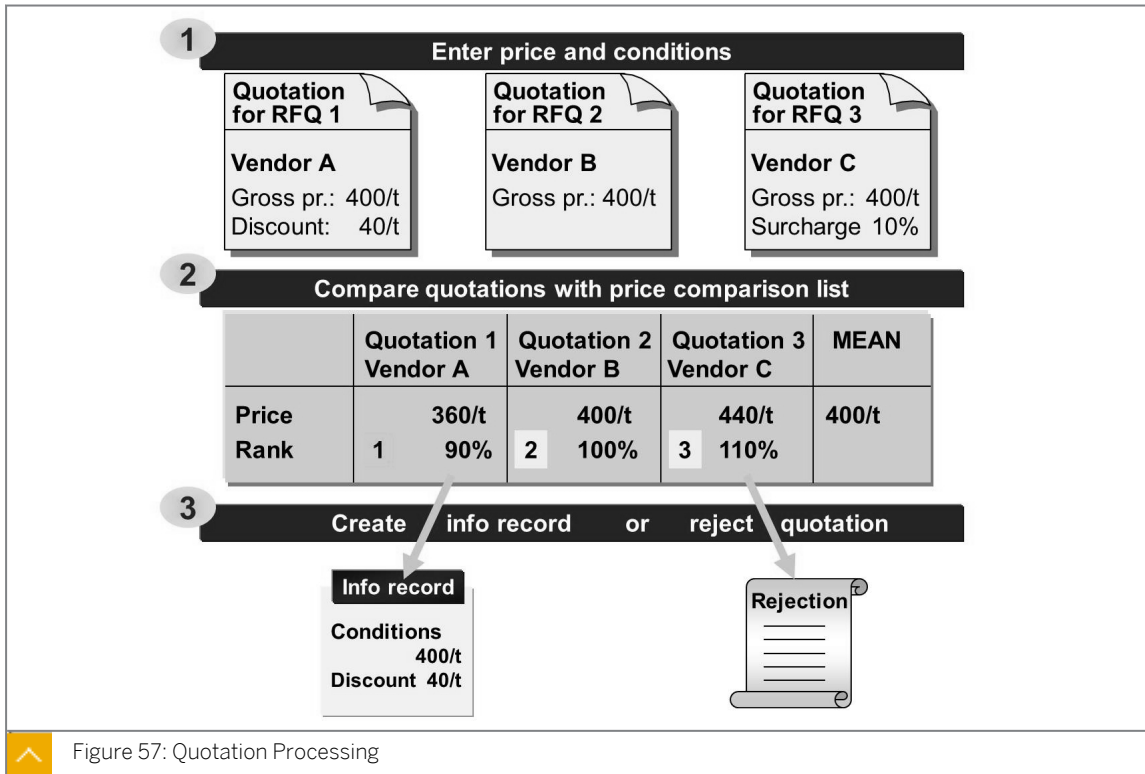
Field	Value
<i>Document Number</i>	<delete>
<i>Purchasing Organization</i>	1000
<i>Purchasing Group</i>	T##

- c) Choose  *Execute* pushbutton.
- d) Select the entry in the list for vendor T-K500A## and choose *Display Message*.
- e) In the print preview, go back.
- f) Choose  *Select all* and then choose *Output Message*.

## Quotation Entry and Price Comparison List



Explain the quotation entry and the price comparison list. Emphasize the fact that the price comparison list compares the prices. Information such as the delivery date for individual vendors is not displayed. To determine further information about the quotation, refer to the quotation.



A quotation contains prices and conditions of a vendor for the materials or services specified in the RFQ. The RFQ and quotation are the same document in the system.

Use transaction *ME47 Maintain Quotation* to enter the quotation data in an RFQ.

Use the quotation price comparison list to enter and compare the information from multiple quotations at the same time. The price comparison list displays the best quotation for each material. The system also determines the best overall quotation.

You can save quotation data for a material in a purchasing info record. The info record can be created automatically by setting the *Info update* checkbox during quotation maintenance on the *Item Details* screen.

You can also set a rejection checkbox for quotation items. When the rejection checkbox is selected for a quotation item, the system generates a rejection letter for the vendors.



### How to Enter Quotations

Quotation Processing

1. Entering quotations

The vendors provided the following information about prices and delivery times for the Universal-Tailight-##, California. Enter the data in the RFQ and quotation document for the particular vendors.

One-time vendor:

Pricing element	Value
Gross Price (PBXX)	EUR 79 /PC
Discount % on gross (RA01)	3 %
Freight value (FRB1)	EUR 100

The delivery date is six weeks from the current date.

Vendor T-K500A## (Motolux GmbH Group##):



Pricing element	Value
Gross Price (PBXX)	EUR 88/ PC
Discount % on gross (RA01)	15 %

The delivery date is four weeks from the current date.

Vendor T-K500B## (Rasch Group##):

Pricing element	Value
Gross Price (PBXX)	EUR 82/ PC
Discount % on gross (RA01)	10 %

The delivery date is four weeks from the current date.

- a) On the SAP Easy Access menu, choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Quotation* → *Maintain (ME47)*.
- b) On the *Initial* screen, enter the RFQ number for the one-time vendor from the previous exercise (for vendor master record 1950) and choose  *Enter*.
- c) Change the *Deliv.Date* to <Current date + 6 weeks>.
- d) Select the item and choose  *Item Conditions*.



Hint:

If necessary, choose Enter to confirm the message for the statistically relevant delivery date. The statistically relevant delivery date is relevant for the vendor evaluation.

- e) Enter the conditions specified above for the one-time vendor.
- f) Save your entries.
- g) Repeat steps b to f for the quotations of vendors T-K500A## and T-K500B##.

2. Compare prices.

To determine the most favorable supplier, execute a price comparison for the three quotations entered.

Select the quotations to be compared with the collective number GR## and purchasing organization 1000. Display the mean value quotation in the price comparison list and include the discount in the price calculation.

Determine the most reasonable quotation.

Name of the vendor with the most reasonable quotation: \_\_\_\_\_

Price of the most reasonable quotation (less discount): \_\_\_\_\_

a) Choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Quotation* → *Price Comparison* (ME49).

b) Enter the following data on the selection screen:

Field	Value
<i>Purchasing Organization</i>	1000
<i>Collective RFQ</i>	GR##
<i>Mean Value Quotation</i>	Checked
<i>Include Discounts</i>	Checked

c) Choose  *Execute*.

d) On the *Price Comparison List* screen, you can see that vendor T-K500B## has the most reasonable quotation (less discount) with a price of EUR 71.59 per piece.

3. Display the price comparison list in the Advanced List Viewer (ALV) grid control.

To specify the system to consider the delivery date and payment terms also when comparing the three quotations, go directly from the price comparison list to the individual quotation. You can also change how the price comparison list is displayed in the ALV grid control to ensure that the list displays the delivery date and payment terms.

To do this, set the user parameter *ME\_USE\_GRID* value to **x**, call the price comparison list for your quotations, and select layout /SCM500. Then, undo the setting for the user parameter.

a) Choose *System* → *User Profile* → *Own Data*.

b) Select the *Parameters* tab page and enter the value **x** (in uppercase) for parameter *ME\_USE\_GRID*.

c) Save your entries.


d) Choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Quotation* → *Price Comparison* (ME49).

e) Enter the following data on the selection screen:

Field	Value
<i>Purchasing Organization</i>	1000
<i>Collective RFQ</i>	GR##



Field	Value
<i>Mean Value Quotation</i>	Select
<i>Include Discounts</i>	Select

- f) Choose  *Execute*. The price comparison list is displayed in the ALV grid control.
- g) Choose *Settings* → *Layout* → *Choose* and select layout /SCM500.  
The delivery date and payment terms are now displayed in the list.
- h) To undo the user parameter setting, proceed as described for steps a to c.




Hint:

Do not exit the price comparison list, because you can use it to process the following task.

#### 4. Print rejection letters.



After you have checked the quotations again, select the most reasonable quotation. For the two quotations that you do not require, select the rejection checkbox.

Send the two rejection letters. Select message type ABSA and purchasing group T##. Before printing the letter for vendor T-K500A##, ensure that it is marked as a rejection letter.

- a) On the *Price Comparison List* screen, go to the quotations to be rejected. Position the cursor on the quotation number.
- b) Options for changing the quotation include the following:
- Choose  *Quotation*.
  - Choose *Edit* → *Maintain Quotation*.
  - Double-click the number of the quotation item.
- The system goes to the quotation, and you can select the rejection checkbox in the quotation item.
- c) On the *Item Detail* screen, select the *Rej.Ind.* checkbox and save your entries.
- d) Repeat steps a to c to reject the second quotation.
- e) Choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Request for Quotation* → *Messages* → *Print/Transmit* (ME9A).
- f) Enter the following selection values:

Field	Value
<i>Document Number</i>	<delete>
<i>Purchasing Organization</i>	1000
<i>Purchasing Group</i>	T##

Field	Value
Message Type	ABSA

- g) Choose  *Execute*.
- h) Select the entry in the list for vendor T-K500A## and choose *Display Message*. The message is marked as "Rejection for RFQ".
- i) In the print preview, go back. Choose  *Select all*, and then *Output Message*.



Show that you can also use the price comparison list for entering quotation data because you can branch from the price comparison list to the individual document. This procedure makes it easier to enter prices in the RFQ document.



### To Create Quotations

You have created RFQs in the system and have sent them to vendors, and have received the vendor quotations in response. Enter the prices in the RFQ documents.

1. On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Quotation* → *Maintain (ME47)*.
2. Enter the number of the RFQ and choose *Enter*. This takes you to the *RFQ item overview* screen.
3. You can enter the vendor price directly in the item overview or for each item on the *Item Details* screen. If the price is composed of different condition types (such as gross price, discount, and freight), choose *Item* → *Conditions* to call the condition screen.



**Hint:**

Entry of time-dependent conditions in the quotation depends on the document type of the RFQ.

4. If necessary, enter additional data (such as the delivery date) from the vendor quotation.
5. Save your entries.

# Unit 3

## Exercise 10



## Enter Incoming Quotations

### Business Example

You have received the quotations in response to your RFQs. Maintain the quotations in the system according to your requirements.

#### Quotation Processing

##### 1. Entering quotations

The vendors provided the following information about prices and delivery times for the Universal-Taillight-##, California. Enter the data in the RFQ and quotation document for the particular vendors.

One-time vendor:

Pricing element	Value
Gross Price (PBXX)	EUR 79/ PC
Discount % on gross (RA01)	3 %
Freight value (FRB1)	EUR 100

The delivery date is six weeks from the current date.

Vendor T-K500A## (Motolux GmbH Group##):

Pricing element	Value
Gross Price (PBXX)	EUR 88/ PC
Discount % on gross (RA01)	15 %

The delivery date is four weeks from the current date.

Vendor T-K500B## (Rasch Group##):

Pricing element	Value
Gross Price (PBXX)	EUR 82/ PC
Discount % on gross (RA01)	10 %

The delivery date is four weeks from the current date.

##### 2. Compare prices.

To determine the most favorable supplier, execute a price comparison for the three quotations entered.

Select the quotations to be compared with the collective number GR## and purchasing organization 1000. Display the mean value quotation in the price comparison list and include the discount in the price calculation.

Determine the most reasonable quotation.

Name of the vendor with the most reasonable quotation: \_\_\_\_\_

Price of most reasonable quotation (less discount): \_\_\_\_\_

**3.** Display the price comparison list in the Advanced List Viewer (ALV) grid control.

To specify the system to consider the delivery date and the payment terms when comparing the three quotations, go directly from the price comparison list to the individual quotation. You can also change how the price comparison list is displayed in the ALV grid control to ensure that the list displays the delivery date and the payment terms.

To do this, set the user parameter *ME\_USE\_GRID* value to **x**, call the price comparison list for your quotations, and select layout */SCM500*. Then, undo the setting for the user parameter.

**4.** Print rejection letters.

After you have checked the quotations again, select the most reasonable quotation. For the two quotations that you do not require, select the rejection checkbox.

Send the two rejection letters. Select message type ABSA and purchasing group T##. Before printing the letter for vendor T-K500A##, ensure that it is marked as a rejection letter.



## Enter Incoming Quotations

### Business Example

You have received the quotations in response to your RFQs. Maintain the quotations in the system according to your requirements.

#### Quotation Processing

##### 1. Entering quotations

The vendors provided the following information about prices and delivery times for the Universal-Taillight-##, California. Enter the data in the RFQ and quotation document for the particular vendors.

One-time vendor:

Pricing element	Value
Gross Price (PBXX)	EUR 79/ PC
Discount % on gross (RA01)	3 %
Freight value (FRB1)	EUR 100

The delivery date is six weeks from the current date.

Vendor T-K500A## (Motolux GmbH Group##):

Pricing element	Value
Gross Price (PBXX)	EUR 88/ PC
Discount % on gross (RA01)	15 %



The delivery date is four weeks from the current date.


Vendor T-K500B## (Rasch Group##):

Pricing element	Value
Gross Price (PBXX)	EUR 82/ PC
Discount % on gross (RA01)	10 %

The delivery date is four weeks from the current date.

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Quotation* → *Maintain* (ME47).

- b) On the *Initial* screen, enter the *RFQ* number for the one-time vendor from the previous exercise (for vendor master record 1950) and choose  *Enter*.
- c) Change the *Deliv.Date* to <Current date + 6 weeks>.
- d) Select the item and choose  *Item Conditions*.



Hint:  
If necessary, choose *Enter* to confirm the message for the statistically relevant delivery date. The statistically relevant delivery date is relevant for the vendor evaluation.

- e) Enter the conditions specified above for the one-time vendor.
  - f) Save your entries.
  - g) Repeat steps b to f for the quotations of vendors T-K500A## and T-K500B##.
2. Compare prices.

To determine the most favorable supplier, execute a price comparison for the three quotations entered.

Select the quotations to be compared with the collective number GR## and purchasing organization 1000. Display the mean value quotation in the price comparison list and include the discount in the price calculation.

Determine the most reasonable quotation.


Name of the vendor with the most reasonable quotation: \_\_\_\_\_

Price of most reasonable quotation (less discount): \_\_\_\_\_

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Quotation* → *Price Comparison* (ME49).

- b) Enter the following data on the selection screen:

Field	Value
<i>Purchasing Organization</i>	1000
<i>Collective RFQ</i>	GR##
<i>Mean Value Quotation</i>	Checked
<i>Include Discounts</i>	Checked


- c) Choose  *Execute*.
  - d) On the *Price Comparison List* screen, you can see that the vendor T-K500B## has the most reasonable quotation (less discount) with a price of EUR 71.59 per piece.
3. Display the price comparison list in the Advanced List Viewer (ALV) grid control.

To specify the system to consider the delivery date and the payment terms when comparing the three quotations, go directly from the price comparison list to the individual quotation. You can also change how the price comparison list is displayed in the ALV grid control to ensure that the list displays the delivery date and the payment terms.

To do this, set the user parameter *ME\_USE\_GRID* value to **x**, call the price comparison list for your quotations, and select layout */SCM500*. Then, undo the setting for the user parameter.

- a) Choose *System* → *User Profile* → *Own Data*.
- b) Select the *Parameters* tab page and enter the value **x** (in uppercase) for parameter *ME\_USE\_GRID*.
- c) Save your entries.
- d) Choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Quotation* → *Price Comparison* (ME49).
- e) Enter the following data on the selection screen:

Field	Value
<i>Purchasing Organization</i>	<b>1000</b>
<i>Collective RFQ</i>	<b>GR##</b>
<i>Mean Value Quotation</i>	Select
<i>Include Discounts</i>	Select

- f) Choose  *Execute*. The price comparison list is displayed in the ALV grid control.
- g) Choose *Settings* → *Layout* → *Choose* and select layout */SCM500*. The delivery date and payment terms are now displayed in the list.
- h) To undo the user parameter setting, proceed as described for steps a to c.




Hint:

Do not exit the price comparison list, because you can use it to process the following task.

#### 4. Print rejection letters.

After you have checked the quotations again, select the most reasonable quotation. For the two quotations that you do not require, select the rejection checkbox.



Send the two rejection letters. Select message type *ABSA* and purchasing group *T##*. Before printing the letter for vendor *T-K500A##*, ensure that it is marked as a rejection letter.

- a) On the *Price Comparison List* screen, go to the quotations to be rejected. Position the cursor on the quotation number.
- b) Options for changing the quotation include the following:
  - Choose  *Quotation*.
  - Choose *Edit* → *Maintain Quotation*.
  - Double-click the number of the quotation item.

The system goes to the quotation, and you can select the rejection indicator checkbox in the quotation item.

- c) On the *Item Detail* screen, select the *Rej.Ind.* checkbox and save your entries.
- d) Repeat steps a to c to reject the second quotation.
- e) Choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Request for Quotation* → *Messages* → *Print/Transmit* (ME9A).
- f) Enter the following selection values:

Field	Value
<i>Document Number</i>	<delete>
<i>Purchasing Organization</i>	1000
<i>Purchasing Group</i>	T##
<i>Message Type</i>	ABSA

- g) Choose  *Execute*.
- h) Select the entry in the list for vendor T-K500A## and choose *Display Message*. The message is marked as Rejection letter relating to RFQ.
- i) In the print preview, go back. Choose  *Select all*, and then *Output Message*.





### **LESSON SUMMARY**

You should now be able to:

- Create requests for quotations
- Enter incoming quotations



## Creating Purchase Orders with Reference

### LESSON OVERVIEW

This lesson describes how to create a purchase order with reference to another document.



Explain how to use the document overview in the purchase order. If this lesson is held in SCM500, you have the opportunity to make selections based on Request for Quotations (RFQs), because the purchase order is to be created with reference to a Request for Quotation (RFQ).

### Business Example

In your company, you often enter a purchase order with data copied from another document, such as a request for quotations (RFQ) or previous purchase order. As a buyer, you test the possibility of using the document overview of the purchase order transaction to simplify this process. For this reason, you require the following knowledge:

- How to use the document overview in transaction ME21N
- How to create purchase orders by referencing Requests for Quotation (RFQs)

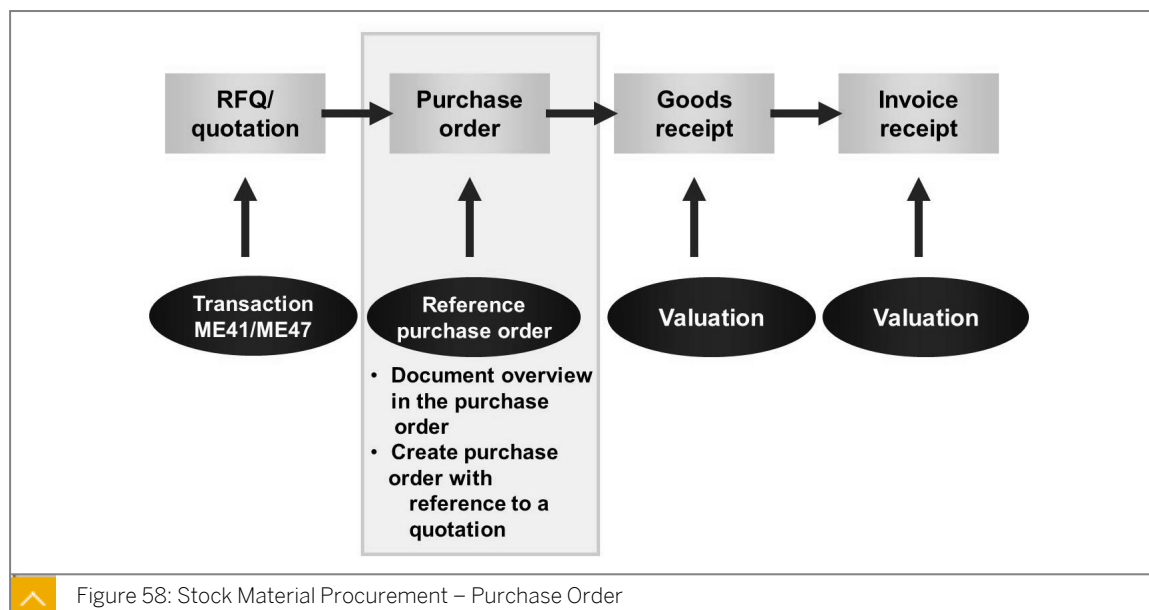


### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Create purchase orders with reference

### Purchase Orders with Reference



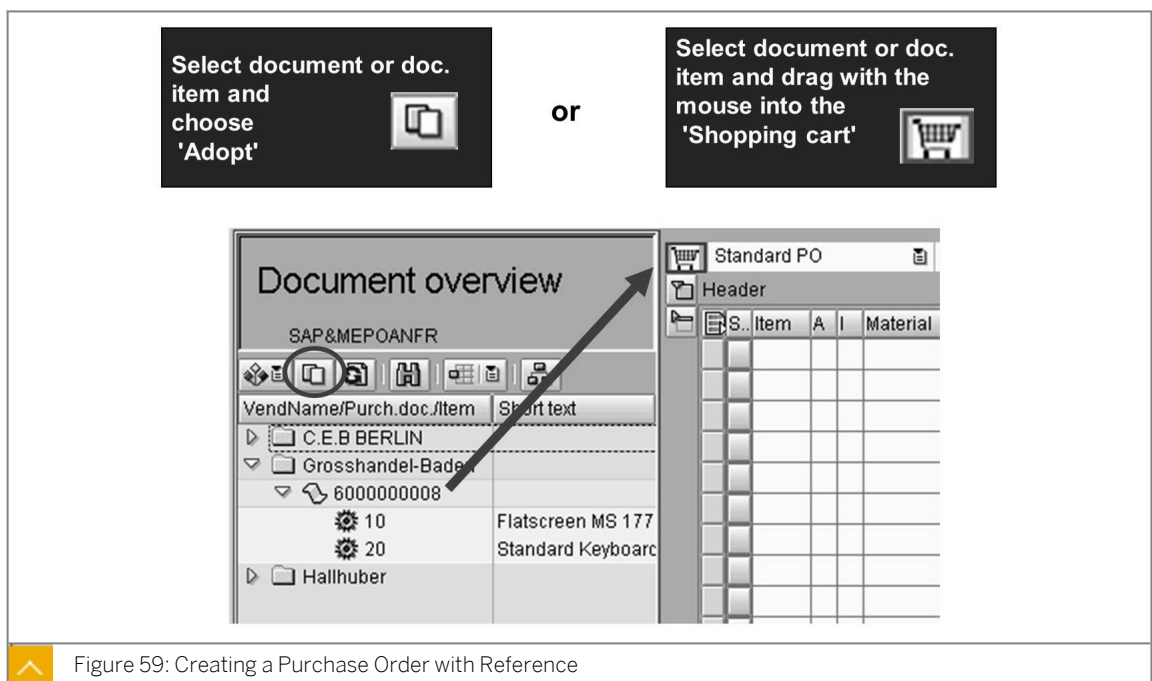
While the procurement process generally consists of the creation of a purchase order, goods receipt (GR), and invoice receipt, in some cases purchase requisitions and determination of a source of supply in an RFQ and quotation may precede the creation of a purchase order.

This lesson uses the process as shown in the figure.

If you have a procurement process with the preceding documents for the purchase order, you should create the purchase order with reference to one of these documents. If reference is made to a purchase requisition, RFQ, or contract (in this case, a release order), item data and any existing header data is copied from the referenced document to the purchase order. This reduces the entry effort required and, therefore, reduces the possibility of entry errors. If necessary, you can change most of the copied data in the purchase order.

You can also copy an existing purchase order by using it as a template.

### Creation of a Purchase Order with Reference



In order transaction ME21N, the document overview is used to create a purchase order with reference.

If you have selected the preceding documents, then select the document or document item(s) and choose *Adopt*. You can also move the selected documents into the shopping cart by dragging and dropping them.



#### Hint:

If you double-click the purchase order or purchase requisition, the respective document is displayed without being copied.

For each item, the system updates the document and item number of the template item in the purchase order. You can therefore see whether the purchase order item was created with reference to another document item. You can find the number of the referenced document item for each purchase order item in the item overview.

To create a purchase order with reference to another document, you can also enter the number of the document and item directly in the corresponding fields in the item overview.

### The Document Overview in the Purchase Order Transaction

The screenshot shows the 'Document overview' window in SAP. On the left, a 'Selection variant' panel lists document types: Purchase orders, RFQs, Contracts, Sched. agreements, Gen.purchasing docs, Pur. requisitions, and others. A callout asks 'Which documents are to be displayed in the doc. overview?'. The main window displays a table with columns: VendName/Plant/Short text/Purch.doc., Quantity, O., Net value, and C... The table lists various items like 'Flatscreen MS 1775P' and 'Standard Keyboard' under different vendors and plants. On the right, a 'Layout' panel shows options to 'select' or 'change' the layout, with a callout asking 'Which data from the selected documents is displayed?'. Below the table, a 'Change breakdown' panel is visible, with a callout asking 'How are the docs grouped?'.

Figure 60: Document Overview in the Purchase Order Transaction



Explain the selection variant, the layout, and the breakdown. Point out that the *Layout* function is also used in other transactions, for example, in many lists (evaluations), and in the purchase requisition (item overview).

**Note:**  
Until release 4.6B, the description of the layout was Display variant.

**In the document overview, you can display the following purchasing documents:**

1. *Purchase orders*
2. *Purchase Requisitions*
3. *Requests for quotations*
4. *Contracts*

At the same time that these documents are being displayed, you can process a purchase order or purchase requisition in the screen area to the right.

To display a purchase order or purchase requisition from the document overview, double-click the relevant item. For the other purchasing documents such as RFQ, scheduling agreement, and contract, it is not possible to call the display transaction by double-clicking the document number in the document overview.

Use the selection variant to decide which documents to select. On the selection screen, you can restrict the vendor, material, and time period of document creation. If you want to select only the purchase orders or purchase requisitions that you created, use selection variants *My*

*purchase orders* and *My purchase requisitions*. You do not need to enter any further selection values here. You may specify the selection time period for the selection variants *My purchase orders* and *My purchase requisitions* in *Personal Settings*.

In the breakdown, specify the criteria to be used for sorting the selected documents, and use the layout to determine the data to be displayed for the documents.

### Layout in the Document Overview

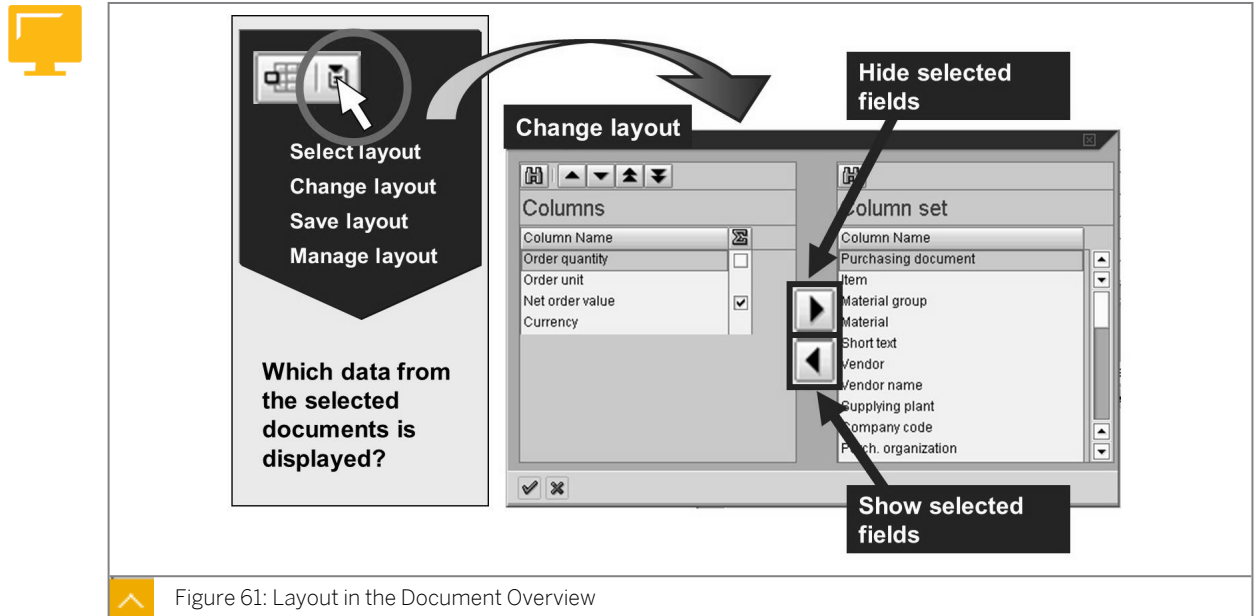


Figure 61: Layout in the Document Overview

**After using the layout to change the document overview display, you can perform the following:**

- Display additional fields from the column set or hide unwanted fields from the column selection.
- Arrange the fields.
- Create cross-user or user-specific layouts.
- Define one of your layouts as a default setting using the Manage layout function. This layout is automatically used when you open the document overview.



Hint:


Layouts differ depending on whether they are layouts for purchasing documents such as *Purchase orders*, *RFQs*, *Contracts* and *scheduling agreements* or *purchase requisitions*.






### Configure the Document Overview


1. On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.
2. Choose *Document Overview On* if the document overview is not yet displayed.

3. Select documents and selection variants.


Choose  *Selection variant* and select a document category (for example, RFQ).  
You will see the selection screen on which you can limit the selection of documents using selection criteria.


 Note:  
With  *Dynamic selections*, you can include additional selection criteria.

 Note:  
If you use the same values frequently for one selection, you can save these values as a variant. To do this, on the selection screen, choose *Goto* → *Variants* → *Save as Variant*.  
To use an existing variant for the selection, choose *Goto* → *Variants* → *Get...*


Choose  *Execute*.  
The selected documents are displayed in the document overview.

4. Determine breakdown.

Choose  *Change breakdown*.  
Move the values to be used for grouping your documents from the *column set* to the *sort criteria*.

Copy your selection with  *Transfer*.


5. Change the layout.

Click the drop-down list to the right of  *Select layout* to display the context menu for the layout, and choose *Change layout*.


Move the values that you want to display in the document overview for your documents from the *column set* to the column selection (*displayed columns*).

Copy your selection with  *Transfer*.

6. Save the layout.

Click the drop-down list to the right of  *Select layout* to display the context menu for the Layout, and choose *Save layout*.

Enter a key and description for the new layout, and decide whether the layout is to be created specific to a user or cross-user. **The key for the cross-user layout must start with the special character “/”.**

 Hint:  
**Authorization is required to create cross-user layouts.**

Choose  *Save*.



## How to Create a Purchase Order with Reference

Configure the document overview and create a purchase order with reference to an RFQ.

Create a purchase order with reference.












Purchase order entry

Order the Universal-taillight-##, California, from vendor Rasch Gr.##, which has proved to be the best supplier after the RFQ activity. When creating a purchase order, refer to the RFQ to reduce the entry load and avoid entry errors. To establish the reference to the RFQ, use the document overview in the purchase order transaction.

### 1. Configure the document overview.

Select the RFQs for purchasing group T## and purchasing organization 1000. Save the selection as *selection variant T##* with the description *RFQs Group ##*. Execute the selection variant.

Group your RFQs according to the vendor and purchasing document, and display the item and material numbers. Save these settings as layout L## with the description *Layout Group ##*.

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.
- b) Choose *Document Overview On* to open the document overview.
- c) Choose  *Selection variant*, and then *Requests for quotations*.
- d) Enter **1000** in the *Purchasing Organization* field and **T##** *Purchasing Group* field and delete all other values from the selection.
- e) Choose  *Save as Variant...*. Enter **T##** in the *Variant Name* field and **RFQs Group ##** in the *Description* field. Save your entries.
- f) Choose  *Execute* to execute the selection.  
Your RFQs for purchasing group T## are displayed in the document overview.
- g) Choose  *Change breakdown*. Select *Vendor (Column Set)* and *Purchasing Document (Sort criteria)*, and choose  *Add Sort Criterion*. Then, choose  *Transfer*.
- h) Choose the small list pushbutton on the right, next to  *Select layout*, and then *Change layout*. Select *Item (Column Set)* and choose  *Show Selected Fields*. Repeat the procedure for *Material (Column Set)*. Then, choose  *Transfer*.
- i) Choose the small list pushbutton on the right, next to  *Select layout*, and then *Save layout*. Enter **L##** in the *Layout* field and **Layout Group##** in the *Description* field.  
Select the *User-specific* checkbox and choose  *Save*.

### 2. Create a purchase order with reference to an RFQ.


For plants 1000 (Hamburg) and 1200 (Dresden), you require 100 pieces of material T-M500B## (Universal-taillight-##, California).

Create a purchase order for purchasing organization 1000 and purchasing group T## with two items. For each item, refer to the quotation of vendor T-K500B##. The system



proposes data, such as quantities and conditions, from the quotation. (The system does not propose plant data here.)

Save your purchase order and note the purchase order number

Purchase order number: \_\_\_\_\_.

- a) Select the RFQ of vendor *T-K500B##* in the document overview and choose  *Adopt*.
  - b) Enter **1000** in the *Plnt* field for this item in the item overview.
  - c) Repeat step a and enter **1200** in the *Plnt* field for this item.
  - d) Save your entries and make a note of the purchase order number.
3. Determine the status of the message.

Display the purchase order and determine whether it has already been issued as a message. If the message has not yet been processed, print the document and then recheck the status of the message.

- a) After entering a purchase order, you can switch to the display mode using  *Other Purchase Order*.
  - b) For information about the status of the purchase order, choose the *Status* tab in the header data. On this tab, you can also see whether the purchase order has been sent as a message.
  - c) For more detailed information on message development, choose *Goto* → *Messages*. You will reach a separate screen on which a list of messages for the purchase order is displayed. The status shows that the message has not yet been processed.
  - d) Terminate the purchase order transaction. Exit the transaction twice.
  - e) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Messages* → *Print/Transmit* (ME9F).
  - f) Accept the selection criteria proposed by the system and choose  *Execute*.
  - g) Select your document and choose *Output Message*.
  - h) Display the purchase order transaction ME23N and choose *Messages* to recheck the status of the message. The message has now been processed.
4. Change the purchase order.

A sales employee from vendor T-K500B## has informed you that the gross price for material T-M500B## has been reduced for this purchase order to EUR 80. The remaining conditions are unchanged. Change the conditions for both order items accordingly. Save these changes. (Remain in the purchase order transaction after the changes have been saved.)

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Change* (ME22N).  
The purchase order you changed most recently is automatically displayed in change mode.
- b) Choose the *Conditions* tab page in the item details.
- c) For the first item, change the *Gross Price (PBXX)* to *EUR 80*.



- d) Switch to the second item and change the *Gross Price (PBXX)* for this item to *EUR 80*.
- e) Save your entries.

Do not leave the purchase order transaction.

5. Display the purchase order.

Display the purchase order and answer the following questions.

Which user created the purchase order?

---

---

---

Which user changed the order item?

---

---

---

When were the order items changed?

---

---

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What has been changed in the order items?

---

---

---

Where is the RFQ number that refers to the purchase order items stored in the system?

---

---

---


Is there a purchase order history for both items?

---

---

---

- a) In the title bar, you can see which user created the purchase order.
- b) To view additional information on the changes made to the order items, select the required items and choose *Environment* → *Item Changes*. By choosing ► *Next item* or *Goto* → *Next item*, you receive information on the next selected item.

- c) The RFQ number is stored in the item overview.
  - d) There is no purchase order history for either item because no follow-on documents with reference to this purchase order have been posted. Also, no goods receipts or invoices have been entered for this purchase order item.
6. Display and output the changed purchase order as a message.  
Display a print preview (message) on your screen of the changed purchase order, and output the message.  
Is the message flagged as a changed message? Are the changes listed in the document?
- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Messages* → *Print/Transmit* (ME9F).
  - b) Accept the selection criteria proposed by the system and choose  *Execute*.
  - c) In the overview, select your document and choose *Display Message*.  
On the screen output, the document is flagged as a changed document. The vendor is informed about which information has changed for each item.
  - d) In the print preview, go back.
  - e) Select your document and choose *Output Message*.
-



## Create a Purchase Order with Reference

### Business Example

After an RFQ or quotation activity, you want to order the requested material from the supplier with the most favorable price. When creating the PO, use the document overview in the PO transaction to reference the vendor's quotation to minimize data entry time.

Create a purchase order with reference.

Purchase order entry

Order the Universal-taillight-##, California, from vendor Rasch Gr, which was proved to be the best supplier after the RFQ activity. When creating a purchase order, refer to the RFQ to reduce the entry load and avoid entry errors. To establish the reference to the RFQ, use the document overview in the purchase order transaction.

**1.** Configure the document overview.

Select the RFQs for purchasing group T## and purchasing organization 1000. Save the selection as selection variant T## with the description RFQs Group ##. Execute the selection variant.

Group your RFQs according to the vendor and purchasing document, and display the item and material numbers. Save these settings as layout L## with the description Layout Group ##.

**2.** Create a purchase order with reference to an RFQ.

For plants 1000 (Hamburg) and 1200 (Dresden), you require 100 pieces of material T-M500B## (Universal-taillight-##, California).

Create a purchase order for purchasing organization 1000 and purchasing group T## with two items. For each item, refer to the quotation of vendor T-K500B##. The system proposes data, such as quantities and conditions, from the quotation. (The system does not propose plant data here.)

Save your purchase order and note the purchase order number.

Purchase order number: \_\_\_\_\_.

**3.** Determine the status of the message.

Display the purchase order and determine whether it has been issued as a message. If the message has not yet been processed, print the document and then recheck the status of the message.

**4.** Change the purchase order.

A sales employee from vendor T-K500B## has informed you that the gross price for material T-M500B has been reduced for this purchase order to EUR 80. The remaining conditions are unchanged. Change the conditions for both order items accordingly. Save these changes. (Remain in the purchase order transaction after the changes have been saved.)

Do not leave the purchase order transaction.

5. Display the purchase order and answer the following questions.

Which user created the purchase order?

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---

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Which user changed the order item?

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When were the order items changed?

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What has been changed in the order item?

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Where is the RFQ number that refers to the purchase order items stored in the system?

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---

Is there a purchase order history for both items?

---

---

---

6. Display and output the changed purchase order as a message.

Display a print preview (message) on your screen of the changed purchase order, and output the message.

Is the message flagged as a change message? Are the changes listed in the document?



## Create a Purchase Order with Reference

### Business Example

After an RFQ or quotation activity, you want to order the requested material from the supplier with the most favorable price. When creating the PO, use the document overview in the PO transaction to reference the vendor's quotation to minimize data entry time.

Create a purchase order with reference.










Purchase order entry


Order the Universal-taillight-##, California, from vendor Rasch Gr, which was proved to be the best supplier after the RFQ activity. When creating a purchase order, refer to the RFQ to reduce the entry load and avoid entry errors. To establish the reference to the RFQ, use the document overview in the purchase order transaction.

#### 1. Configure the document overview.

Select the RFQs for purchasing group T## and purchasing organization 1000. Save the selection as selection variant T## with the description RFQs Group ##. Execute the selection variant.

Group your RFQs according to the vendor and purchasing document, and display the item and material numbers. Save these settings as layout L## with the description Layout Group ##.

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.
- b) Choose *Document Overview On* to open the document overview.
- c) Choose  *Selection variant*, and then *Requests for quotations*.
- d) Enter **1000** in the *Purchasing Organization* field and **T##** in the *Purchasing Group* field, and then delete all other values from the selection.
- e) Choose  *Save as Variant...*. Enter **T##** in the *Variant Name* field and **RFQs Group ##** in the *Description field*. Save your entries.
- f) Choose  *Execute* to execute the selection.  
Your RFQs for purchasing group T## are displayed in the document overview.
- g) Choose  *Change breakdown*. Select *Vendor (Column Set)* and *Purchasing Document (Sort criteria)* and choose  *Add Sort Criterion*. Then, choose  *Transfer*.
- h) Choose the small list pushbutton on the right, next to  (*Select layout*), and then *Change layout*. Select *Item (Column Set)* and choose  (*Show Selected Fields*). Repeat the procedure for *Material (Column Set)*. Then, choose  *Transfer*.

- i) Choose the small list pushbutton on the right, next to  (Select layout), and then Save layout. Enter **L##** in the *Layout field* and **Layout Group##** in the *Description field*.

Select the *User-specific* checkbox and choose  Save.


## 2. Create a purchase order with reference to an RFQ.

For plants 1000 (Hamburg) and 1200 (Dresden), you require 100 pieces of material T-M500B## (Universal-taillight-##, California).

Create a purchase order for purchasing organization 1000 and purchasing group T## with two items. For each item, refer to the quotation of vendor T-K500B##. The system proposes data, such as quantities and conditions, from the quotation. (The system does not propose plant data here.)

Save your purchase order and note the purchase order number.

Purchase order number: \_\_\_\_\_.

- a) Select the RFQ of vendor T-K500B## in the document overview and choose  Adopt.


b) Enter **1000** in the *Plnt* field for this item in the item overview.

c) Repeat step a) and enter **1200** in the *Plnt* field for this item.

d) Save your entries and make a note of the purchase order number.

## 3. Determine the status of the message.

Display the purchase order and determine whether it has been issued as a message. If the message has not yet been processed, print the document and then recheck the status of the message.

- a) After entering a purchase order, you can switch to the display mode using  Other Purchase Order.

b) For information about the status of the purchase order, choose the *Status* tab in the header data. On this tab, you can also see whether the purchase order has been sent as a message.

c) For additional information on message development, choose *Goto* → *Messages*. You will reach a separate screen on which a list of messages for the purchase order is displayed. The status shows that the message has not yet been processed.

d) Terminate the purchase order transaction. Exit the transaction twice.

e) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Messages* → *Print/Transmit* (ME9F).

f) Accept the selection criteria proposed by the system and choose  Execute.

g) Select your document and choose *Output Message*.

h) Display the purchase order transaction ME23N and choose *Messages* to recheck the status of the message. The message has now been processed.

## 4. Change the purchase order.

A sales employee from vendor T-K500B## has informed you that the gross price for material T-M500B has been reduced for this purchase order to EUR 80. The remaining conditions are unchanged. Change the conditions for both order items accordingly. Save these changes. (Remain in the purchase order transaction after the changes have been saved.)

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Change* (ME22N).

The purchase order you changed most recently is automatically displayed in change mode.

- b) Choose the *Conditions* tab page in the item details.
- c) For the first item, change the *Gross Price* (PBXX) to *EUR 80*.
- d) Switch to the second item and change the *Gross Price* (PBXX) for this item to *EUR 80*.
- e) Save your entries.

Do not leave the purchase order transaction.

5. Display the purchase order and answer the following questions.

Which user created the purchase order?

---

Which user changed the order item?

---

When were the order items changed?

---

What has been changed in the order item?

---


Where is the RFQ number that refers to the purchase order items stored in the system?

---

Is there a purchase order history for both items?

---

- a) In the title bar, you can see which user created the purchase order.
- b) To view additional information on the changes made to the order items, select the required items and choose *Environment* → *Item Changes*. By choosing ► *Next item* or *Goto* → *Next item*, you receive information on the next selected item.

- c) The RFQ number is stored in the item overview.
  - d) There is no purchase order history for either item, because no follow-on documents with reference to this purchase order have been posted. Also, no goods receipts or invoices have been entered for this purchase order item.
6. Display and output the changed purchase order as a message.  
Display a print preview (message) on your screen of the changed purchase order, and output the message.  
Is the message flagged as a change message? Are the changes listed in the document?
- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Messages* → *Print/Transmit* (ME9F).
  - b) Accept the selection criteria proposed by the system and choose  *Execute*.
  - c) In the overview, select your document and choose *Display Message*.  
On the screen output, the document is flagged as a changed document. The vendor is informed about which information has changed for each item.
  - d) In the print preview, go back.
  - e) Select your document and choose *Output Message*.





### **LESSON SUMMARY**

You should now be able to:

- Create purchase orders with reference



## Maintaining Purchasing Info Records

### LESSON OVERVIEW

This lesson covers information about the purchasing info record (PIR) master record. The purchasing info record helps to define and store vendor-specific information for a material for a long period. This lesson also focuses on various ways of creating and updating a purchasing info record.



In this lesson, you should explain the purchasing info record, the data included in it, and the options for maintaining info records. In particular, discuss the following in detail:

- If data is updated with the *InfoUpdate* checkbox from a quotation to an info record, then the conditions are adopted in the info record.
- If data is updated with the *InfoUpdate* checkbox from a purchase order to an info record, then none of the conditions are adopted in the info record.

The exercises from the previous lessons in SCM500 and the exercise in this lesson are structured in such a way that the different data updates emerge from the quotation and the purchase order as follows:

- Exercise – Handling Requests for Quotations and Quotation Processes: *InfoUpdate* checkbox is not set in the quotation; therefore, the conditions are not updated in an info record.
- Exercise – Creating Purchase Orders with Reference: Conditions are transferred from the quotation to the purchase order and then changed. If the *InfoUpdate* checkbox is set in the purchase order item (default value), an info record is created with reference to the purchase order, but without conditions.
- Exercise – Maintaining Purchasing Info Records: Display and evaluate info records; then change quotations and set *InfoUpdate* checkbox; conditions from quotations are therefore updated in the info records. Evaluate info records again.

### Business Example

The purchasing department in your company saves data for material-vendor relationships. This is necessary because a material may be procured from multiple vendors, each with different prices, freight costs, and delivery terms. As a buyer, you can test how the purchase info record and automatic update of conditions work by using the *InfoUpdate* checkbox. For this reason, you require the following knowledge:

- An understanding of the organizational levels relevant for purchasing info records
- An understanding of the ways in which purchasing info records can be created
- How to maintain a purchasing info record

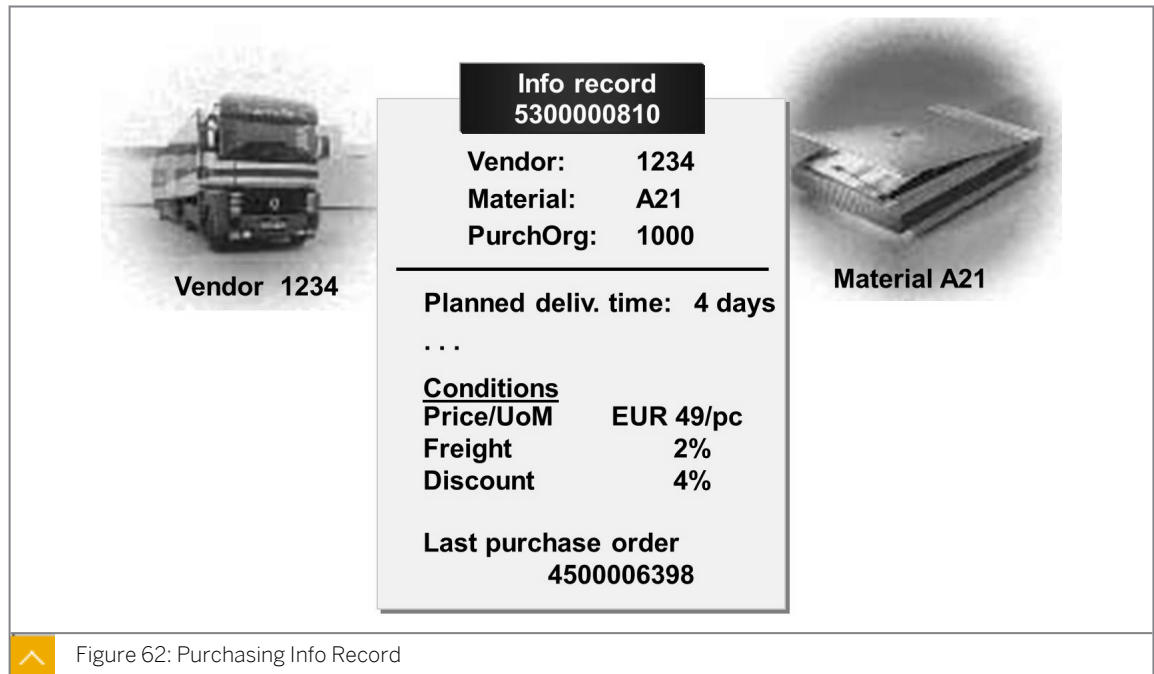


## LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Maintain purchasing info records

## Purchasing Info Records: Overview



The purchasing info record, also known as the info record, provides the option of storing vendor and material information as the master data at **purchasing organization and plant level.**

### You can define the following information in purchasing info records:

- Current and future prices and conditions (for example, freight and discounts)
- Delivery data (for example, planned delivery time and over-delivery, and under-delivery tolerances)
- Vendor data (for example, contact person) and vendor-specific data about the material (such as the vendor sub-range to which the material belongs and the vendor's description about the material)
- Number of the last purchase order (PO)
- Texts

### The following text types are stored in the purchasing info record:

- Info record memo
  - This is an internal comment that the system transfers to the purchase order item. This text is not printed.**
- Purchase order text
  - The system uses this text to describe the purchase order item. The system transfers it to the purchase order item and prints.**

The purchasing info record is an important source of information for the buyer. When creating the purchasing documents, the system transfers the data from the info record to the purchasing document as default values.

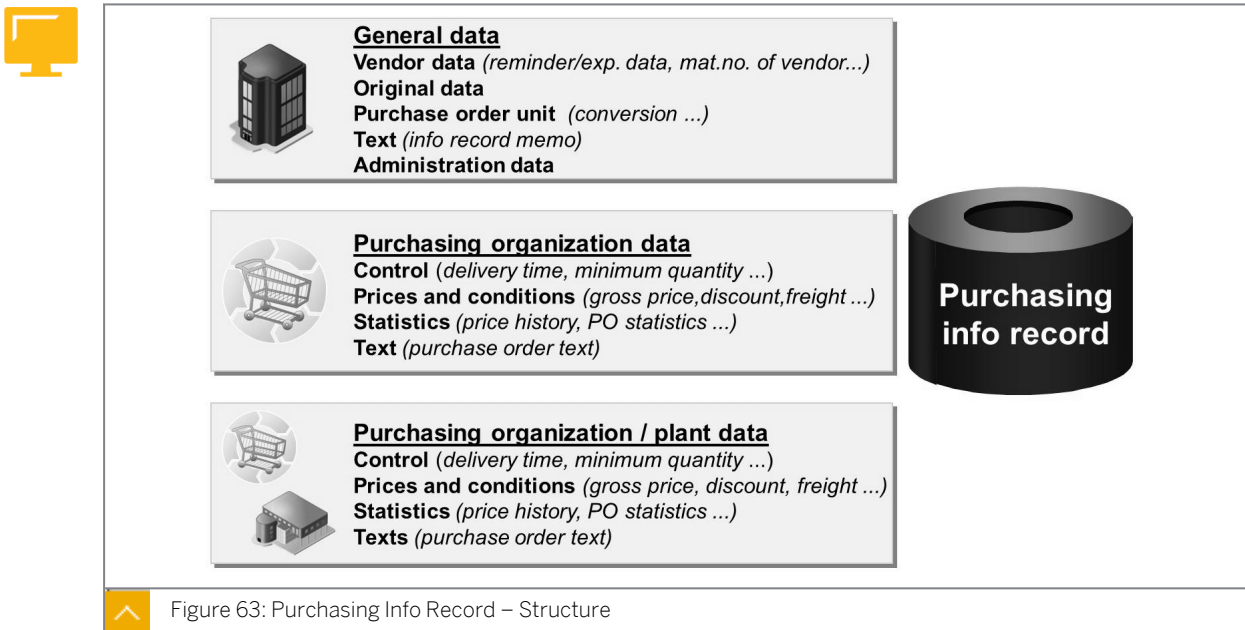
You can also use the list displays for the info records to determine which vendors offer a particular material.

**The data for a purchasing info record is divided as follows:**

- General (valid for a single client) and purchasing organization-specific data
- Purchasing organization-specific and plant-specific data

In addition, the selected info record category determines for which procurement process the data will be used. You can differentiate between a standard process and the special procurement categories, which include subcontracting, pipeline, and consignment.

**Purchasing Info Record – Structure**



The figure shows the types of data that can be entered at each organization level.

**Hint:**  
 You must specify in Customizing to save conditions at plant level by choosing *Materials Management* → *Purchasing* → *Conditions* → *Define Condition Control at Plant Level*.



**How to Use Purchasing Info Records**



You can show this demo at the start of the segment but after you discuss the theory.

1. Create a new purchase order with the following data:

Field	Value
Vendor	T-K500A00
Material	T-M500B00
Quantity	10

- a) Choose *Enter*. The system issues an error message, alerting that a price cannot be specified. End the purchase order entry without saving.

2. Create a new purchase order with the following data:

	Caution: Vendor is now T-K500B00.
---	--------------------------------------

Field	Value
Vendor	T-K500B00
Material	T-M500B00
Quantity	10

- a) Choose *Enter*. For this vendor, the price will be the default entry from the info record. End the purchase order entry without saving.

3. Display the list of info records for material T-M500B00.

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Info Record* → *List Displays* → *By Material (ME1M)*.

Field	Value
Material	T-M500B##
Purchasing organization	1000

- b) Choose  (*Execute*).

4. Discuss the data displayed in the list. Explain the meaning of the Info category and its possible attributes (standard, consignment, subcontracting, and pipeline).

The info record should only contain the reference to the last purchase order.

5. Display the info record and discuss the structure. The data is divided into general (client-specific) and purchasing organization data.

Explain the navigation with *Goto* → ..., *Extras* → *Conditions and Extras* → *Administrative Data*. Briefly discuss the most important data on each screen.

Explain the *References* area under *Purchasing Organization Data 2*. Use *Environment* → *Last Document* to branch to the purchase order.

6. Discuss the theory.

## Price Determination

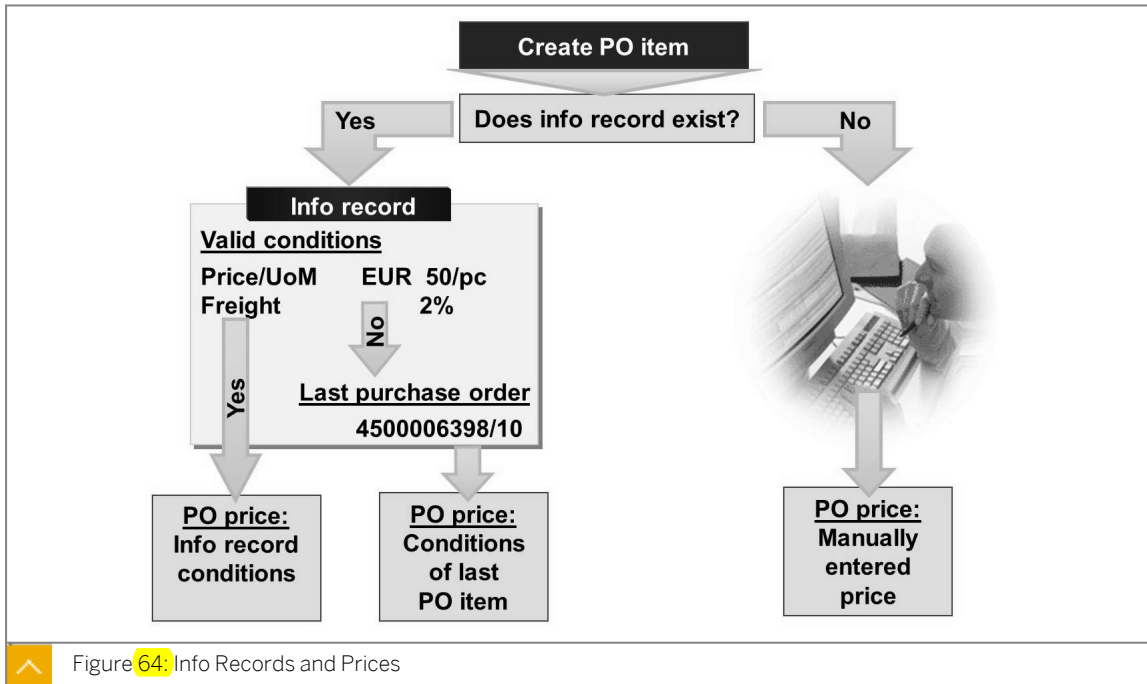


Figure 64: Info Records and Prices



Ask the participants to guess which schema the system uses to determine conditions.

When you create a purchasing document, the system attempts to find a price for the material to be procured. **The system always searches from specific to general price categories.**

When you create a purchase order, the system searches for an info record for the vendor or material combination at purchasing information and plant level. If there is no specific data for the purchasing organization and plant combination, the system searches at purchasing organization level. If there is no data at this level, you must enter the price manually.



Hint:

**In the purchase order, the valuation price from the material master record is not proposed as the purchase order price.**

If a purchasing info record exists, the system determines prices based on existing valid conditions take precedence. If an info record does not contain any conditions, or only contains invalid conditions, the system reads the number of the last purchasing document in the info record and proposes the price from this document. The buyer can change these default price values when creating the purchase order.

In the default values for buyers (Customizing), you can define how the system handles conditions from the last purchase order.

**The following specifications are available when transferring conditions from the last purchase order:**

- **Conditions are always copied.**
- **Conditions are not copied if the price is entered manually.**

- Conditions are never copied.

## Purchasing Info Record Maintenance

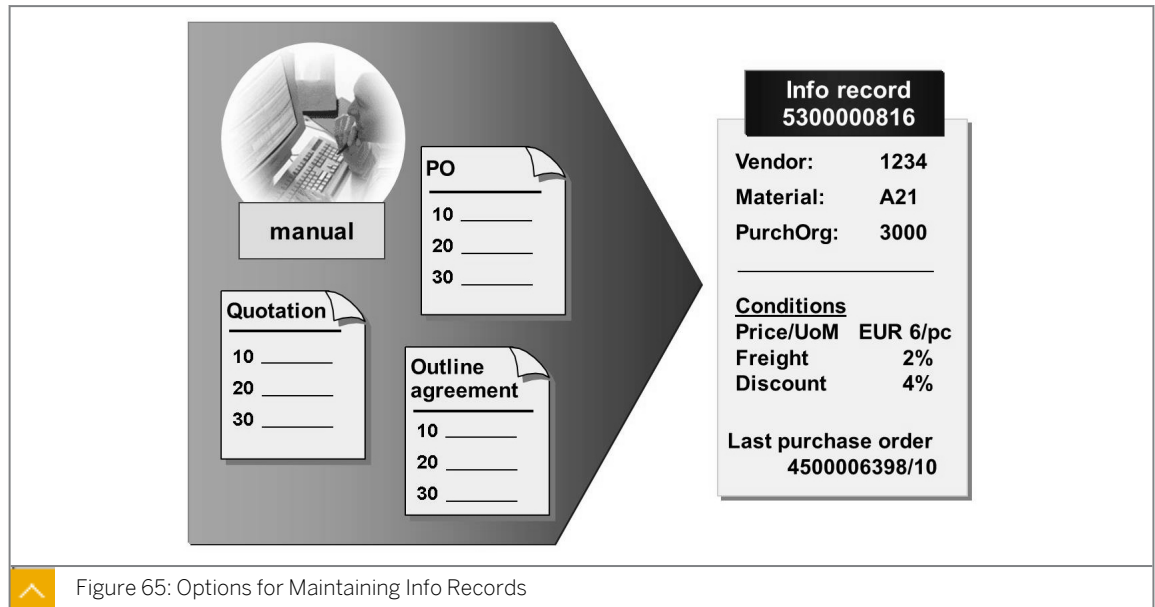


Figure 65: Options for Maintaining Info Records

You have various options for creating a purchasing info record.

You can manually create or change an info record for a purchasing organization and plant. In the purchasing menu, choose *Master Data* → *Info Record* → *Create* (or *Change*). On the initial screen, you must enter a vendor, material, and the organizational levels you require (purchasing organization, or purchasing organization and plant). On the following data screens, enter the necessary data (for example, planned delivery time, gross price, and conditions) manually.

You can also create and update purchasing info records automatically by setting the *InfoUpdate* checkbox when maintaining a quotation, purchase order, or outline agreement.

## Info Record – Automatic Update

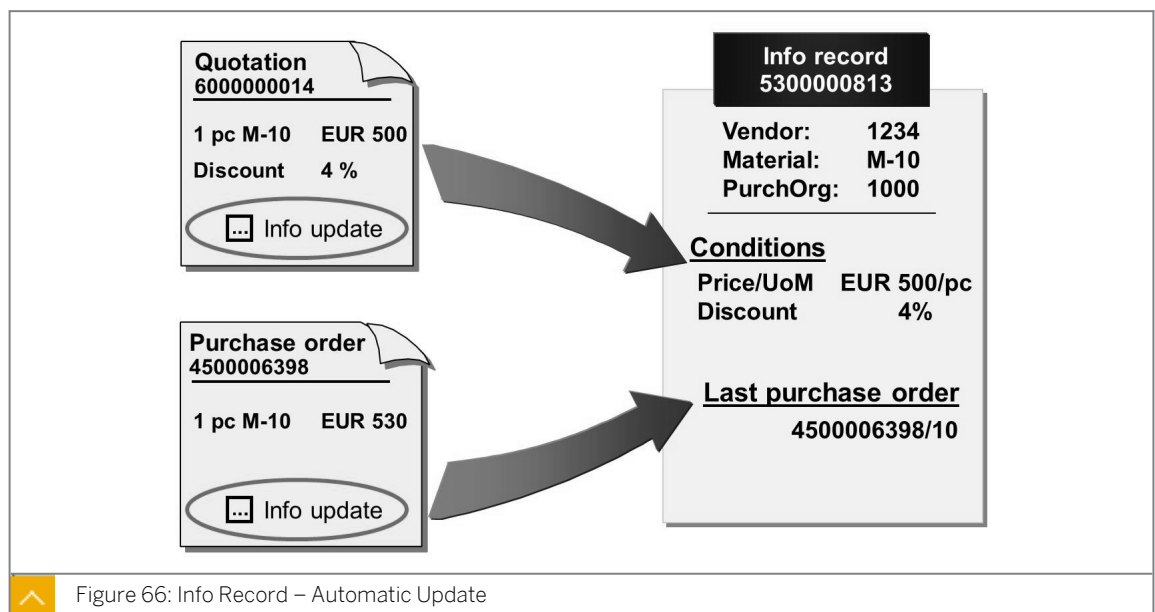


Figure 66: Info Record – Automatic Update

**The following purchasing documents determine which updates are triggered by the InfoUpdate checkbox:**

- **Quotation:**  
Conditions are transferred to the info record.
- **PO:**  
A contract release order or a scheduling agreement, the document and item number is updated as the last document.
- **Contract**  
It is important to know whether an info record already exists for the vendor-material combination. When you create or change a contract, the system creates an info record with the conditions from the contract if there are no existing info records for the combination of vendor, material, and organizational level. If an info record already exists, then it is not updated.



Ask the participants the following questions:

- Why is there an info record for vendor T-K500B00, material T-M500B00, and purchasing organization 1000?  
Answer: The *InfoUpdate* checkbox is set in the purchase order item. Therefore, there is a reference to this purchase order.
- Why does the info record not contain any conditions?  
Answer: No conditions have been transferred from the purchase order to the info record.
- What do you need to do to transfer the conditions from the purchase order to the info record?  
Answer: You can only manually enter the conditions in the info record.
- Can the conditions from the quotation be updated in the info record and, if so, how?  
Answer: The *InfoUpdate* checkbox must be set in the quotation item.



To understand the different characteristics of the *InfoUpdate* checkbox, explain the Customizing settings for updating conditions. Discuss the fact that conditions are always specified in connection with a purchasing organization. You can also specify conditions at purchasing organization or plant level. You can set this option in Customizing.

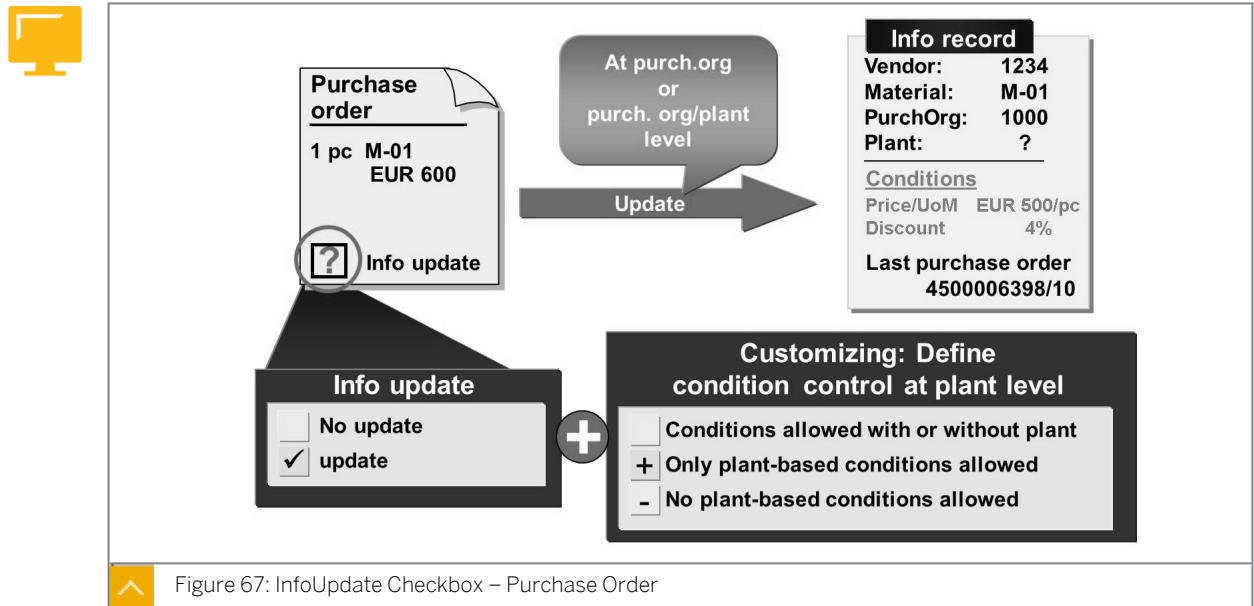
When orders are placed for a plant, if valid conditions exist for the plant, the system always gives precedence to the more important plant conditions.

The characteristics of the *InfoUpdate* checkbox for updating the info record vary for each purchasing document. However, regardless of the purchasing document type, the Customizing settings for the conditions are significant during the update. You can set the conditions at plant level in Customizing for Materials Management under *Purchasing* → *Conditions* → *Define Condition Control at Plant Level*.

At plant level, you can specify whether or not plant-related conditions are allowed (plant requirement).



## InfoUpdate Checkbox



In the purchase order (transactions ME21N, ME22N, and ME23N), the *InfoUpdate* checkbox controls whether an info record is updated or created.

**If the InfoUpdate checkbox is set, the following situations are possible:**

- If an info record exists at purchasing organization level or purchasing organization and plant level, the info record is updated.
- If an info record exists with purchasing organization data or purchasing organization and plant data, the plant-specific data is updated.
- If no info record exists and plant condition requirement has been specified in Customizing, the system creates an info record with a plant. Otherwise, the system creates an info record without a plant.

### InfoUpdate Checkbox: Quotation and Outline Agreement

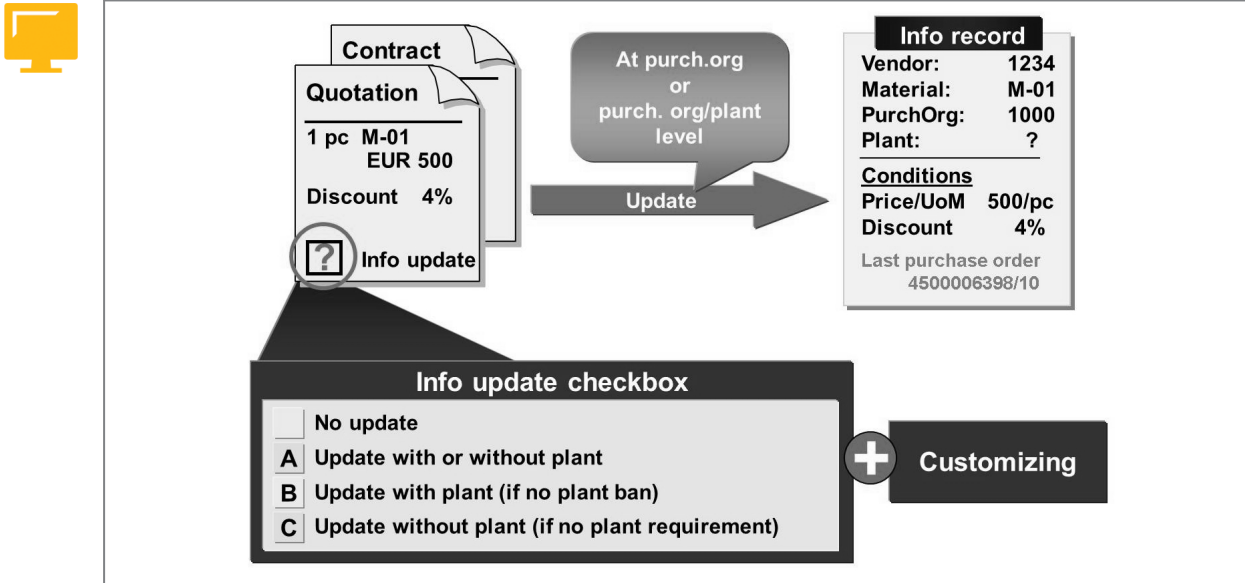


Figure 68: InfoUpdate Checkbox – Quotation and Outline Agreement

The InfoUpdate checkbox has the following attributes in the quotation, contract, scheduling agreement, and old purchase order (transactions ME21, ME22, and ME23):

- “ ”  
The info record is not updated or created.
- “A”  
If an info record exists at plant level, it is updated. Alternatively, an info record is updated at purchasing organization level. If an info record still does not exist at purchasing organization level, the system creates one.
- “B”  
If plant conditions are allowed for the plant, an info record at plant level is updated or created.
- “C”  
If plant conditions are not required for the plant, an info record at purchasing organization level is updated or created.



#### How to Maintain Purchasing Info Records

Show the automatic update and manual maintenance of info records.

Display, change, and analyze info records.

You intend to use extra purchasing info records. Therefore, you want to update as much data as possible from the POs and quotations in the Universal taillight-##, California info records.

1. Copy conditions from quotations.

For material T-M500B##, you used a request for quotations (RFQ) and quotation activity to determine prices from various vendors. You would like to keep these conditions in the info records. Change all quotations for material T-M500B## and select C from the InfoUpdate checkbox.



Hint:

Using the price comparison list function is the most efficient way to select and change your quotations. The collective number of your quotations is GR##.

a) Choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Quotation* → *Price Comparison (ME49)*.

b) Enter the following data:

Field	Value
<i>Collective RFQ</i>	<b>GR##</b>
<i>Purchasing Organization</i>	<b>1000</b>

c) Choose  *Execute*.

d) Double-click the item number of a quotation to branch to the item details of this quotation item. Select C from the *InfoUpdate* checkbox and save your entries.

e) Repeat steps c and d for all quotations.

2. Display the info record list.

Display all the info records saved in the system for material T-M500B## and purchasing organization 1000. Note the info record numbers.

Info record number(s): \_\_\_\_\_

Do conditions exist for these info records? Give reasons for your answer.

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a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Info Record* → *List Displays* → *By Material (ME1M)*.

b) Enter the following data:

Field	Value
<i>Material</i>	<b>T-M500B##</b>
<i>Purchasing organization</i>	<b>1000</b>

c) Choose  *Execute*.

- d) For material T-M500B##, there are now two info records: one for vendor T-K500A## and one for vendor T-K500B## (the system did not create info records for one-time vendors).
- e) There are conditions in both info records. Because the InfoUpdate checkbox was set in the quotation, these conditions were updated in the info record.

### 3. Change the info record.

Vendor T-K500A## informs you about new purchasing data and conditions for material T-M500B##. Use this data to change the info record for this vendor and material.

The average delivery time (planned delivery time) is ten days. Also, the vendor accepts only purchase orders that have a minimum quantity of 50 pieces.


As of today, the following are valid for conditions:

Condition	Value
Validity period	1 year
Gross price	EUR 85
Discount % on gross (RA01)	15% on 50 pieces or more, 18% on 200 pieces or more


Terminate the purchase order transaction.

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Info Record* → *Change* (ME12).
- b) Enter the following data:

Field	Value
<i>Vendor</i>	<b>T-K500A##</b>
<i>Material</i>	<b>T-M500B##</b>
<i>Purchasing Org.</i>	<b>1000</b>

- c) Choose  *Enter*.
- d) Choose the *Purch. Org. Data 1* toggle button and enter the following data:


Field	Value
<i>Pl. Deliv. Time</i>	<b>10 Days</b>
<i>Minimum Qty</i>	<b>50 PC</b>

- e) Choose the *Conditions* pushbutton. In the *Validity Periods: Conditions* dialog box, select the validity period and choose the  *Choose* pushbutton.
- f) Enter the following values:

Field	Value
<i>Valid From</i>	<Current date>

Field	Value
<i>Valid to</i>	<Current date + 1year>

Condition Type	Amount
<i>PB00 Gross Price</i>	EUR 85
<i>RA01 Discount % on Gross</i>	15%

- g) To enter the discount scale, select condition type *RA01* and choose  *Scales*, or *Goto* → *Scales*.

Enter the following scale values on the *Scales Discount % on Gross (RA01)* screen:

Scale Quantity	Amount
50	15
200	18

- h) Save your entries.

#### 4. Process quantity-dependent price.

What net price would you have to pay per piece if you wanted to order the following quantities of material T-M500B## from vendor T-K500A##?


Use the info record list by material to carry out the net price simulation.

Quantity	Price
20 pieces	NA
50 pieces	NA
150 pieces	NA
320 pieces	NA

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Info Record* → *List Displays* → *By Material (ME1M)*.

- b) Enter the following data:

Field	Value
<i>Vendor</i>	T-K500A##
<i>Material</i>	T-M500B##
<i>Purchasing organization</i>	1000

- c) Choose  *Execute*.
- d) Select the info record and choose the *Price simulation* pushbutton. Then, enter the desired quantity.
- e) Choose *Continue*. The determined price is then displayed in the list.

Quantity	Price
20 pieces	EUR 85
50 pieces	EUR 72.25
150 pieces	EUR 72.25
320 pieces	EUR 69.70

To view the results of the price simulation in detail, choose *Goto* → *Simulation List*.

- f) You can also create a purchase order for vendor T-K500A## and material T-M500B##. If you vary the purchase order quantity, the price is adjusted according to the conditions from the info record.

The net price per piece of material T-M500B## is based on the order quantity.

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# Unit 3

## Exercise 12



### Maintain Purchasing Info Records

#### Business Example

To help you determine sources of supply and prices, you can store information for specific material-vendor relationships in the system. You can enter the conditions in the system and other price elements, such as freight costs and reductions for a material, depending on the vendor and purchasing organization. You can also enter planned delivery times, tolerances, and terms of delivery.



Caution:  
You can carry out this exercise only if you have created a purchase order.

Maintain purchasing info records.

Display, change, and analyze info records.

You intend to use additional purchasing info records. Therefore, you want to update as much of the data as possible from the purchase orders and quotations in the Universal taillight-##, California info records.

1. Display the info record list.

Display all info records saved in the system for material T-M500B## and purchasing organization 1000. On the selection screen, do not change the system default values for price calculation. The prices determined by the system are net prices.

2. Determine administrative data and prices.

Display the purchasing info record for material T-M500B## and vendor T-K500B## and answer the following questions.

What is the info record number? When and by whom was the info record created?

Info record number: \_\_\_\_\_

Created on: \_\_\_\_\_

Created by: \_\_\_\_\_

Do conditions exist for this info record? Give reasons for your answer.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What is the number of the previous purchase order?

\_\_\_\_\_

3. Copy conditions from quotations.

For material T-M500B##, you used an RFQ and quotation activity to determine prices from various vendors. You would like to keep these conditions in the info records. Change all quotations for material T-M500B## and select C from the *InfoUpdate* checkbox.



Hint:

Use the price comparison list function for the most efficient way to select and change your quotations. The collective number of your quotations is GR##.

4. Display the info record list.

Display all the info records saved in the system again for material T-M500B## and purchasing organization 1000. Note the info record numbers.

Info record number(s): \_\_\_\_\_

Do conditions exist for these info records? Give reasons for your answer.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. Change the info record.

Vendor T-K500A## informs you about new purchasing data and conditions for material T-M500B##. Use this data to change the info record for this vendor and material.

The average delivery time (planned delivery time) is ten days. Also, the vendor accepts only purchase orders that have a minimum quantity of 50 pieces.

As of today, the following are valid for conditions:

Validity period:	1 year
Gross price:	EUR 85
Discount % on gross (RA01):	15% on 50 pieces or more, 18% on 200 pieces or more

6. Process quantity-dependent price.

What net price would you have to pay per piece if you wanted to order the following quantities of material T-M500B## from vendor T-K500A##?

Use the info record list by material to carry out the net price simulation.

20 pieces	50 pieces	150 pieces	320 pieces
NA	NA	NA	NA





## Maintain Purchasing Info Records

### Business Example

To help you determine sources of supply and prices, you can store information for specific material-vendor relationships in the system. You can enter the conditions in the system and other price elements, such as freight costs and reductions for a material, depending on the vendor and purchasing organization. You can also enter planned delivery times, tolerances, and terms of delivery.



Caution:

You can carry out this exercise only if you have created a purchase order.

Maintain purchasing info records.

Display, change, and analyze info records.

You intend to use additional purchasing info records. Therefore, you want to update as much of the data as possible from the purchase orders and quotations in the Universal taillight-##, California info records.

#### 1. Display the info record list.

Display all info records saved in the system for material T-M500B## and purchasing organization 1000. On the selection screen, do not change the system default values for price calculation. The prices determined by the system are net prices.

a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Info Record* → *List Displays* → *By Material (ME1M)*.

b) Enter the following data:

Field	Value
<i>Material</i>	<b>T-M500B##</b>
<i>Purchasing organization</i>	<b>1000</b>

c) Choose *Execute*.

There is an info record for material T-M500B## and vendor T-K500B##.

#### 2. Determine administrative data and prices.

Display the purchasing info record for material T-M500B## and vendor T-K500B## and answer the following questions.

What is the info record number? When and by whom was the info record created?

Info record number: \_\_\_\_\_

Created on: \_\_\_\_\_


Created by: \_\_\_\_\_

Do conditions exist for this info record? Give reasons for your answer.

---

What is the number of the previous purchase order?

---

- a) Select the info record in the list display and choose  *Display Info Record* to display the info record.
- b) Choose *Extras* → *Administrative Data*.  
The administrative data contains information about when the info record was created, who created it, and the info record number.



Note:

The info record number is also specified in the *General data* and *Purchasing organization data* area.

- c) Go back to display the *Purch. Org.Data 1* .  
No conditions exist because the system automatically generated the info record when you created your previous purchase order. Conditions will not be copied from the purchase order to the info record.
  - d) Choose *Goto* → *Purch. Org. Data 2* to determine the number of the previous purchase order.  
To display the previous purchase order, choose *Environment* → *Last Document*. In the *Item Detail* area for the purchase order item on the *Material Data* tab page, select the *InfoUpdate* checkbox. The system automatically generates an info record without conditions.
3. Copy conditions from quotations.
- For material T-M500B##, you used an RFQ and quotation activity to determine prices from various vendors. You would like to keep these conditions in the info records. Change all quotations for material T-M500B## and select C from the *InfoUpdate* checkbox.




Hint:

Use the price comparison list function for the most efficient way to select and change your quotations. The collective number of your quotations is GR##.

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Quotation* → *Price Comparison* (ME49).
- b) Enter the following data:

Field	Value
<i>Collective RFQ</i>	<b>GR##</b>
<i>Purchasing Organization</i>	<b>1000</b>

- c) Choose  *Execute*.
- d) Double-click the item number of a quotation to branch to the item details of this quotation item. Select *C* from the *InfoUpdate* checkbox and save your entries.
- e) Repeat step c and d for all quotations.

#### 4. Display the info record list.


Display all the info records saved in the system again for material T-M500B## and purchasing organization 1000. Note the info record numbers.

Info record number(s): \_\_\_\_\_

Do conditions exist for these info records? Give reasons for your answer.

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Info Record* → *List Displays* → *By Material (ME1M)*.
- b) Enter the following data:

Field	Value
<i>Material</i>	<b>T-M500B##</b>
<i>Purchasing organization</i>	<b>1000</b>

- c) Choose  *Execute*.
- d) For material T-M500B##, there are now two info records: one for vendor T-K500A## and one for vendor T-K500B##. The system did not create info records for one-time vendors.
- e) There are conditions in both info records. Because the *InfoUpdate* checkbox was set in the quotations purchasing document, these conditions were updated in the info record.

#### 5. Change the info record.

Vendor T-K500A## informs you about new purchasing data and conditions for material T-M500B##. Use this data to change the info record for this vendor and material.

The average delivery time (planned delivery time) is ten days. Also, the vendor accepts only purchase orders that have a minimum quantity of 50 pieces.


As of today, the following are valid for conditions:

Validity period:	1 year
Gross price:	EUR 85


Discount % on gross (RA01):	15% on 50 pieces or more, 18% on 200 pieces or more
-----------------------------	---

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Info Record* → *Change* (ME12).
- b) Enter the following data:

Field	Value
<i>Vendor</i>	T-K500A##
<i>Material</i>	T-M500B##
<i>Purchasing Org.</i>	1000


- c) Choose  *Enter*.
- d) Choose the *Purch. Org. Data 1* toggle button and enter the following data:

Field	Value
<i>Pl. Deliv. Time</i>	10 Days
<i>Minimum Qty</i>	50 PC

- e) Choose the *Conditions* pushbutton. In the *Validity Periods: Conditions* dialog box, select the validity period and choose the  *Choose* pushbutton.
- f) Enter the following values:

Field	Value
<i>Valid From</i>	<Current date>
<i>Valid to</i>	<Current date + 1year>

Condition Type	Amount
<i>PB00 Gross Price</i>	EUR 85
<i>RA01 Discount % on Gross</i>	15%

- g) To enter the discount scale, select condition type *RA01* and choose  *Scales*, or *Goto* → *Scales*.

Enter the following scale values on the *Scales Discount % on Gross (RA01)* screen:

Scale Quantity	Amount
50	15
200	18

- h) Save your entries.
6. Process quantity-dependent price.

What net price would you have to pay per piece if you wanted to order the following quantities of material T-M500B## from vendor T-K500A##?

Use the info record list by material to carry out the net price simulation.

20 pieces	50 pieces	150 pieces	320 pieces
NA	NA	NA	NA

a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Info Record* → *List Displays* → *By Material (ME1M)*.

b) Enter the following data:

Field	Value
<i>Vendor</i>	<b>T-K500A##</b>
<i>Material</i>	<b>T-M500B##</b>
<i>Purchasing organization</i>	<b>1000</b>

c) Choose  *Execute*.

d) Select the info record and choose the *Price simulation* pushbutton. Then, enter the desired quantity.

e) Choose *Continue*. The determined price is then displayed in the list.

20 pieces	50 pieces	150 pieces	320 pieces
EUR 85	EUR 72.25	EUR 72.25	EUR 69.70

To view the results of the price simulation in detail, choose *Goto* → *Simulation List*.

f) You can also create a purchase order for vendor T-K500A## and material T-M500B##. If you vary the purchase order quantity, the price is adjusted according to the conditions from the info record.

Net price per piece of material T-M500B## is based on the order quantity.



### **LESSON SUMMARY**

You should now be able to:

- Maintain purchasing info records



## Using Material Valuation

### LESSON OVERVIEW

This lesson covers how to determine valuation levels for materials using the valuation area. It also explains the two possible procedures for material valuation.



Introduce the objectives and the business scenario.

The stock of a material that exists in the warehouse of a company must be managed in the system on a quantity basis. The company must be able to prove how much of a material it possesses.

Apart from quantity-based inventory management, a value-based update of the warehouse stock is also necessary. You must update the accounting data in the material master record so that it is possible to post the value-based update for a material.

### Business Example

In your company, most of the externally procured materials are stored before they are required for production or sales. The quantity and value of the warehouse stocks of your materials must be updated. As a member of the project team, you must be aware of the possible material valuation procedures. For this reason, you require the following knowledge:

- An understanding of the significance of the valuation area
- An understanding of the function of the valuation class
- An understanding of material valuation with the moving average price and the standard price



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Use material valuation

## Material Valuation - General Concept

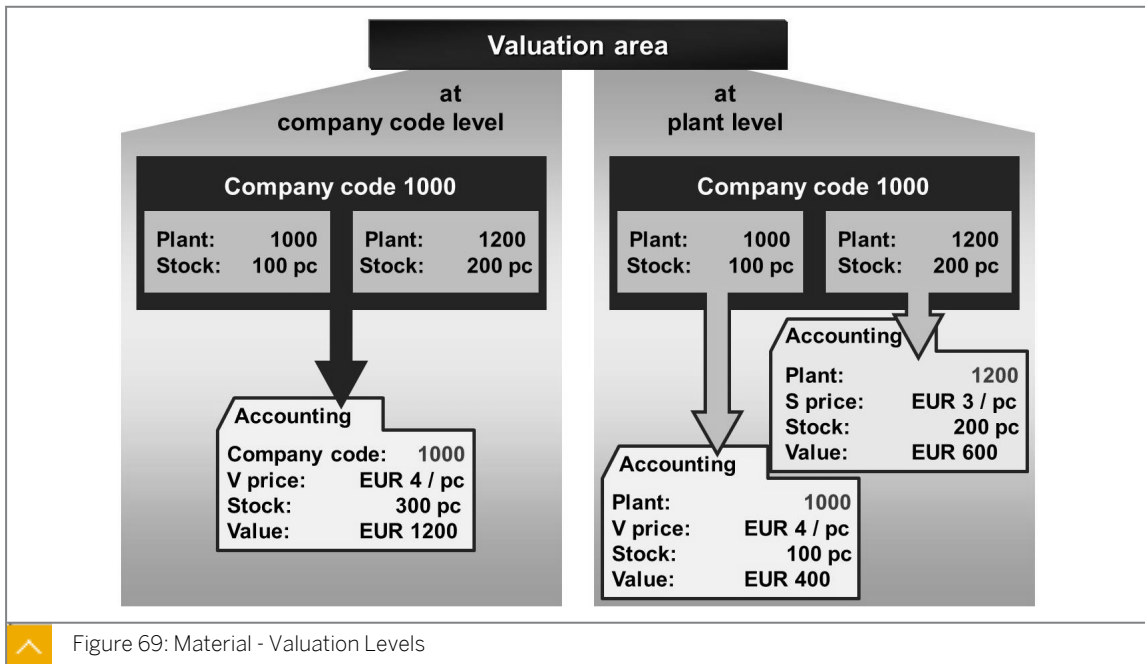


Figure 69: Material - Valuation Levels



Briefly introduce the possible goods movements (goods receipt, transfer posting, and goods issue) and the resulting updates of stock quantity and value. Briefly mention the “interface” between Materials Management (MM) and Financial Accounting (FI).

The terms valuation level, valuation class, and material valuation according to the “moving average price” and “standard price” are also important here.

Point out that the valuation price in the material master record does not generally agree with the purchase order price in the purchase order and that the valuation price is not the default price in the purchase order.

In most goods movements in inventory management, stock quantity and value vary. In goods receipts, the stock value increases; and in goods issues, the stock value decreases. The quantity and value of the material stock and price (valuation price) are updated in the material master record. Therefore, you also need a material master record for inventory-managed material.

The material valuation determines and maintains the stock value of a material.

The stock value is calculated using the following formula:

$$\text{Stock value} = \text{stock quantity} * \text{material valuation price}$$

From this formula, it follows that the stock value changes when the stock quantity or valuation price changes.

During the valuation of a goods movement, not only are the total value and valuation price (if necessary) updated in the material master record, but also the accounts in Financial Accounting (FI). Material valuation demonstrates a connection between Materials Management (MM) and FI because material valuation accesses and updates general ledger (G/L) accounts in FI.

**Material valuation is controlled by the following factors:**



- System setting (Customizing)
- Material master record

Material valuation is adjusted to the requirements of your company using the system settings.

**Material valuation answers the following:**

- On which level are materials valuated?
- Which types of goods movements are relevant for valuation?
- Which accounts are posted to during a transaction?

The movement type and material determine which types of goods movements are relevant for valuation. The settings for automatic account determination establish which accounts are posted to during a transaction.

**Valuation Area**

The valuation area is the organizational level at which material is valuated.

**You can decide whether the valuation area is determined at company code or plant level based on the following condition:**

- Valuation Area = Company Code

At company code level, the valuation data of a material is created separately for each company code. The price control and valuation price of a material are valid for each company code, therefore, the material is valuated consistently in all plants sharing a company code.

- Valuation Area = Plant

When the valuation area is determined at plant level, the valuation data of a material is created for each plant, and the price control and valuation price of a material are valid for each plant. Therefore, the same material can be valuated differently in each plant.

It is recommended that you valuate material at plant level. Valuation at plant level is mandatory if you want to use either of the Production Planning (PP) or product cost accounting components, or if your system is a mySAP Retail system.



**Caution:**

Defining the valuation level in Customizing is a fundamental setting and difficult to reverse (*Customizing → Enterprise Structure → Definition → Logistics - General → Define valuation level*).

**Material Master Record – Accounting Data**



Show the accounting data in the material master record T-M500A00 and point out the following fields:

- Currency: Local currency of the company code, not entered manually
- Valuation class
- Price control

- Moving average price or standard price
- Total stock or total value

In the material master record, enter the necessary valuation data for a material in the accounting data. Depending on the valuation area, you must specify either the company code or plant when maintaining the accounting data.

**When entering the accounting data, you must answer the following questions:**

- In which G/L account should the stock value of this material be managed?
- Is the stock of a material valued at a constant price, or should the price be adjusted to match the fluctuations of the cost price?



**Note:**

The material type you selected when creating a material determines whether the material is to be valued. The material type also controls whether the stock needs to be managed on quantity and value basis, or only on quantity basis. Whether this update can be controlled at valuation area level is also determined by the material type.

**Valuation Class**

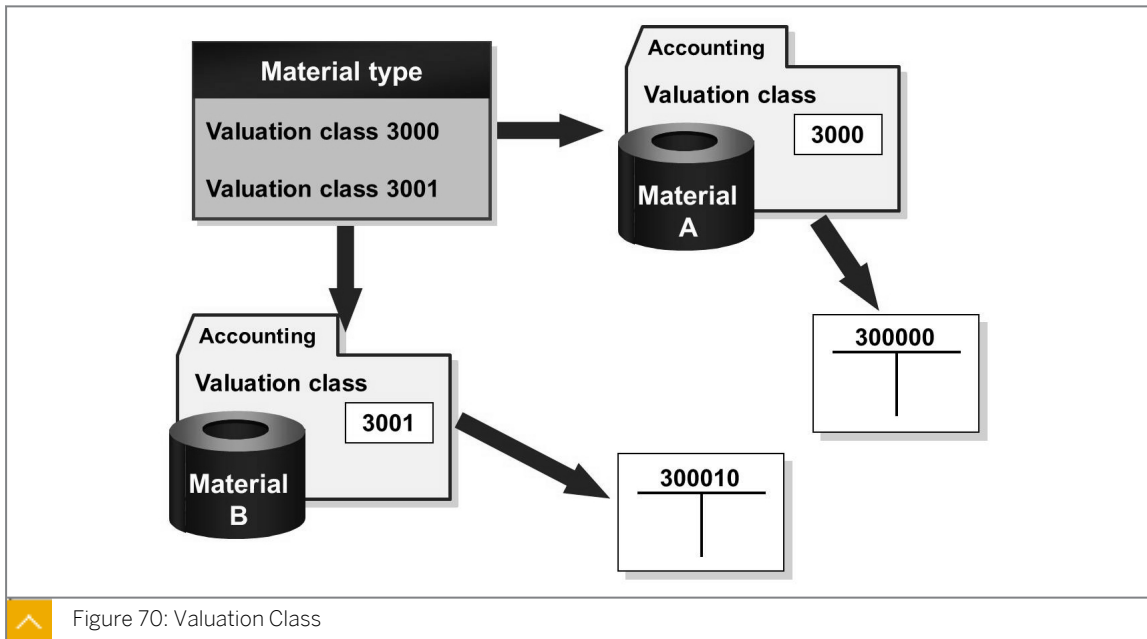


Figure 70: Valuation Class

In automatic account determination, the SAP system works with valuation classes.

**Characteristics of the valuation classes are as follows:**

- The valuation class is used to determine which stock account needs to be updated during the goods movement of a material.

- The valuation class combines materials for assigning G/L accounts so that you do not have to manage a separate stock account for each material. You maintain the valuation class in the FI view of the material master record.
- The valuation classes for a material depend on the material type, which is configured in Customizing. You can also assign a valuation class to multiple material types.

### Procedures for Material Valuation

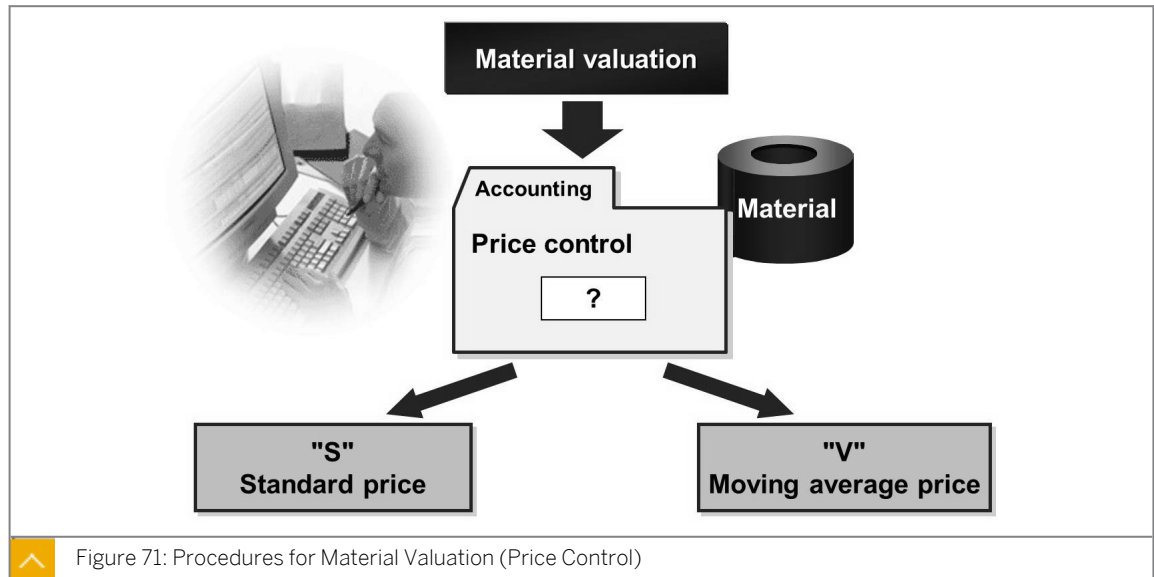


Figure 71: Procedures for Material Valuation (Price Control)

The price control procedure set in the material master record determines the value used to value the goods receipt of a material. Material valuation can be carried out according to the standard price (S price) or moving average price (V price).

#### Standard Price and Moving Average Price

During valuation using the standard price (price control "S"), there are multiple stock postings to a price, which are determined in the material master record. Variances to the standard price are posted to the price differences accounts.

For statistical purposes, the system calculates the moving average price for materials that are valued at standard price in the material master record. This means that you can spot major differences between the current procurement price and the standard price.

The system calculates the total stock value for materials with the standard price control as follows:

Total value = standard price (per base unit of measure) \* total stock

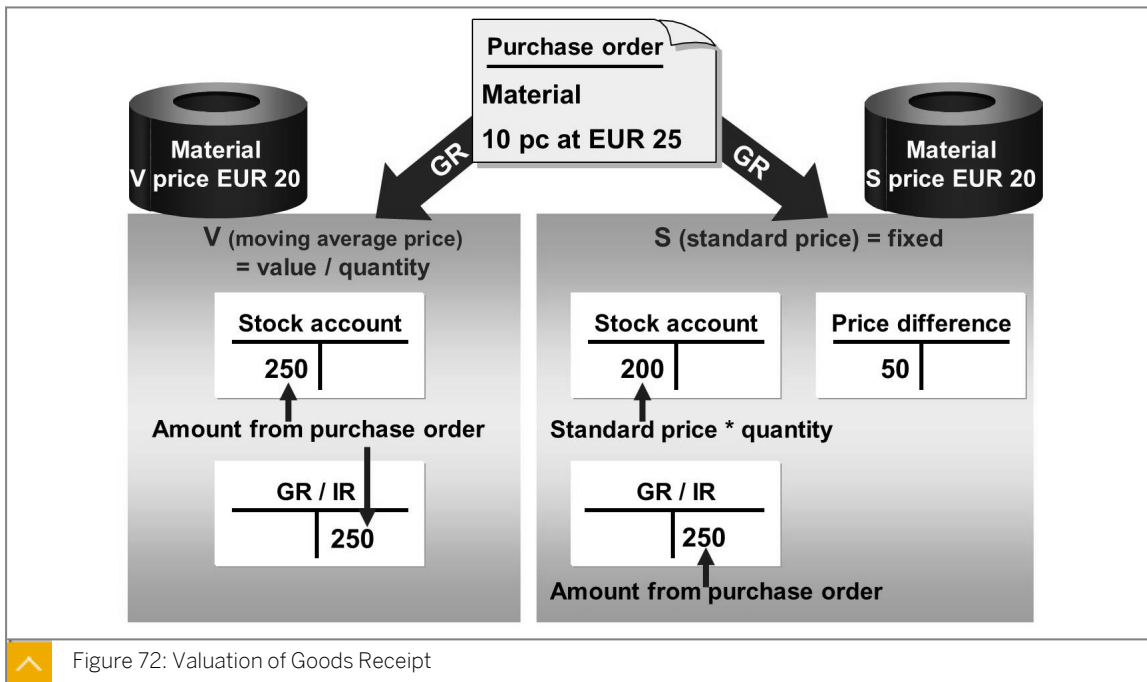
In valuation using the moving average price (price control "V"), the system values goods receipts with the purchase order price and goods issues with the current moving average price.

The system automatically calculates the moving average price for every goods movement as follows:

Total stock value / total stock quantity = moving average price

If there is sufficient stock coverage, differences between the purchase order price and the invoice are posted directly to the relevant stock account, changing the moving average price of the material.

### Valuation of Goods Receipt



Discuss the figure to clarify both material valuation procedures in one example.

The figure clarifies both valuation procedures in a single example.

#### Material - Moving Average Price EUR 20

The goods receipt for a purchase order of ten pieces at EUR 25 is valued with a procurement price of EUR 25. An amount of EUR 250 (ten pieces at EUR 25) is posted to the stock account. The offsetting entry for the same amount is posted to the goods receipt / invoice receipt (GR/IR) clearing account.

#### Material - Standard Price EUR 20

The goods receipt quantity must be valued with the standard price. The result of the goods receipt for the purchase order of ten pieces is an amount of EUR 200 (ten at EUR 20). This amount is posted to the stock account. The difference of EUR 50 from the actual procurement value (ten at EUR 25 = EUR 250) is posted to a price differences expense account. The offsetting entry with an amount of EUR 250 (ten at EUR 25) is posted to the GR/IR clearing account.

#### Material Valuation - Examples



For the following examples, you must decide whether or not to explain the individual figures. The participants could also study the figures themselves. If this lesson is part of SCM500, a detailed system demo and exercise in the next lessons cover these two cases.



### Material Master Record: Valuation Data

	Transaction	Stock	Total value	Moving average price	Standard price
(1)	Opening balance	100	200.00	2.00	2.00

### Financial Accounting: Account Movements

<b>Stock account</b> <hr/> (1) 200	<b>GR/IR clearing account</b> <hr/>	<b>Vendor</b> <hr/>
<b>Income from price differences</b> <hr/>	<b>Expences from price differences</b> <hr/>	

Figure 73: Standard Price (1) - Starting Situation

The figures in this section describe the postings in FI and the updates in the material master record for a simple procurement process, once for the moving average price control and once for the standard price control.

### Standard Price – Goods Receipt



### Material Master Record: Valuation Data

	Transaction	Stock	Total value	Moving average price	Standard price
(1)	Opening balance	100	200.00	2.00	2.00
(2)	Goods receipt for purchase order: 100 at 2.40	200	400.00	2.20	2.00

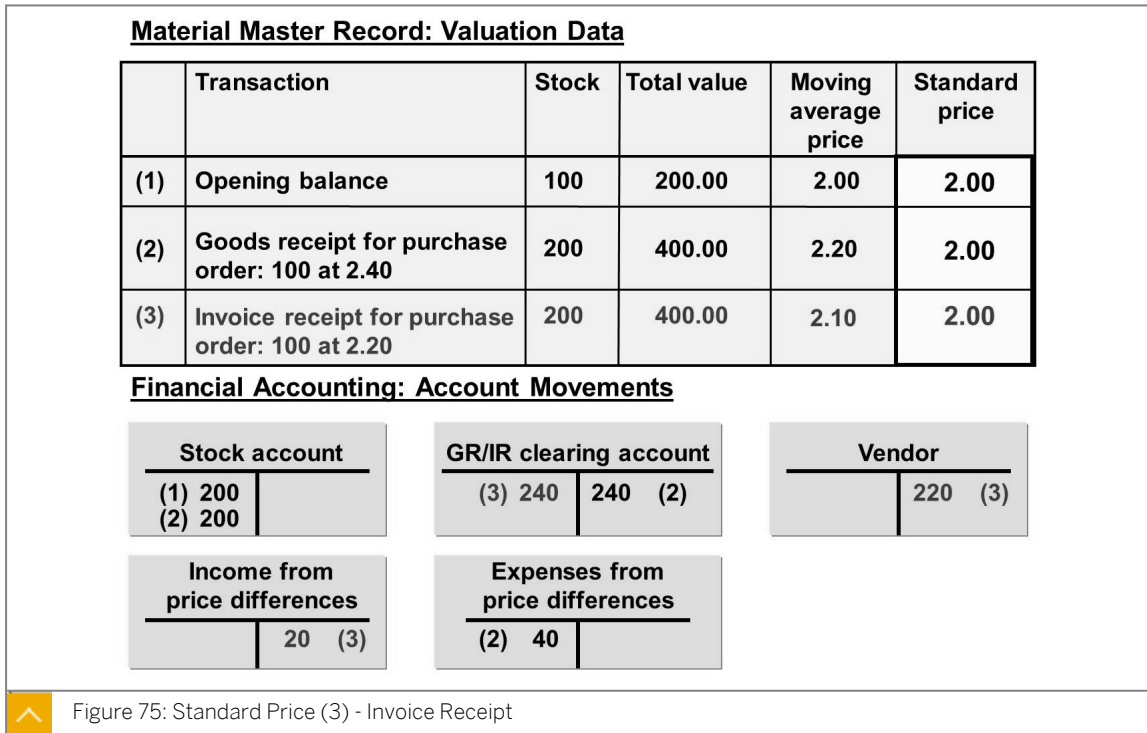
### Financial Accounting: Account Movements

<b>Stock account</b> <hr/> (1) 200 (2) 200	<b>GR/IR clearing account</b> <hr/> 240 (2)	<b>Vendor</b> <hr/>
<b>Income from price differences</b> <hr/>	<b>Expences from price differences</b> <hr/> (2) 40	

Figure 74: Standard Price (2) - Goods Receipt

The opening balance for stock quantity and total value are displayed in the first row. Then, a goods receipt is posted for a purchase order of 100 pieces at EUR 2.40. The process is completed with an invoice receipt (IR) of 100 pieces at EUR 2.20.

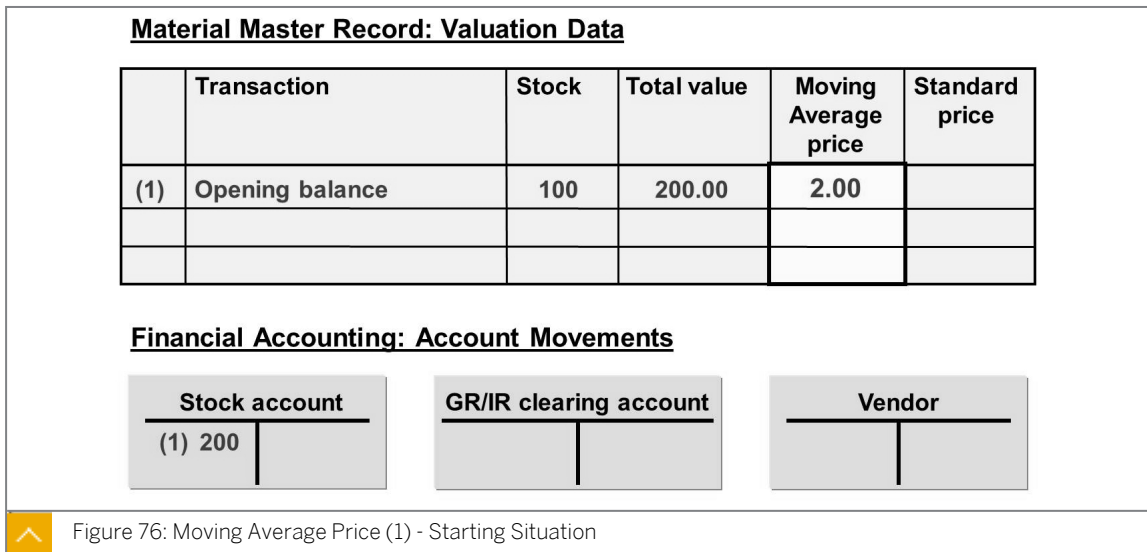
Standard Price - Invoice Receipt



During goods receipt, the system updates the stock value and stock quantity at the standard price. It updates the GR/IR clearing account at the purchase order price. It posts the difference between the purchase order price and standard price to the price difference account.

When the incoming invoice is posted, the GR/IR clearing account is cleared at the order price. The vendor (creditor) account is updated at the invoice price. The incoming invoice posts the difference between the purchase order price and the invoice price to the "Income from price differences" account, but does not change the total stock value.

Moving Average Price (Example)



The figure above shows an example of the starting situation where the price control is "V" (moving average price).

### Moving Average Price - Goods Receipt



<b>Material Master Record: Valuation Data</b>					
	Transaction	Stock	Total value	Moving average price	Standard price
(1)	Opening balance	100	200.00	2.00	
(2)	Goods receipt for purchase order: 100 at 2.40	200	440.00	2.20	

<b>Financial Accounting: Account Movements</b>					
Stock account		GR/IR clearing account		Vendor	
(1)	200				
(2)	240		240 (2)		

Figure 77: Moving Average Price (2) - Goods Receipt

During goods receipt, the system updates the stock value, stock account, and GR/IR clearing account at the purchase order price.

The moving average price is recalculated based on the new stock value as follows:

Moving average price (for each base unit of measure) = total value / total stock

### Moving Average Price - Invoice Receipt



<b>Material Master Record: Valuation Data</b>					
	Transaction	Stock	Total value	Moving average price	Standard price
(1)	Opening balance	100	200.00	2.00	
(2)	Goods receipt for purchase order: 100 at 2.40	200	440.00	2.20	
(3)	Invoice receipt for purchase order: 100 at 2.20	200	420.00	2.10	

<b>Financial Accounting: Account Movements</b>					
Stock account		GR/IR clearing account		Vendor	
(1)	200				
(2)	240	20 (3)			
			(3) 240	240 (2)	
					220 (3)

Figure 78: Moving Average Price (3) - Invoice Receipt

When the incoming invoice is posted, the effect on the system is as follows:

1. The GR/IR is cleared at the purchase order price.
2. The vendor (creditor) account is updated at the invoice price.

3. The difference between the purchase order price and invoice price is posted to the stock account.
4. The stock value is recalculated, if the invoice price is different from the purchase order price.
5. The moving average price is recalculated, if the invoice price is different from the purchase order price.

If the stock quantity in the invoice receipt is less than the invoice quantity, the system posts part of the difference to the "Expenditure/income from price differences" account instead of the stock account.



### FACILITATED DISCUSSION

Which materials need to be valued through the standard price method relevant for valuation? Which materials need to be valued through the moving average price method?

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### How to Display Material Accounting Data

1. On the *SAP Easy Access* menu, choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current (MM03)*.
  2. Choose the *Select View(s)* tab page.
  3. Enter **T-M500A00** in the *Material* field.
  4. On the *Select View(s)* tab page, select *Accounting 1* and choose *Continue*.
  5. In the *Organizational Levels* dialog box, enter **1000** in the *Plant* field.
  6. Choose *Continue*. The *Accounting 1* tab page appears.  
On the *Accounting 1* tab page, you can see the relevant data for material valuation.
- 



### LESSON SUMMARY

You should now be able to:

- Use material valuation





## Posting Goods Receipts for Purchase Orders

### LESSON OVERVIEW

This lesson covers the goods receipt (GR) of ordered goods into the warehouse, as well as the effects of goods receipt on Inventory Management and Financial Accounting (FI). The lesson also covers use of the material document and accounting document, and briefly covers stock types, such as unrestricted-use, quality inspection stock, blocked stock, and transfer postings.



At the end of this lesson, the participants should be able to name the documents created during a goods movement and explain their contents, and they should also be able to recognize the different stock types.

Introduce the stock overview first, as you can use it to analyze the stock situation for a material. Then, discuss the three stock types regarding goods receipt and transfer postings. And finally, discuss documents and postings.

### Business Example

Many of the goods delivered to your company are first posted after receipt into the quality inspection stock. After a successful quality check, the materials can be released. You use a concrete example to test this procedure and analyze the material valuation. For this reason, you require the following knowledge:

- How to display the stock overview
- An understanding of the various stock types
- How to enter a goods receipt in the quality inspection stock
- An understanding of the documents that are created during goods movement posting and their significance
- How to analyze the postings during goods receipt into the warehouse



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Display the stock overview
- Analyze the results of a goods movement

## Stock Overview and Stock Types

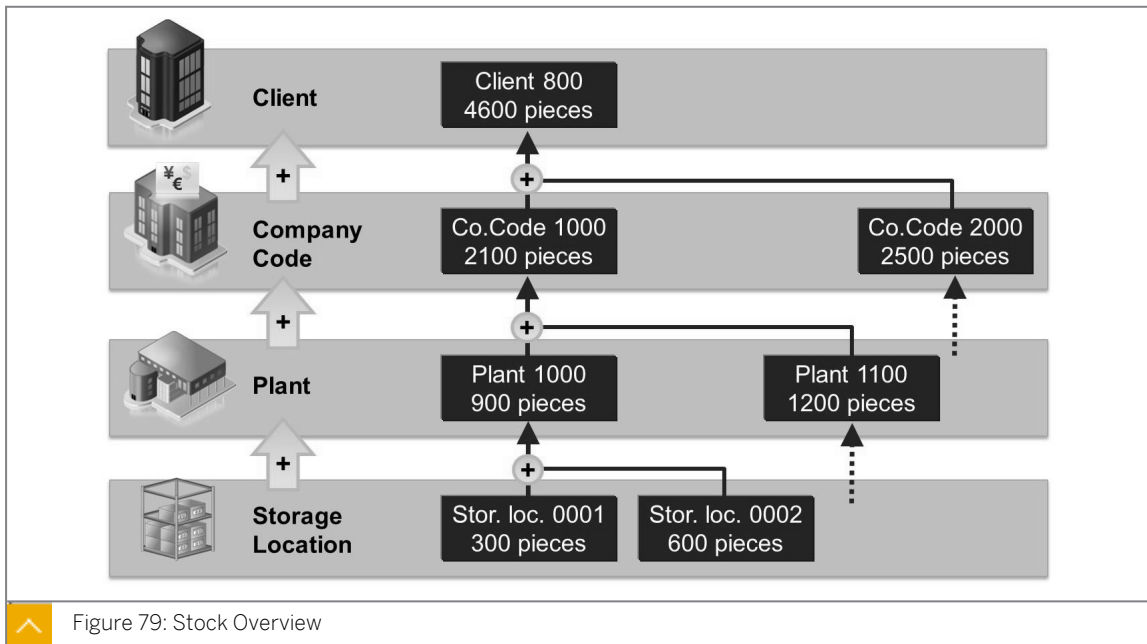


Figure 79: Stock Overview

To simplify Inventory Management, several functions and reports are used that contain detailed information about all the materials and their stock data. The functions and reports implemented in Inventory Management include the stock overview and stock type.

The stock overview is an analysis that delivers information about the stock situation of a material. In the stock overview report, the system displays the stocks of the material for each organizational level. Quantities posted for a particular stock type are totaled for each organizational unit.

You can display the stock overview for batches or valuation type and special stocks (for example, consignment material). You can also display the stock overview for organizational units, including client, company code, plant, and storage location.

To display the stock overview, choose between various display versions that differ in the listing and sequence of the individual stock types. In Customizing for Inventory Management, the system administrator defines which stocks are displayed in each column and the order in which they are displayed.



Explain the differences between the stock types, considering the usability of the material. Explain that for production and sales, stock can only be withdrawn from the unrestricted-use stock.

## Valuated Goods Receipts

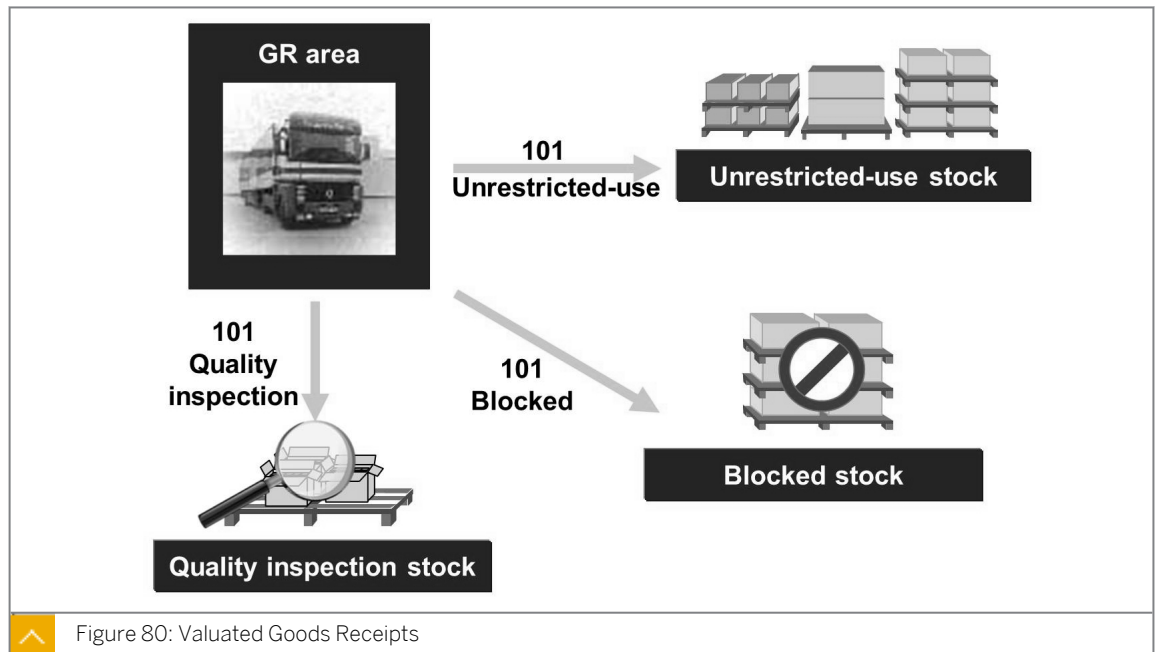


Figure 80: Valuated Goods Receipts

For goods receipts, you decide which stock type a quantity is posted to. The stock type is relevant for determining the stock available in materials planning and is used for withdrawals in Inventory Management.

**You can post a goods receipt for the warehouse into the following stock types:**

- Unrestricted-use stock (no usage restrictions)
- **Quality inspection stock** (available from a materials requirements planning (MRP) perspective, but **no withdrawals are possible for consumption**)
- **Blocked stock** (not usually available from an MRP perspective, and **no withdrawals are possible for consumption**)



Caution:

Do not confuse the stock type blocked stock with the goods receipt-blocked stock.

In the purchase order (PO), you can store a default value for the stock type during goods receipt. You can change this default value when you post the goods receipt as long as you are not using the Quality Management component.

Always use movement type 101 to post goods receipts for a purchase order to valuated stock. In addition, you enter a *stock type* checkbox at item level, which enables you to differentiate between stock types.

**You can post withdrawals for consumption only from unrestricted-use stock.** You can withdraw from one sample, scrap a quantity, or post an inventory difference from quality inspection and blocked stock.

### Transfer Postings Stock to Stock

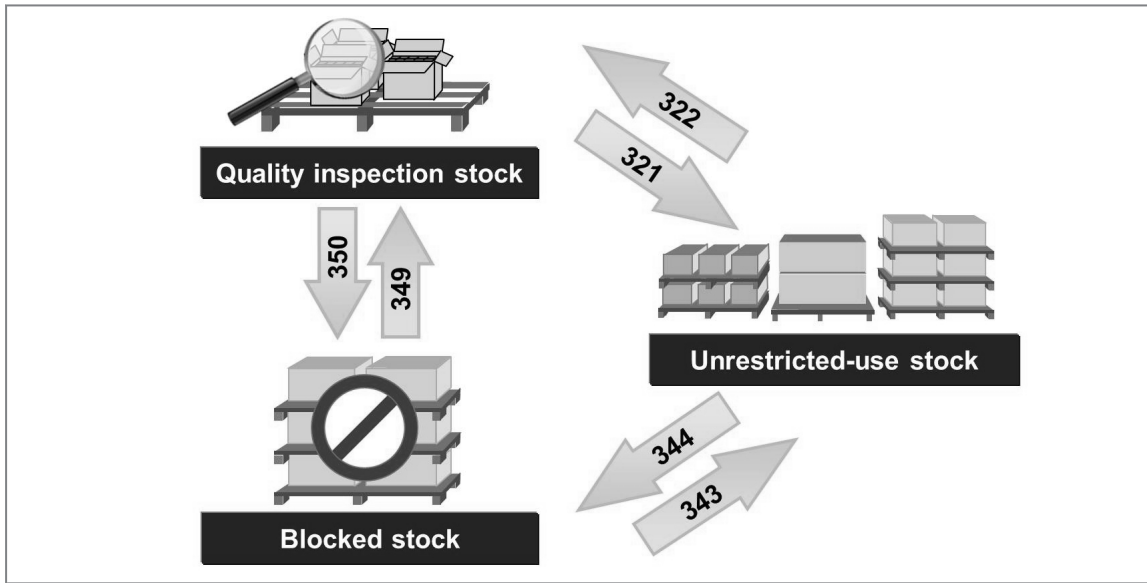


Figure 81: Transfer Postings Stock to Stock

To withdraw goods from blocked or quality inspection stock for consumption, you first have to carry out a transfer posting to unrestricted-use stock. The movement type controls the transfer posting that occurs between stock types. A physical transfer posting between two storage locations may be linked with a stock-to-stock transfer posting.

As for all goods movements, the system also creates a material document during transfer postings to show the transaction in the system. The system generates an accounting document only if the transfer posting is relevant and **stock-to-stock postings are irrelevant for valuation**. In contrast, the system generally links a **material-to-material transfer posting (movement type 309) with a stock value change**, and is therefore relevant for the update in Financial Accounting (FI).



### How to Use the Stock Overview



Introduce the stock overview, and give a short demo to show how the transaction is used.



**Hint:**  
The stock overview display was modernized from SAP R/3 to SAP ERP Central Component. However, the way this functions is essentially the same.

1. Choose *Logistics* → *Materials Management* → *Inventory Management* → *Environment* → *Stock* → *Stock Overview (MMBE)*.
2. Enter the following data:

Field	Value
Material	<b>M-01</b>

Field	Value
Plant	1000 to 3000



Choose  *Execute*.

3. Discuss the stock overview displayed and the navigation as follows:

- List the stocks with different display versions.



Caution:

Point out to participants that until SAP R/3 Enterprise only three stock columns were displayed on the monitor, and that you have to scroll with *Right Columns* or *Left Columns* (  or  ) to display further columns.

- Double-click an organization level to display all stocks in one dialog box.
- Choose *Extras* → *Display Material*.
- Change the material without returning to the selection screen.

## Relevant Documents at Goods Receipts

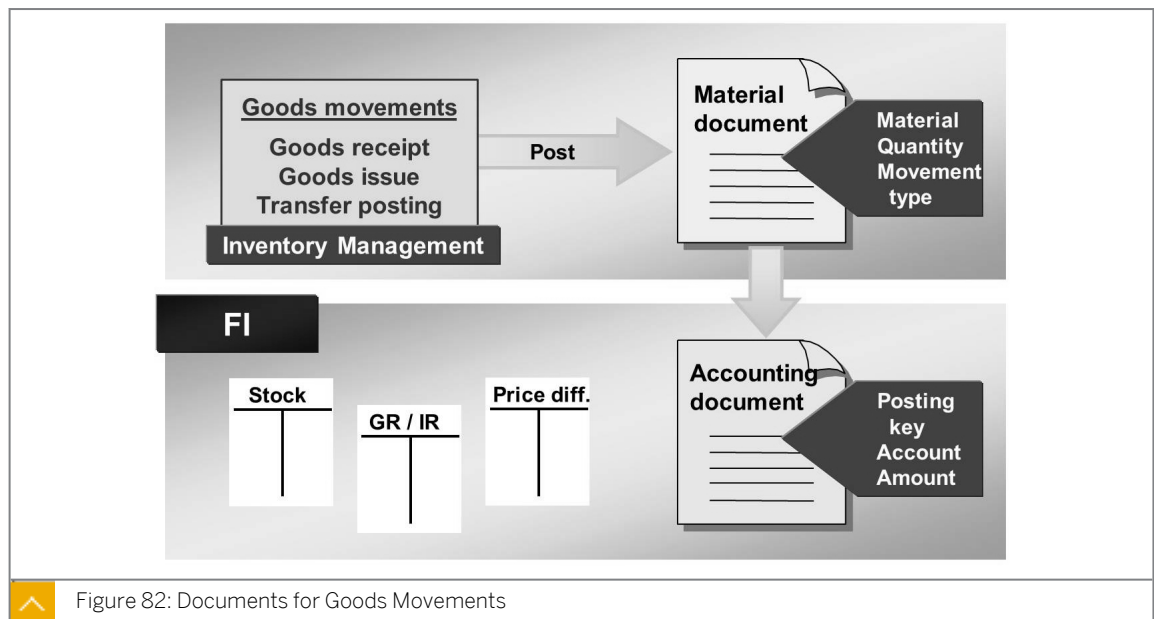


Figure 82: Documents for Goods Movements

In Inventory Management, a material document, which is stored in the system, is generated as proof that a transaction involving stock changes has taken place. This also applies to IT-based Inventory Management.

If the goods movement is relevant to valuation, the system creates at least one accounting document in addition to the material document.

Goods movements (goods receipts, goods issues or transfer postings) are relevant to valuation when your company's accounting department is affected by them. For example, a

goods receipt posting of a raw material usually results in an increase in the stock value of your current assets. If the raw material is only transferred within one plant, no postings are made in FI.

As soon as a goods movement is posted, you cannot change the values of quantity, material, movement type, or organization level. If you want to correct errors, you must create a new document. To reverse the postings of the incorrect document, you must first cancel it.

**Material and Accounting Documents**

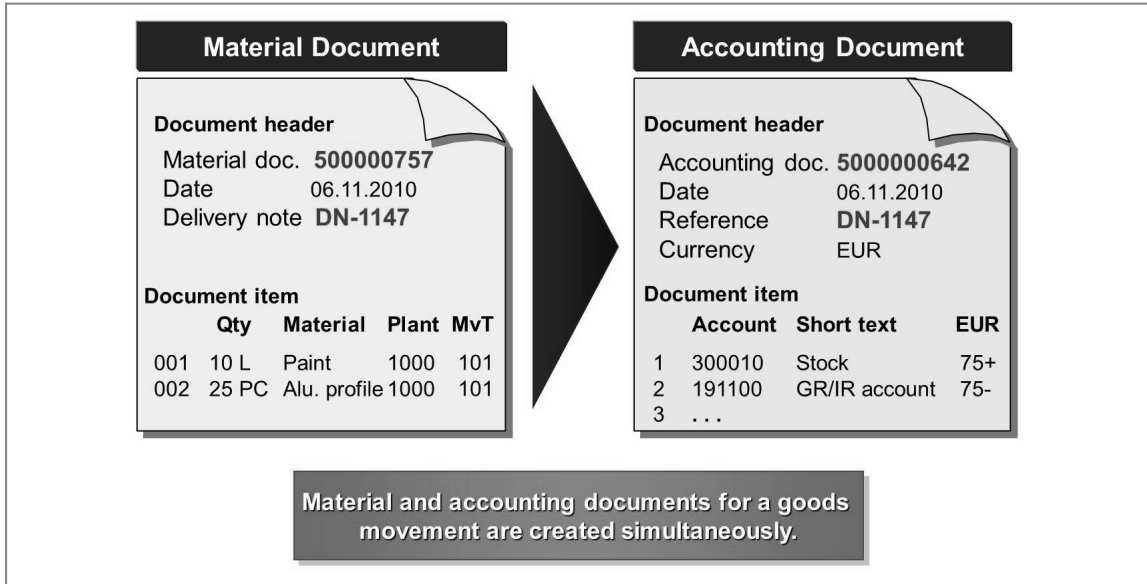


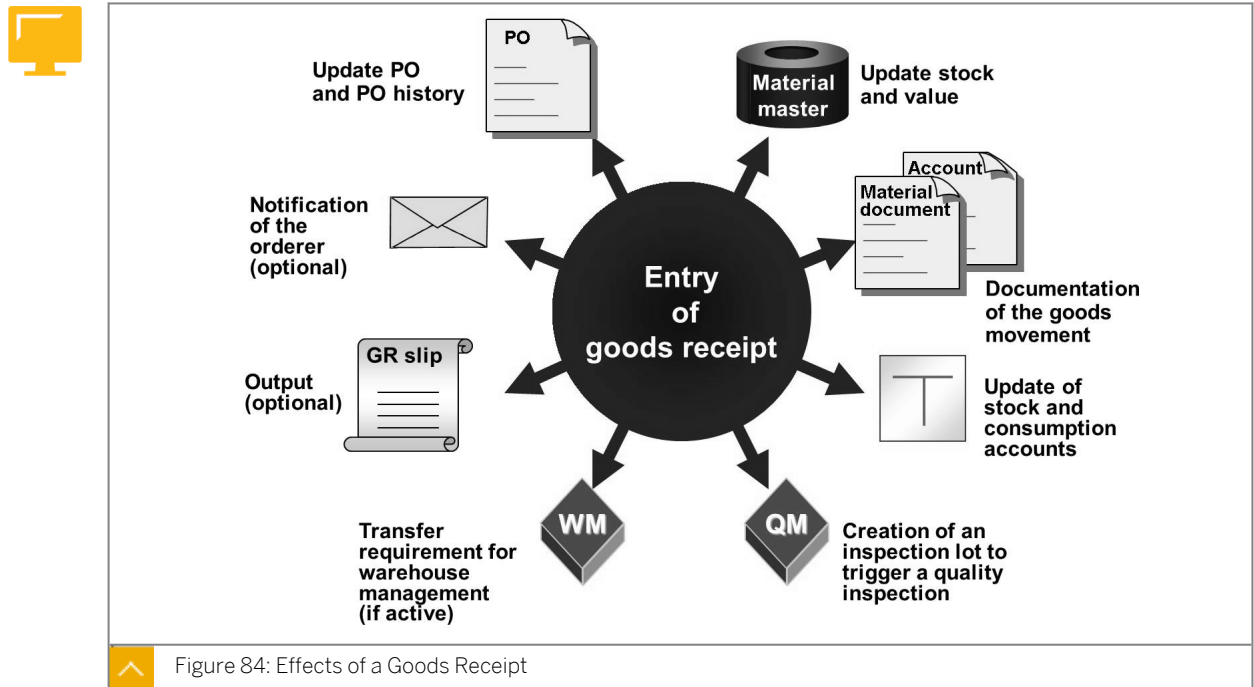
Figure 83: Material and Accounting Documents

The material document consists of a document header and at least one item. The header information includes the posting date and the name of the creator. The information at item level includes the material number, posted quantity, movement type, and plant and storage location.

The accounting document records the effects of material movements on the accounts. The document header contains applicable data, such as the document date, posting date, posting period, and document currency. The general ledger (G/L) account numbers and associated amount posted are recorded at item level.

The material and accounting documents are independent. You can identify the material document by the material document number and year. The system identifies the accounting document by the company code, accounting document number, and fiscal year. The company code referred to in the accounting document posting is taken from the plant in which the goods movement takes place.

## Key Effects of a Goods Receipt



The figure provides an overview of all the key effects of a goods receipt referencing a purchase order.



### How to Post a Goods Receipt



Show FI postings for the goods receipt to the participants so that they can see the differences between valuation using the moving average price and valuation using the standard price. You should record both the data from the material master record (accounting view) and the postings from the accounting document on a flip chart or on an overhead projector slide. You can also look at the last six figures from the "Using Material Valuation" lesson.

End the demo with a simple example of entering a transfer posting with transaction MIGO. Demonstrate the steps listed in the Post Goods Receipt for Purchase Orders exercise.





# Unit 3

## Exercise 13



### Post Goods Receipts for Purchase Orders

#### Business Example

You enter the goods receipts for your purchase order. You can see the effects of the various valuation procedures on how the accounts are updated in FI and how the material valuation prices are updated.

Post a goods receipt.

Effects of a Goods Receipt.

In the exercises given in this section, you should make a note of, compare, and analyze the different data for the material stocks and valuation prices.

Work through the tasks in order, using the following tables:

Table 1: Stock Overview T-M500B## for Plant 1000 (Hamburg)

Task	Open Purchase Order Quantity	Unrestricted Use	Quality Inspection
Task 1 (before GR)	100	0	00
Task 9 (after GR)	0	100	0
Task 11 (after trans. post.)	0	100	0

Table 2: Stock Overview T-M500B## for Plant 1200 (Hamburg)

Task	Open Purchase Order Quantity	Unrestricted Use	Quality Inspection
Task 1 (before GR)	100	0	00
Task 9 (after GR)	0	0	100
Task 11 (after trans. post.)	0	100	0

Table 3: Accounting Data T-M500B##, Plant 1000, Price Control: V (Moving Average Price)

Task	Moving Average Price	Standard Price	Total Stock	Total Value
Task 2 (before GR)	80	0	0 piece	0
Task 4 (after GR)	72	0	100 pieces	7,200

Table 4: Accounting Data T-M500B##, Plant 1200, Price Control: S (Standard Price)

Task	Moving Average Price	Standard Price	Total Stock	Total Value
Task 2 (before GR)	0	80	0 piece	0
Task 6 (after GR)	72	80	100 piece	8,000

### 1. Stock overview

Use display version 50 (version SCM500) to analyze the stock overview for material T-M500B## in plants 1000 and 1200. Note the stocks for the two plants in table 1 (stock overview T-M500B##). Do not leave the stock overview after this.

### 2. Display material master record.

Display the *Accounting 1* tab page and the *Plant stock* tab page for material T-M500B## for plants 1000 and 1200.

Compare the plant stock data with the data from exercise 1.

Use the data from the accounting view to fill tables 2 and 3 for the accounting data for plants 1000 and 1200.

### 3. Enter goods receipt for plant 1000.

The delivery of material T-M500B## from vendor T-K500B## has entered plant 1000. Enter the goods receipt with reference to the purchase order, and post it in the unrestricted-use stock in storage location 0001. Refer to the delivery note for additional required data.

Do not post the goods receipt for the second purchase order item for plant 1200 (Dresden).



Hint:

You can search for the purchase order item, if you miss the purchase order number. Choose (*Find purchase order*). Enter vendor **T-K500B##**, material **T-M500B##**, and plant **1000**.



Delivery note		Rasch Gr.##	
IDES		Daimlerstraße 127	
Hamburg Plant		69134 Heidelberg	
Altersdorferstr. 13		Delivery note no.	LS-B1##
22299 Hamburg		Heidelberg,	[current date]
With reference to your PO no. 45000xxxxx, we hereby deliver the following materials:			
Item	Material number	Description	Quantity/Un
10	T-M500B##	Universal taillight-##, California	100 pc
Best regards,			
Rasch Gr.##			

Figure 85: Delivery Note Number LS-B1##

Material document number: \_\_\_\_\_

4. Display the documents.

Display the material document and accounting document for the goods receipt.

Which accounts are posted with which amounts?

Item	Account	Account Short Text	Amount
1	300000	Inventory – Raw material 1	7200
2	191100	Goods Rcvd or Invoice Rcvd (third party)	7200 (-)

Exit the accounting document, and go directly from the material document to the material master record. Choose the *Accounting 1* view and complete table 2 with the current accounting data for plant 1000.

5. Enter goods receipt for plant 1200.

The delivery of material T-M500B## from vendor T-K500B## has entered plant 1200. Enter the goods receipt with reference to the purchase order, and post it into the quality inspection stock in storage location 0001. Refer to the delivery note for additional required data.



Hint:

Make sure that you either leave the plant field blank or enter plant 1200 after the purchase order number.

Material document number: \_\_\_\_\_



**Delivery note**

Rasch Gr.##  
Daimlerstraße 127  
69134 Heidelberg

IDES  
Dresden Plant  
Pillnitzer Strasse 241  
01069 Dresden

Delivery note no. LS-B2##  
Heidelberg, [current date]

With reference to your PO no. 45000xxxxx, we hereby deliver the following materials:

Item	Material number	Description	Quantity/Un
10	T-M500B##	Universal Taillight-##, California	100 pc

Best regards,  
Rasch Gr.##

^ Figure 86: Delivery Note Number LS-B2##

6. Display the documents.

Display the material document and accounting document for the goods receipt.

Which accounts are updated with which amounts?

Item	Account	Account Short Text	Amount
1	300010	Inventory - Raw material 2	8000
2	191100	Goods Rcvd or Invoice Rcvd (third party)	7200 (-)
3	281000	Income - Price variances	800 (-)

Exit the accounting document and go directly from the material document to the material master record. Choose the accounting view and enter the current accounting data for plant 1200 to table 3.

7. Compare posting results.

Look at tables 2 and 3 and exercises 4 and 6. Why do the accounting documents and the total value of material T-M500B## differ for each plant?

Answer: In plant 1000, the material is valued using the moving average price. Therefore, the stock value increases by the product of the goods receipt quantity and the price of the purchase order item.

The new moving average price is calculated as follows:

Moving average price = total value/total stock

In plant 1200, the material is valued using the standard price. Therefore, the stock value increases by the product of the goods receipt quantity and the standard price in the material master.

The GR/IR clearing account is posted with the amount of the expected liabilities (GR quantity \* purchase order price) for both items.

For the standard price-controlled material, the difference between the result of the calculation (GR quantity \* standard price) and the result of the calculation (GR quantity \* PO price) is posted to a price difference account.

**8.** Display the purchase order.

Check whether the purchase order history was updated for both items.

Can you tell immediately whether the full quantity of your purchase order was delivered?



Hint:

The header details contain the *Status* tab page.

**9.** Stock overview

Use display version 50 to analyze the stock overview for material T-M500B## in plants 1000 and 1200. Note the current stocks in table

Display the material document for the last goods receipt again.

In the material document, where does it tell you that goods were posted to stock in quality inspection?

Where is this information derived from?

Choose the *Delivery* tab page in the *Item Detail* screen area of item 20 in the purchase order. On this tab page, you will see the *Stock Type* field with the entry *Quality inspection*. This default value was copied from the material master record to the purchase order.

In the material master record, you will see the *Post to insp. stock* checkbox on the *Purchasing* tab page. For material T-M500B##, the checkbox is only set for plant 1200.

**10.** Transfer material to unrestricted-use stock.

The quality check for plant 1200 made a positive usage decision for the 100 pieces of material T-M500B##. Post the material from quality inspection stock to unrestricted-use stock.

After being released, the material stays in storage location 0001.

Which movement type is necessary?

Movement type: \_\_\_\_\_

Material document number: \_\_\_\_\_

**11.** Display the document for transfer posting.

Display the material document.

Why is there no accounting document?

Check whether the stock overview was correctly updated, and supplement the data in table 1. Use display version 50 in the stock overview.



## Post Goods Receipts for Purchase Orders

### Business Example

You enter the goods receipts for your purchase order. You can see the effects of the various valuation procedures on how the accounts are updated in FI and how the material valuation prices are updated.

Post a goods receipt.

Effects of a Goods Receipt.

In the exercises given in this section, you should make a note of, compare, and analyze the different data for the material stocks and valuation prices.

Work through the tasks in order, using the following tables:

Table 1: Stock Overview T-M500B## for Plant 1000 (Hamburg)

Task	Open Purchase Order Quantity	Unrestricted Use	Quality Inspection
Task 1 (before GR)	100	0	00
Task 9 (after GR)	0	100	0
Task 11 (after trans. post.)	0	100	0

Table 2: Stock Overview T-M500B## for Plant 1200 (Hamburg)

Task	Open Purchase Order Quantity	Unrestricted Use	Quality Inspection
Task 1 (before GR)	100	0	00
Task 9 (after GR)	0	0	100
Task 11 (after trans. post.)	0	100	0

Table 3: Accounting Data T-M500B##, Plant 1000, Price Control: V (Moving Average Price)

Task	Moving Average Price	Standard Price	Total Stock	Total Value
Task 2 (before GR)	80	0	0 piece	0
Task 4 (after GR)	72	0	100 pieces	7,200

Table 4: Accounting Data T-M500B##, Plant 1200, Price Control: S (Standard Price)

Task	Moving Average Price	Standard Price	Total Stock	Total Value
Task 2 (before GR)	0	80	0 piece	0
Task 6 (after GR)	72	80	100 piece	8,000

### 1. Stock overview

Use display version 50 (version SCM500) to analyze the stock overview for material T-M500B## in plants 1000 and 1200. Note the stocks for the two plants in table 1 (stock overview T-M500B##). Do not leave the stock overview after this.

a) Choose *Logistics* → *Materials Management* → *Inventory Management* → *Environment* → *Stock* → *Stock Overview* (MMBE).

b) Enter the following data:

Field	Value
<i>Material</i>	<b>T-M500B##</b>
<i>Plant</i>	<b>1000 to 1200</b>
<i>Display version</i>	50 (version SCM500)

c) Choose  *Execute*.

d) To display further stocks in the stock overview, scroll to the right in the list, or double-click the plant row.

e) Note the unrestricted-use stock, quality inspection stock, and on-order stock in table 1, line for task 1 (before GR).

### 2. Display material master record.

Display the *Accounting 1* tab page and the *Plant stock* tab page for material T-M500B## for plants 1000 and 1200.

Compare the plant stock data with the data from exercise 1.

Use the data from the accounting view to fill tables 2 and 3 for the accounting data for plants 1000 and 1200.

- a) To branch from the stock overview to the material master record, place the cursor on the line for plant 1000.
  - b) Choose *Extras* → *Display Material*.
  - c) In the material master record, choose the *Accounting 1* tab page and note the price control, moving average price, total stock, and total value in table 2 (accounting data T-M500B##, plant 1000).
  - d) Choose the *Plant stock* tab page and compare the data with your entries for plant 1000 in table 1.
  - e) Choose *Edit* → *Organizational Levels*, enter **1200** in the *Plant* field in the *Organizational Levels* dialog box, and confirm your entry.
  - f) Compare the data on the *Plant stock* tab page for plant 1200 with your entries in table 1.
  - g) Choose the *Accounting 1* tab page and note the price control, standard price, total stock, and total value in table 3 (accounting data T-M500B##, plant 1200).
3. Enter goods receipt for plant 1000.

The delivery of material T-M500B## from vendor T-K500B## has entered plant 1000. Enter the goods receipt with reference to the purchase order, and post it in the unrestricted-use stock in storage location 0001. Refer to the delivery note for additional required data.

Do not post the goods receipt for the second purchase order item for plant 1200 (Dresden).



Hint:

You can search for the purchase order item, if you miss the purchase order number. Choose (*Find purchase order*). Enter vendor **T-K500B##**, material **T-M500B##**, and plant **1000**.





<b>Delivery note</b>		Rasch Gr.##	
IDES		Daimlerstraße 127	
Hamburg Plant		69134 Heidelberg	
Altersdorferstr. 13	Delivery note no.	LS-B1##	
22299 Hamburg	Heidelberg,	[current date]	
With reference to your PO no. 45000xxxxx, we hereby deliver the following materials:			
Item	Material number	Description	Quantity/Un
10	T-M500B##	Universal taillight-##, California	100 pc
Best regards,			
Rasch Gr.##			

Figure 85: Delivery Note Number LS-B1##

Material document number: \_\_\_\_\_

- a) Choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Receipt* → *For Purchase Order* → *PO Number Known (MIGO)*.
- b) Choose *Goods Receipt* as the transaction and *Purchase Order* as the reference.
- c) Enter your purchase order number.
- d) In the *Header Data* screen area, choose the *General* tab page and enter **LS-B1##** in the *Delivery Note* field.
- e) Enter **0001** in the *Storage Location* field and select the *Item OK* checkbox.

**Hint:**  
If you have opened the detail data for the item, you can only enter the data for this item in the *Detail Data* screen area. The *Item OK* checkbox is on the *Detail Data* tab page, and the *Storage Location* field is on the *Where* tab page.

- f) Choose the *Post* pushbutton and make a note of the material document number. Do not exit transaction MIGO when this task is finished.

4. Display the documents.




Display the material document and accounting document for the goods receipt.

Which accounts are posted with which amounts?

Item	Account	Account Short Text	Amount
1	300000	Inventory – Raw material 1	7200

Item	Account	Account Short Text	Amount
2	191100	Goods Rcvd or Invoice Rcvd (third party)	7200 (-)

Exit the accounting document, and go directly from the material document to the material master record. Choose the *Accounting 1* view and complete table 2 with the current accounting data for plant 1000.

- a) Choose *Display* as the transaction and *Material Document* as the reference.
- b) The default proposal is the number of the material document that you last edited. Choose  *Execute*.
- c) In the *Header Data* screen area, choose the *Doc. info* tab page and choose the  *FI documents* pushbutton to branch to the accounting document.
- d) In the *List of documents in Accounting* dialog box, select the *Accounting document* and choose the  *Separate* pushbutton. Note the accounting document data in the table.
- e) Go back to display the material document again.
- f) To branch to the material master record, double-click the *Mat. Short Text* in the *Item Overview* screen area.
- g) Choose the *Accounting 1* tab page and note the moving average price, total stock, and total value in table 2 (accounting data T-M500B##, plant 1000).
- h) Go back to display the material document again. Do not exit transaction MIGO when task is finished.

5. Enter goods receipt for plant 1200.

The delivery of material T-M500B## from vendor T-K500B## has entered plant 1200. Enter the goods receipt with reference to the purchase order, and post it into the quality inspection stock in storage location 0001. Refer to the delivery note for additional required data.



Hint:

Make sure that you either leave the plant field blank or enter plant 1200 after the purchase order number.

Material document number: \_\_\_\_\_



Delivery note		Rasch Gr.##	
IDES		Daimlerstraße 127	
Dresden Plant		69134 Heidelberg	
Pillnitzer Strasse 241		Delivery note no.	LS-B2##
01069 Dresden		Heidelberg,	[current date]
With reference to your PO no. 45000xxxxx, we hereby deliver the following materials:			
Item	Material number	Description	Quantity/Un
10	T-M500B##	Universal Taillight-##, California	100 pc
Best regards,			
Rasch Gr.##			

Figure 86: Delivery Note Number LS-B2##

- a) Choose *Goods Receipt* as the transaction and *Purchase Order* as the reference.
- b) Enter the purchase order number or double-click the purchase order number in the overview tree.



Hint:

To search for the purchase order item, choose *Search for PO* and enter vendor **T-K500B##**, material **T-M500B##**, and plant **1200**.

- c) In the *Header Data* screen area, choose the *General* tab page and enter **LS-B2##** in the *Delivery Note* field.
- d) Enter **0001** in the *Storage Location* field and select the *Item OK* checkbox.






Hint:

If you have opened the detail data for the item, you can only enter the data for this item in the *Detail Data* screen area. The *Item OK* checkbox is on the *Detail Data* tab page, and the *Storage Location* field is on the *Where* tab page.

- e) Choose the *Post* pushbutton and make a note of the material document number. Do not exit transaction **MIGO** when this task is finished.
6. Display the documents.  
Display the material document and accounting document for the goods receipt.  
Which accounts are updated with which amounts?

Item	Account	Account Short Text	Amount
1	300010	Inventory - Raw material 2	8000
2	191100	Goods Rcvd or Invoice Rcvd (third party)	7200 (-)
3	281000	Income - Price variances	800 (-)

Exit the accounting document and go directly from the material document to the material master record. Choose the accounting view and enter the current accounting data for plant 1200 to table 3.

- a) Choose *Display* as the transaction and *Material Document* as the reference.
- b) The default proposal is the number of the material document that you last edited. Choose  *Execute*.
- c) In the *Header Data* screen area, choose the *Doc. info* tab page and choose the  *FI documents* pushbutton to branch to the accounting document.
- d) In the *List of documents in Accounting* dialog box, select the *Accounting document* and choose the  *Separate* pushbutton. Note the accounting document data in the table.
- e) Go back to display the material document again.
- f) To branch to the material master record, double-click the *Mat. Short Text* in the *Item Overview* screen area.
- g) Choose the *Accounting 1* tab page and note the standard price, total stock, and total value in table 3 (accounting data T-M500B##, plant 1200).
- h) Go back to display the material document again.  
Do not leave transaction MIGO when this task is finished.

## 7. Compare posting results.

Look at tables 2 and 3 and exercises 4 and 6. Why do the accounting documents and the total value of material T-M500B## differ for each plant?

Answer: In plant 1000, the material is valued using the moving average price. Therefore, the stock value increases by the product of the goods receipt quantity and the price of the purchase order item.

The new moving average price is calculated as follows:

Moving average price = total value/total stock

In plant 1200, the material is valued using the standard price. Therefore, the stock value increases by the product of the goods receipt quantity and the standard price in the material master.

The GR/IR clearing account is posted with the amount of the expected liabilities (GR quantity \* purchase order price) for both items.

For the standard price-controlled material, the difference between the result of the calculation (GR quantity \* standard price) and the result of the calculation (GR quantity \* PO price) is posted to a price difference account.

## 8. Display the purchase order.

Check whether the purchase order history was updated for both items.

Can you tell immediately whether the full quantity of your purchase order was delivered?



Hint:

The header details contain the *Status* tab page.

a) To branch from the material document to the purchase order, choose the *Purchase Order Data* tab page in the *Item Detail* screen area.

b) To display the purchase order, double-click the purchase order number.

c) Choose the *Purchase Order History* tab page in the *Item Detail* screen area of the purchase order item.

The purchase order history was correctly updated for both goods receipts. You will receive information about the transaction (goods receipt) with the relevant material document, quantity, and value of the posting.

d) To check whether your purchase order is complete, choose the *Status* tab page in the *Header data* screen area. The status for the purchase order reads *Delivered*.

## 9. Stock overview

Use display version 50 to analyze the stock overview for material T-M500B## in plants 1000 and 1200. Note the current stocks in table

Display the material document for the last goods receipt again.

In the material document, where does it tell you that goods were posted to stock in quality inspection?

Where is this information derived from?

a) Choose *Logistics* → *Materials Management* → *Inventory Management* → *Environment* → *Stock* → *Stock Overview* (MMBE).

b) Enter the following data:

Field	Value
<i>Material</i>	<b>T-M500B##</b>
<i>Plant</i>	<b>1000 to 1200</b>
<i>Display version</i>	50 (version SCM500)


c) Choose  *Execute*.

d) Note the unrestricted-use stock, quality inspection stock, and on-order stock in table 1, line for task 9 (after GR).

e) Open a second session with *System* → *Create Session*.

f) Choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Movement* (MIGO).

g) Choose *Display* as the transaction and *Material Document* as the reference.

- h) The default proposal is the number of the material document that you last edited.  
Choose  *Execute*, and choose the *Where* tab page in the *Item Detail* screen area. On this tab page, you will see the *Stock Type* field with the entry *Quality inspection*. This value was copied from the purchase order.
- i) In the *Item Detail* screen area, choose the *Purchase Order Data* tab page and double-click number 20 in the *Purchase Order* field.

Choose the *Delivery* tab page in the *Item Detail* screen area of item 20 in the purchase order. On this tab page, you will see the *Stock Type* field with the entry *Quality inspection*. This default value was copied from the material master record to the purchase order. In the material master record, you will see the *Post to insp. stock* checkbox on the *Purchasing* tab page. For material T-M500B##, the checkbox is only set for plant 1200.

**10.** Transfer material to unrestricted-use stock.

The quality check for plant 1200 made a positive usage decision for the 100 pieces of material T-M500B##. Post the material from quality inspection stock to unrestricted-use stock.

After being released, the material stays in storage location 0001.

Which movement type is necessary?

Movement type: \_\_\_\_\_

Material document number: \_\_\_\_\_

- a) Choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Movement (MIGO)*.
- b) Choose *Transfer Posting* as the transaction and *Other* as the reference.
- c) Enter **321** in the *Movement Type* field and choose *Enter*.
- d) On the *Transfer Posting* tab page, enter the following data:

Field	Value
<i>Material</i>	<b>T-M500B##</b>
<i>Plant</i>	<b>1200</b>
<i>Stor. Loc.</i>	<b>0001</b>
<i>Qty in UnE</i>	<b>100</b>

Confirm your entry.


- e) Choose the *Post* pushbutton and make a note of the material document number.


**11.** Display the document for transfer posting.

Display the material document.

Why is there no accounting document?

Check whether the stock overview was correctly updated, and supplement the data in table 1. Use display version 50 in the stock overview.

- a) Choose *Display* as the transaction and *Material Document* as the reference.
- b) The default proposal is the number of the material document that you last edited.  
Choose  *Execute*.

- c) In the *Header Data* screen area, choose the *Doc. info* tab page, and then choose the  *FI documents* pushbutton.


The system outputs the message *No subsequent document found in accounting*.

During the transfer posting, no accounting document was created because this is a transfer posting within a valuation area (the valuation area is the plant). Quality inspection stock is already a part of the plant's valuated stock.

- d) To call the stock overview, choose *Logistics* → *Materials Management* → *Inventory Management* → *Environment* → *Stock* → *Stock Overview* (MMBE).

- e) Enter the following data:

Field	Value
<i>Material</i>	<b>T-M500B##</b>
<i>Plant</i>	<b>1000 to 1200</b>
<i>Display version</i>	<i>50</i>

- f) Choose  *Execute*.
- g) Note the unrestricted-use stock, the quality inspection stock, and the on-order stock in table 1, line for task 11 (after trans.post.).



### **LESSON SUMMARY**

You should now be able to:

- Display the stock overview
- Analyze the results of a goods movement





## Entering Invoices with Reference to Purchase Orders

### LESSON OVERVIEW

This lesson deals with delivery costs in invoice verification, and explains the distinction between planned and unplanned delivery costs.



Show and discuss the function of Logistics Invoice Verification. You should pay particular attention to the entry of planned and unplanned delivery costs and the documents generated at the time of posting.

### Business Example

When you receive an invoice from your company, you enter it in the system with reference to the relevant purchase order, making it possible for the materials, quantities, and prices shown in the invoice to be checked for accuracy. However, unplanned delivery costs have to be considered. As an employee in invoice verification, you need to be informed about the data entries for unplanned costs and the subsequent postings. For this reason, you require the following knowledge:

- How to enter an invoice with unplanned delivery costs in Logistics Invoice Verification (LIV)
- How to display the accounting document for an invoice
- An understanding of the postings in an invoice



### LESSON OBJECTIVES

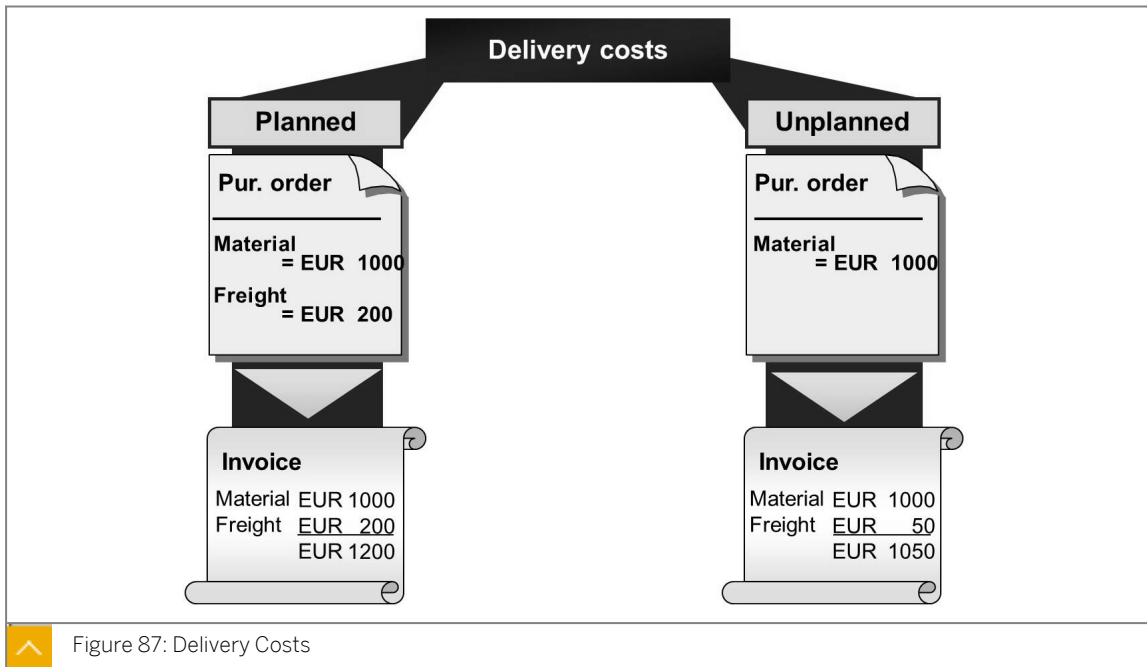
After completing this lesson, you will be able to:

- Explain the postings for a procurement process with delivery costs
- Analyze the results of an invoice entry

### Delivery Costs



Discuss the subject of delivery costs (incidental costs of procurement). Explain the difference between planned and unplanned delivery costs.



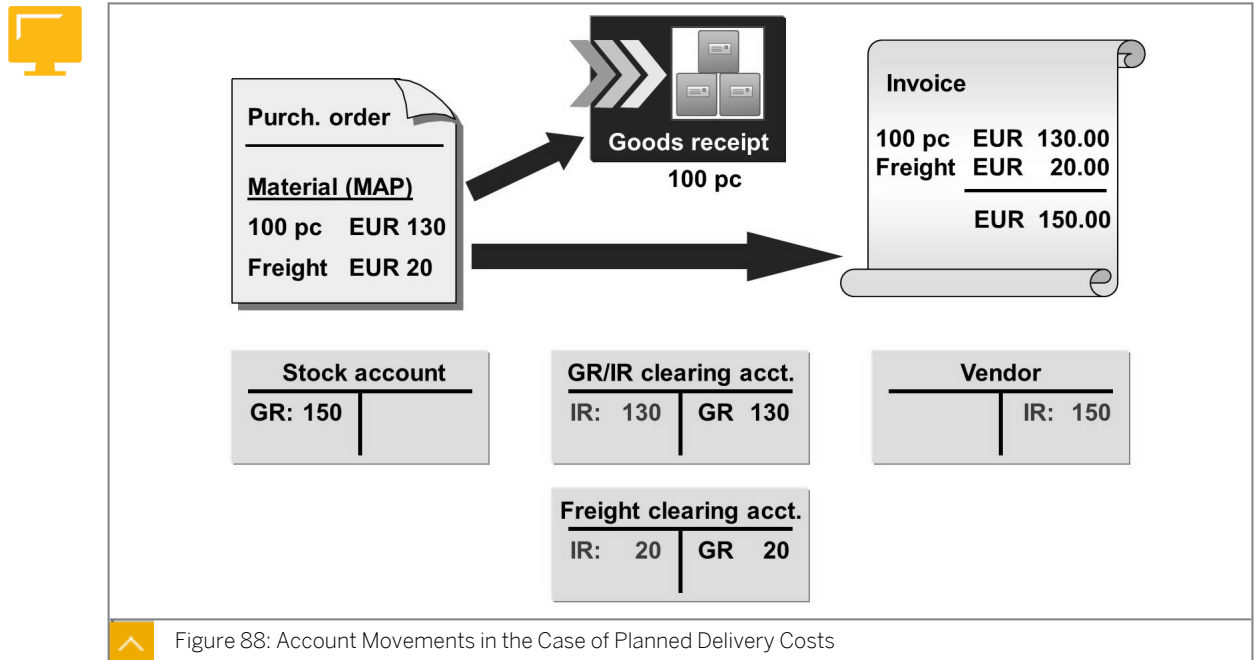
Planned delivery costs are costs that are agreed upon before delivery with the vendor, freight forwarder, or customs office. These costs are recorded using separate condition types when the purchase order is created. When you post the goods receipt (GR), the system simultaneously makes postings to special clearing accounts such as the freight clearing account. These entries are then cleared when the incoming invoice is posted. The advantage of planned delivery costs is that the system includes them in the valuation of the material at the time of goods receipt (or, in the case of purchase orders with account assignment, the costs can be charged to the account assignment object).

Unplanned delivery costs are costs that are not known at the time of ordering, and are not entered until the system posts an incoming invoice. If necessary, the system corrects the material valuation, which is carried out at the time of the goods receipt. When the delivery costs invoiced differ from those planned, the system carries out only the subsequent debit process at the time of invoice receipt.



The postings for planned and unplanned delivery costs at the time of goods and invoice receipts are illustrated using simple examples. In both cases, the starting point is a purchase order for 100 pieces at EUR 1.30/pc. In the first case, planned freight costs amounting to EUR 20 have to be taken into account. In the figures, the postings for a material valued according to the moving average price procedure are shown. To simplify the postings, it is assumed that no tax is payable.

## Planned Delivery Costs



Explain the postings for a procurement process with planned delivery costs.

**The description of moving average price material and standard price material regarding planned delivery costs is as follows:**

- Moving average price material

When you post a goods receipt, the system values it at total procurement cost (that is, EUR 130 plus EUR 20 for freight). A posting of EUR 150 is thus made to the stock account. The offsetting entry is divided into EUR 130 to the goods receipt/invoice receipt (GR/IR) clearing account and EUR 20 to the freight clearing account.

The system clears the clearing accounts when you post the incoming invoice. The system posts an offsetting entry for the entire invoice amount of EUR 150 to the vendor (creditor) account.

- Standard price material

When you post a goods receipt, the system values the stock with the product of quantity multiplied by the standard price. Any difference in comparison to the total procurement cost of EUR 150 is posted to a price difference account. As in the case of the moving average price material, the offsetting entry is divided into EUR 130 to the GR/IR clearing account and EUR 20 to the freight clearing account.

The system clears the clearing accounts when you post the incoming invoice. The system posts an offsetting entry for the entire invoice amount of EUR 150 to the vendor (creditor) account.

### Unplanned Delivery Costs

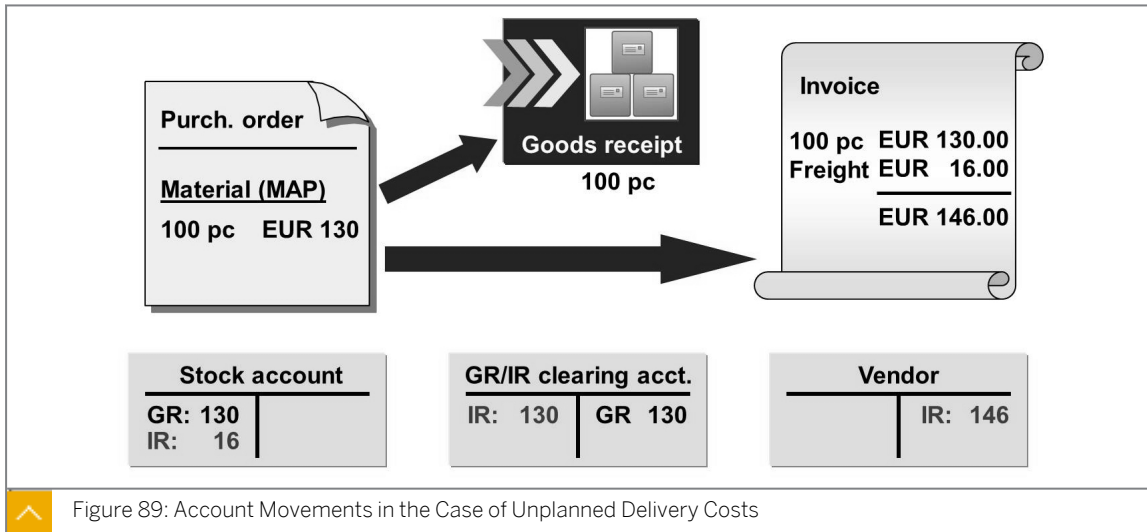


Figure 89: Account Movements in the Case of Unplanned Delivery Costs



Explain the postings for a procurement process with unplanned delivery costs.

**The description of moving average price material and standard price material regarding unplanned delivery costs is as follows:**

- Moving average price material

When you post a goods receipt, the system values the stock at EUR 130. The system posts an offsetting entry to the GR/IR clearing account.

When you post the incoming invoice, the system clears the GR/IR clearing account at the order price. The resulting difference between the order and invoice price of EUR 16 due to the unplanned costs is posted to the stock account. As a result, the total value of the stock changes, while the total quantity remains the same. In turn, this causes the moving average price to be determined again.

If the stock quantity is less than the invoice quantity at the time of invoice entry, the system posts part of the difference to a price difference account instead of the stock account.

The system updates the vendor (creditor) account at the invoice price.

- Standard price material

When you post a goods receipt, the system values the stock with the product of quantity multiplied by the standard price. Any difference that occurs in comparison to the procurement cost of EUR 130 is posted to a price difference account. The offsetting entry for EUR 130 is posted to the GR/IR clearing account.

When you post the incoming invoice, the system clears GR/IR clearing account at the order price. The resulting difference between the order and invoice price of EUR 16 due to the unplanned costs is posted to a price difference account.



### How to Enter Planned Delivery Costs

Entry of delivery costs in the purchase order and the resulting postings at the time of goods receipt.

1. Create a purchase order with delivery costs.
  - a) Create a purchase order with the following data (transaction ME21N):

Field	Value
Vendor	T-K500A00
Purch. Org.	1000
Purch. Group	T00
Company Code	1000
Material	T-M510Z01
PO Quantity	100
Net Price	1.30
Plnt	1100
Stor. Location	0001

- b) Choose the *Conditions* tab page in the *Item Detail* area and enter an additional condition type *FRB1 Freight (Value)* with a value of **20**.
  - c) Save your purchase order and make a note of the number.

2. Enter a goods receipt against the purchase order.  
Enter a goods receipt with reference to the purchase order from step 1 (transaction MIGO). Adopt the entire quantity of 100 pieces.
3. Display the document for the goods receipt.  
Display the material document and accounting document for the goods receipt from step 2. Explain the postings.
4. Enter an invoice against the purchase order.  
Enter an invoice with the following data:

Field	Value
Invoice date	<Today's date>
Amount	165
Tax Amount	15
Tax code	1T1I (Input tax 10%)
Purchase Order/Scheduling Agreement	<purchase order number from step 1>

To select the planned delivery costs, choose *Goods or service items + planned delivery costs* as the *Item Type*.

Simulate and discuss the postings. Post your invoice.



### How to Enter Unplanned Delivery Costs




Hint:

As an alternative or additional demo, you can show the exercise (group number ## = 00). You can carry out this demo if you have created the purchase order, request for quotations, and purchase requisitions that have been created earlier. A prerequisite for this demo is the prior performance of the demos from the "Handling Requests for Quotations and Quotation Processes", "Creating Purchase Orders with Reference", and "Posting Goods Receipts for Purchase Orders" lessons.

Entry of unplanned delivery costs in the invoice verification and resulting postings.

1. Create a purchase order with the following data (transaction **ME21N**):

Field	Value
Vendor	<b>T-K500A##</b>
Purch. Org.	<b>1000</b>
Purch. Group	<b>T00</b>
Company Code	<b>1000</b>
Material	<b>T-M510Z01</b>
PO Quantity	<b>100</b>
Net Price	<b>1.30</b>
Plnt	<b>1100</b>
Stor. Location	<b>0001</b>

- a) Choose the *Conditions* tab page in the *Item Detail* area and delete condition type *FRB1 Freight (value)*.
  - b) To delete the entry, select the relevant line and choose  *Delete line*.
  - c) Save your purchase order and make a note of the number.
2. Enter a goods receipt against the purchase order.  
Enter a goods receipt with reference to the purchase order from step 1 (transaction **MIGO**). Adopt the entire quantity of 100 pieces.
  3. Display the accounting document for the goods receipt.  
Display the material document and the accounting document for the goods receipt from step 2. Explain the postings.
  4. Enter an invoice against the purchase order.

Enter an invoice with the following data:

Field	Value
Invoice date	<Today's date>
Amount	160, 60
Tax Amount	14, 60
Tax code	1T 11 (Input tax 10%)
Purchase Order/Scheduling Agreement	<purchase order number from step 1>

- To enter the unplanned delivery costs, choose the *Details* tab page and enter **16** in the *Unpl. Del. Csts* field.
- Simulate and discuss the postings.
- Post your invoice.



Note:

Point out that you can use Customizing to specify whether the unplanned delivery costs are to be automatically distributed among the invoice items, or always posted to a special general ledger (G/L) account. In the training system, automatic distribution among the invoice items is active.

## Documents at the Time of Invoice Receipt

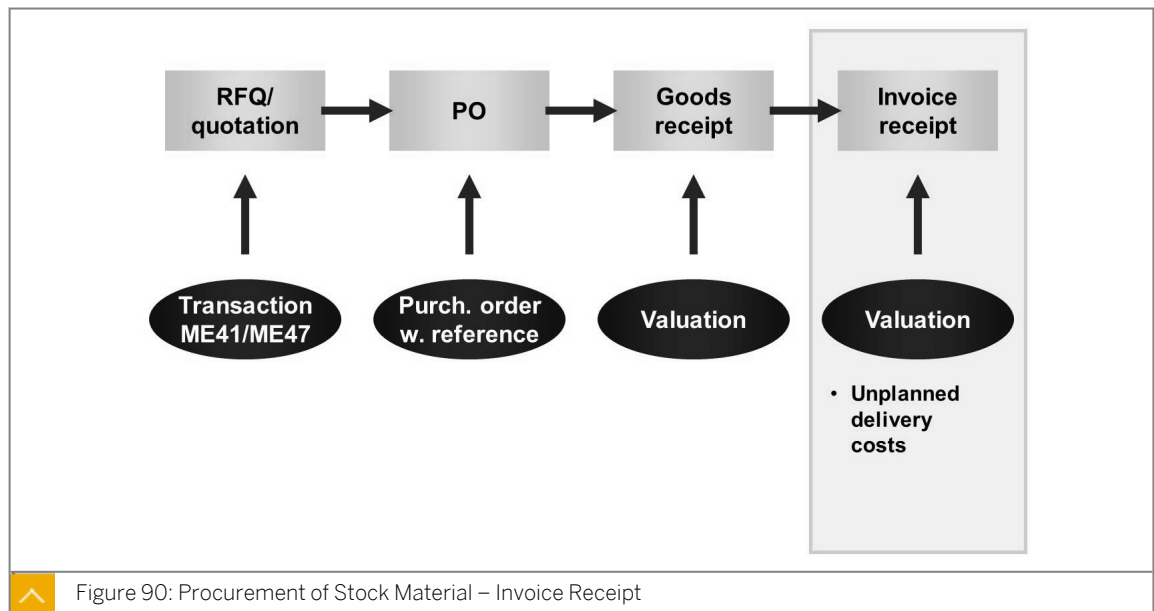


Figure 90: Procurement of Stock Material – Invoice Receipt

After the receipt of the ordered material has been posted, you have to enter the invoice to conclude this process.



Discuss the documents, namely the invoice document and accounting document that are generated when an invoice is posted. Show the analogy to the documents in Inventory Management.

When you enter an invoice using Logistics Invoice Verification, a separate Financial Accounting (FI) document is generated in addition to the invoice document in Materials Management (MM). In this way, when the invoice is posted, payment information is forwarded to FI and various accounts are updated. The system automatically determines which amounts are to be posted to which accounts.



**Note:**  
The accounting document can also be processed further by distributed or external systems.

**Documents in Invoice Verification**

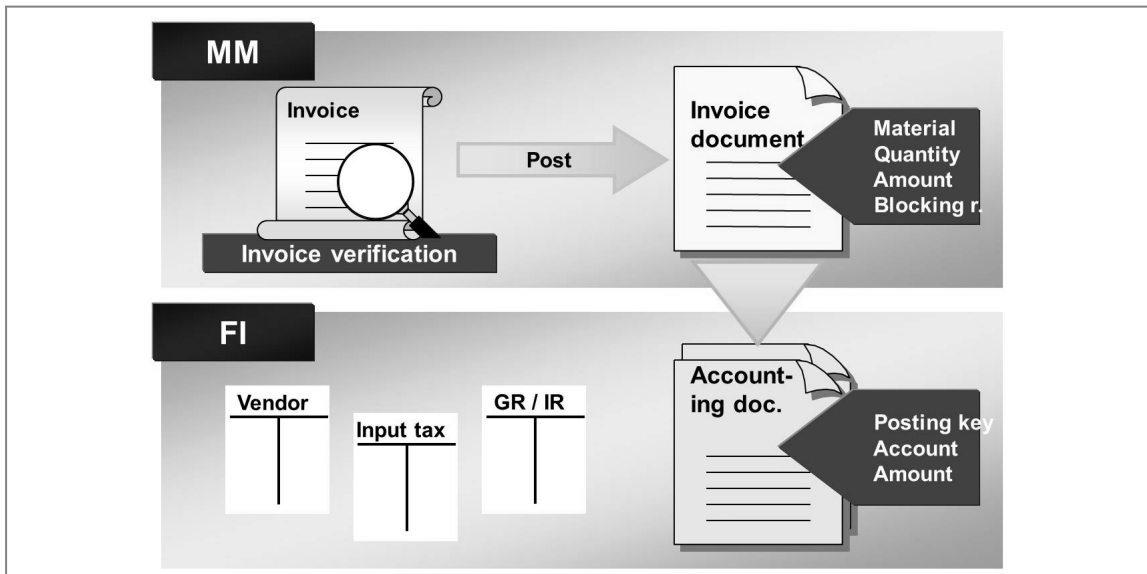


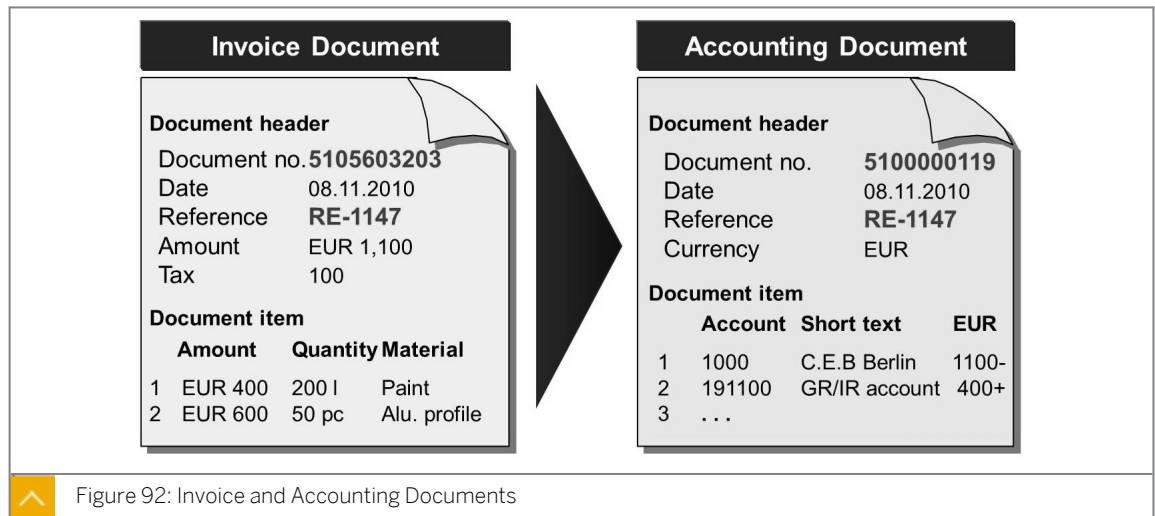
Figure 91: Documents in Invoice Verification

The invoice document consists of a document header and at least one item. The header data includes the vendor (invoicing party), posting date, and name of the person who created the document. The item data indicates which amount is charged for which quantity of a material.

The accounting document shows the bookkeeping effects of the entry of the invoice. The document header contains applicable data, such as the document date, posting date, posting period, and document currency. The G/L account numbers and associated amounts posted are recorded at item level.



## Invoice and Accounting Documents



The invoice and accounting documents are separate documents generated simultaneously when the invoice is posted. You can identify the invoice document by the document number and year. The system identifies the accounting document by the company code, accounting document number, and fiscal year. When you enter the invoice, you must specify the company code. As long as it is not necessary to change the company code, the system suggests the company code that was last used. To change the company code in transaction MIRO, choose *Edit* → *Switch Company Code*.



### Hint:

In the standard system, only the materials management document number (the number of the invoice document) is displayed when an incoming invoice is posted. As of SAP R/3 Enterprise, you can set the status bar to also display the number of the accounting document in FI. Enter the value X for the user in order to activate the display of MM and FI document numbers with user parameter IVFIDISPLAY.





# Unit 3

## Exercise 14



## Enter an Invoice with Reference to a Purchase Order

### Business Example

You are analyzing the updates in financial accounting that automatically occur when an invoice is posted. In particular, you are interested in the connection between the material valuation procedures and the updating of the accounts in financial accounting.

Enter an invoice with reference to a purchase order.

Invoice verification with unplanned delivery costs

Vendor Rasch Gr.## has sent you the invoice for the delivery of 200 Universal taillights. In addition to charging you for the taillights, the vendor has included the freight costs in the invoice.

#### 1. Enter an invoice.

Enter the invoice from vendor T-K500B## against the purchase order for material T-M500B##. Use the following data from the vendor's invoice.



Invoice		Rasch Gr.## Daimlerstraße 127 69134 Heidelberg		
IDES AG Central Purchasing Dept. Altersdorferstr. 13 22299 Hamburg		Invoice number:	RE-B1##	
		Invoice date	[current date]	
With reference to your PO no. 45000xxxxx, we hereby invoice you for the following items:				
Item	Quantity/Un	Material number	Description	Price
10	100 pc	T-M500B##	Universal Taillight-##, California	EUR 7,200
20	100 pc	T-M500B##	Universal Taillight-##, California	EUR 7,200
			Plus freight charges	EUR 200
			Total net value:	EUR 14,600
			plus 10 % VAT	EUR 1,460
			<b>Invoice amount</b>	<b>EUR 16,060</b>
Subject to the agreed terms of payment.				
Kind regards, Rasch Gr.##				

Figure 93: Invoice RE-B1##



Hint:  
Note that the invoice also includes freight costs. Enter these freight costs as unplanned delivery costs on the *Details* tab page.

Simulate posting the invoice and note the posting lines in the following table:

Item	General Ledger	Account Type (Material or Asset or Vendor)	Amount
1	160000	Rasch Gr.##	16060(-)
2	191100	Goods Rcvd or Invoice Rcvd (third party)	7200
3	300000	Universal taillight ## (stock account)	100
4	191100	Goods Rcvd or Invoice Rcvd (third party)	7200
5	231000	Loss-price variances	100
6	154000	Input tax	1460

Answer the following question:

Which postings are generated as a result of the unplanned delivery costs?

---



---



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Post the invoice.

Invoice document number: \_\_\_\_\_

2. Display the material master record.

Display the accounting data for material T-M500B## for plant 1000 and plant 1200, and complete the following table:

Plant	Price Control	Moving Average Price	Standard Price	Total Stock	Total Value
Plant 1000	V	73	0	100 pieces	7300
Plant 1200	S	73	80	100 pieces	8000

Are there any differences in comparison to the results from goods receipt processing? If so, what and why?

3. Display the invoice document and purchase order history.

Display the invoice document and go to the purchase order history. Determine what influence the entry of the invoice with unplanned delivery costs had on the updating of the purchase order history.



## Enter an Invoice with Reference to a Purchase Order

### Business Example

You are analyzing the updates in financial accounting that automatically occur when an invoice is posted. In particular, you are interested in the connection between the material valuation procedures and the updating of the accounts in financial accounting.

Enter an invoice with reference to a purchase order.

Invoice verification with unplanned delivery costs

Vendor Rasch Gr.## has sent you the invoice for the delivery of 200 Universal taillights. In addition to charging you for the taillights, the vendor has included the freight costs in the invoice.

#### 1. Enter an invoice.

Enter the invoice from vendor T-K500B## against the purchase order for material T-M500B##. Use the following data from the vendor's invoice.



<b>Invoice</b>				Rasch Gr.##
IDES AG			Daimlerstraße 127	
Central Purchasing Dept.			69134 Heidelberg	
Altersdorferstr. 13			Invoice number:	RE-B1##
22299 Hamburg			Invoice date	[current date]
With reference to your PO no. 45000xxxxx, we hereby invoice you for the following items:				
Item	Quantity/Un	Material number	Description	Price
10	100 pc	T-M500B##	Universal Taillight-##, California	EUR 7,200
20	100 pc	T-M500B##	Universal Taillight-##, California	EUR 7,200
			Plus freight charges	EUR 200
			Total net value:	EUR 14,600
			plus 10 % VAT	EUR 1,460
			<b>Invoice amount</b>	<b><u>EUR 16,060</u></b>
Subject to the agreed terms of payment.				
Kind regards, Rasch Gr.##				

Figure 93: Invoice RE-B1##



Hint:

Note that the invoice also includes freight costs. Enter these freight costs as unplanned delivery costs on the *Details* tab page.

Simulate posting the invoice and note the posting lines in the following table:

Item	General Ledger	Account Type (Material or Asset or Vendor)	Amount
1	160000	Rasch Gr.##	16060(-)
2	191100	Goods Rcvd or Invoice Rcvd (third party)	7200
3	300000	Universal taillight ## (stock account)	100
4	191100	Goods Rcvd or Invoice Rcvd (third party)	7200
5	231000	Loss-price variances	100
6	154000	Input tax	1460

Answer the following question:

Which postings are generated as a result of the unplanned delivery costs?

Post the invoice.

Invoice document number: \_\_\_\_\_

a) Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice* (MIRO).


b) Enter the following data on the *Basic Data* tab page:

Field	Value
<i>Invoice date</i>	<Current date>
<i>Reference</i>	<b>RE-B1##</b>
<i>Amount</i>	<b>16060</b>
<i>Tax Amount</i>	<b>1460</b>



c) Choose the *Details* tab page and enter the freight costs:

Field	Value
Unpl. Del. Csts	200

- d) On the *PO Reference* tab page, choose *Purchase Order/Scheduling Agreement* as the reference document category and enter your purchase order number.



Hint:  
To search for the purchase order using help, enter vendor **T-K500B##** and material **T-M500B##**. Choose *Execute*.

- e) Choose  *Simulate* to simulate your postings. Make a note of the accounts and amounts.  
 Postings 3 and 5 are caused by the unplanned freight charges. Posting 3 results in the debiting of the stock account Raw Materials 1 because the material is valued according to the moving average price procedure in plant 1000.  
 In plant 1200, the material is valued at the standard price. No subsequent debit posting is made to the stock account due to the unplanned delivery costs. Instead, a posting is made to the expenditure account for price differences.
- f) Choose  *Post* and make a note of the material document number.

2. Display the material master record.



Display the accounting data for material T-M500B## for plant 1000 and plant 1200, and complete the following table:

Plant	Price Control	Moving Average Price	Standard Price	Total Stock	Total Value
Plant 1000	V	73	0	100 pieces	7300
Plant 1200	S	73	80	100 pieces	8000

Are there any differences in comparison to the results from goods receipt processing? If so, what and why?

- a) Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current* (MM03).
- b) Enter **T-M500B##** in the *Material* field on the initial screen and confirm your entry.
- c) Select the *Accounting 1* view and choose *Continue*.
- d) Enter **1000** in the *Plant* field in the *Organizational Levels* dialog box and choose *Continue*.
- e) Make a note of the *Price Control*, *Moving price*, *Standard price*, *Total Stock*, and *Total Value* for plant 1000.  
 In comparison with the values from goods receipt processing, the total value and the moving average price have been adjusted in plant 1000, resulting in a total value increase.



- f) Choose *Edit* → *Organizational Levels*, enter **1200** in the *Plant* field in the *Organizational Levels* dialog box, and choose *Enter*.
  - g) Make a note of the *Price Control*, *Moving price*, *Standard price*, *Total Stock*, and *Total Value* for plant 1200.  
The total stock, total value, and standard price in plant 1200 remain unchanged.
3. Display the invoice document and purchase order history.
- Display the invoice document and go to the purchase order history. Determine what influence the entry of the invoice with unplanned delivery costs had on the updating of the purchase order history.
- a) Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* → *Display Invoice Document* (MIR4).
  - b) The number of the last invoice you entered is specified automatically. Choose  *Enter* or  *Display document* to display the invoice document.
  - c) To branch to the purchase order, double-click the purchase order number in the *Item Overview* area.
  - d) Choose the *Purchase Order History* tab page in the *Item Detail* area.  
Due to the unplanned freight costs, there are variances in the purchase order history attributable to the invoice received amounting to EUR 100 per item.



### **LESSON SUMMARY**

You should now be able to:

- Explain the postings for a procurement process with delivery costs
- Analyze the results of an invoice entry



## Learning Assessment

1. In which of the following documents and master records can you enter conditions?

*Choose the correct answers.*

- A Request for quotation (RFQ) (RFQ type AN)
- B Quotation
- C Material master record
- D Purchasing info record
- E Purchase order

2. Which purchasing document(s) allow(s) only time-independent conditions?

*Choose the correct answer.*

- A RFQ or quotation
- B Contract
- C Purchase order
- D Scheduling agreement

3. If you request quotations for materials from multiple vendors, you must create a separate RFQ document in the system for each vendor.

*Determine whether this statement is true or false.*

- True
- False

4. To rationalize the relevant entry process, you first enter the data that is identical in all documents (materials, quantities, dates, and collective RFQs), and then enter the vendor details.

*Determine whether this statement is true or false.*

- True
- False

5. The vendor quotation resulting from an RFQ is displayed as an independent document in the SAP system.

*Determine whether this statement is true or false.*

True

False

6. Which actions can you execute from or with the price comparison list?

*Choose the correct answers.*

A Compare prices from quotations at item level.

B Generate more RFQs for an RFQ activity.

C Maintain (enter and change) prices in quotations.

D Issue rejection letters.

E Save market prices.

7. When creating a purchase order, you can refer to another purchase order, a purchase requisition, a request for quotation, or a contract.

*Determine whether this statement is true or false.*

True

False

8. All documents that you can select in the document overview of the ordering transaction can also be displayed from the document overview. You can execute changes in this way only for purchase orders and purchase requisitions.

*Determine whether this statement is true or false.*

True

False

9. To create a purchase order with reference to another document, you can enter the number of the document and the number of the item directly in the corresponding fields in the item overview.

*Determine whether this statement is true or false.*

True

False

10. Which of the following are the steps of the procurement process?

*Choose the correct answers.*

- A Purchase order
- B Goods receipt
- C Invoice receipt
- D Purchase requisitions

11. Which of the following organizational levels are relevant for purchasing info records?

*Choose the correct answers.*

- A Client
- B Company code
- C Plant
- D Storage location
- E Purchasing organization

12. Conditions can be defined in info records only if the info record was created manually.

*Determine whether this statement is true or false.*

- True
- False

13. If conditions are maintained in a purchasing info record, these conditions are always transferred to the purchase order.

*Determine whether this statement is true or false.*

- True
- False

14. If no valid conditions are defined in an info record, the system never proposes a price in the purchase order.

*Determine whether this statement is true or false.*

- True
- False

15. At which level can the valuation area be determined?

*Choose the correct answers.*

- A Client
- B Company code
- C Purchasing organization
- D Plant
- E Storage location

16. You must determine the plant as the valuation area if you want to use either of the components Production Planning or Product Cost Accounting.

*Determine whether this statement is true or false.*

- True
- False

17. Which of the following statements about the valuation class are correct?

*Choose the correct answers.*

- A The valuation class is a grouping key that controls the procedure used to value a material.
- B Your choice of valuation class determines whether conditions at plant level are allowed for a material.
- C The valuation class is used to determine which stock account is updated during the goods movement of a material.
- D The valuation area controls which valuation classes are allowed for a material.
- E The valuation class enables you to manage the stocks of multiple materials in a stock account.

18. For a material that is valued according to the standard price (price control "S"), all goods movements are valued with the same price. This price must be specified in the material master record. Variances from this standard price are posted to price difference accounts.

*Determine whether this statement is true or false.*

- True
- False

19. In material valuation with the moving average price (price control "V"), the system values goods receipts with the current moving average price and goods issues with the purchase order price.

*Determine whether this statement is true or false.*

- True  
 False

20. You can use the stock overview to learn about the stock situation of several materials.

*Determine whether this statement is true or false.*

- True  
 False

21. You can use the stock overview to learn about the stock situation of one material in different plants.

*Determine whether this statement is true or false.*

- True  
 False

22. In which master records and documents can the checkbox or stock type quality inspection occur?

*Choose the correct answers.*

- A Material master record  
 B Vendor master record  
 C Purchasing info record  
 D Request for quotations  
 E Purchase order  
 F Material document

23. A material document is generated as proof of a process that has caused a change in stock. If the goods movement is relevant to valuation, the system creates at least one accounting document in addition to the material document.

*Determine whether this statement is true or false.*

- True  
 False

24. You can enter planned and unplanned delivery costs in Logistics Invoice Verification.

*Determine whether this statement is true or false.*

True

False

25. The planned delivery costs are not shown in a separate line per condition.

*Determine whether this statement is true or false.*

True

False

26. You can enter unplanned delivery costs on the Details tab page in the header data.

*Determine whether this statement is true or false.*

True

False

27. You have mapped the following procurement process in the system: purchase order for stock material - goods receipt for purchase order - invoice receipt for purchase order with delivery costs that are 100% unplanned. Select all the accounts to which postings could be made within the framework of invoice entry.

*Choose the correct answers.*

A Vendor account

B GR/IR clearing account for external procurement

C GR/IR freight clearing account

D Stock account

E Account for gain from price differences

F Account for loss from price differences

G Account for input tax





## Learning Assessment - Answers

1. In which of the following documents and master records can you enter conditions?

*Choose the correct answers.*

- A Request for quotation (RFQ) (RFQ type AN)
- B Quotation
- C Material master record
- D Purchasing info record
- E Purchase order

2. Which purchasing document(s) allow(s) only time-independent conditions?

*Choose the correct answer.*

- A RFQ or quotation
- B Contract
- C Purchase order
- D Scheduling agreement

3. If you request quotations for materials from multiple vendors, you must create a separate RFQ document in the system for each vendor.

*Determine whether this statement is true or false.*

- True
- False

4. To rationalize the relevant entry process, you first enter the data that is identical in all documents (materials, quantities, dates, and collective RFQs), and then enter the vendor details.

*Determine whether this statement is true or false.*

True

False

5. The vendor quotation resulting from an RFQ is displayed as an independent document in the SAP system.

*Determine whether this statement is true or false.*

True

False

6. Which actions can you execute from or with the price comparison list?

*Choose the correct answers.*

A Compare prices from quotations at item level.

B Generate more RFQs for an RFQ activity.

C Maintain (enter and change) prices in quotations.

D Issue rejection letters.

E Save market prices.

7. When creating a purchase order, you can refer to another purchase order, a purchase requisition, a request for quotation, or a contract.

*Determine whether this statement is true or false.*

True

False

8. All documents that you can select in the document overview of the ordering transaction can also be displayed from the document overview. You can execute changes in this way only for purchase orders and purchase requisitions.

*Determine whether this statement is true or false.*

True

False

9. To create a purchase order with reference to another document, you can enter the number of the document and the number of the item directly in the corresponding fields in the item overview.

*Determine whether this statement is true or false.*

True

False

10. Which of the following are the steps of the procurement process?

*Choose the correct answers.*

A Purchase order

B Goods receipt

C Invoice receipt

D Purchase requisitions

11. Which of the following organizational levels are relevant for purchasing info records?

*Choose the correct answers.*

A Client

B Company code

C Plant

D Storage location

E Purchasing organization

12. Conditions can be defined in info records only if the info record was created manually.

*Determine whether this statement is true or false.*

True

False

13. If conditions are maintained in a purchasing info record, these conditions are always transferred to the purchase order.

*Determine whether this statement is true or false.*

True

False

14. If no valid conditions are defined in an info record, the system never proposes a price in the purchase order.

*Determine whether this statement is true or false.*

True

False

15. At which level can the valuation area be determined?

*Choose the correct answers.*

A Client

B Company code

C Purchasing organization

D Plant

E Storage location

16. You must determine the plant as the valuation area if you want to use either of the components Production Planning or Product Cost Accounting.

*Determine whether this statement is true or false.*

True

False

17. Which of the following statements about the valuation class are correct?

*Choose the correct answers.*

- A The valuation class is a grouping key that controls the procedure used to value a material.
- B Your choice of valuation class determines whether conditions at plant level are allowed for a material.
- C The valuation class is used to determine which stock account is updated during the goods movement of a material.
- D The valuation area controls which valuation classes are allowed for a material.
- E The valuation class enables you to manage the stocks of multiple materials in a stock account.

18. For a material that is valued according to the standard price (price control "S"), all goods movements are valued with the same price. This price must be specified in the material master record. Variances from this standard price are posted to price difference accounts.

*Determine whether this statement is true or false.*

- True
- False

19. In material valuation with the moving average price (price control "V"), the system values goods receipts with the current moving average price and goods issues with the purchase order price.

*Determine whether this statement is true or false.*

- True
- False

20. You can use the stock overview to learn about the stock situation of several materials.

*Determine whether this statement is true or false.*

- True
- False

21. You can use the stock overview to learn about the stock situation of one material in different plants.

*Determine whether this statement is true or false.*

True

False

22. In which master records and documents can the checkbox or stock type quality inspection occur?

*Choose the correct answers.*

A Material master record

B Vendor master record

C Purchasing info record

D Request for quotations

E Purchase order

F Material document

23. A material document is generated as proof of a process that has caused a change in stock. If the goods movement is relevant to valuation, the system creates at least one accounting document in addition to the material document.

*Determine whether this statement is true or false.*

True

False

24. You can enter planned and unplanned delivery costs in Logistics Invoice Verification.

*Determine whether this statement is true or false.*

True

False

25. The planned delivery costs are not shown in a separate line per condition.

*Determine whether this statement is true or false.*

True

False

26. You can enter unplanned delivery costs on the Details tab page in the header data.

*Determine whether this statement is true or false.*

- True  
 False

27. You have mapped the following procurement process in the system: purchase order for stock material - goods receipt for purchase order - invoice receipt for purchase order with delivery costs that are 100% unplanned. Select all the accounts to which postings could be made within the framework of invoice entry.

*Choose the correct answers.*

- A Vendor account  
 B GR/IR clearing account for external procurement  
 C GR/IR freight clearing account  
 D Stock account  
 E Account for gain from price differences  
 F Account for loss from price differences  
 G Account for input tax





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### UNIT OBJECTIVES

- Explain the procurement of consumable materials
- Create purchase requisitions
- Create a purchase order with reference to a purchase requisition
- Enter an order acknowledgement for a purchase order
- Enter valuated and non-valuated goods receipts
- Create blanket purchase orders



## Purchasing Consumable Materials

### LESSON OVERVIEW

This lesson gives a brief overview of the procurement of consumable materials. The lesson also introduces the account assignment category required for the procurement process.

### Business Example

In your company, certain materials, such as office supplies, are procured directly for cost centers. These materials are not subject to inventory management at the storage location. As a member of the project team, you are going to check the procurement process for consumable materials. For this reason, you require the following knowledge:

- An understanding of the differences between procurement of consumable materials and stock materials
- An understanding of the account assignment category



Introduce the objectives and the business scenario. Discuss the procurement process for consumable materials. Compare it with the process for stock materials and highlight the differences.



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Explain the procurement of consumable materials

### Consumable Material



At this point, you could ask participants which materials are procured directly for consumption in their companies. Explain that a consumable material does not mean that the material is consumed (processed or destroyed) immediately.

In an SAP system, a consumable material is a material that is not procured for stock. Such materials may include raw materials for production, which are processed during the production process, or a machine that is used as an asset in the company for several years and is assigned to an asset account.

In an SAP system, the term consumable material describes a material that is subject to procurement and whose value is settled using the cost element accounts or the asset accounts. Therefore, a consumable material is procured directly for an account assignment object. Examples of consumable materials are office supplies, computer systems, or machines.

When a material is procured directly for consumption, no material master record is necessary.

**Examples of consumable materials are as follows:**

- Consumable material without material master record
- Consumable material with material master record that is not subject to inventory management on either a quantity or a value basis
- Consumable material with material master record that is subject to inventory management on a quantity, but not a value basis

**The following attributes describe the types of procurement for consumable materials:**

Type of Procurement	Attributes
Without a material master record	Manually enter a short description, a material group, and a purchase order unit in the document because this data cannot be taken from a master record.
With a material master record	The material type controls whether inventory management for a material is to take place on a value basis.

**The following material types exist by default for consumable materials:**

- Non-valuated material (Material Type UNBW)  
This type of material is subject to inventory management on a quantity basis, but not on a value basis. This applies to low-value materials that have stocks which need to be monitored (for example, operating manuals).
- Non-stock material (NLAG) (Material Type NLAG)  
Inventory management is not possible for these materials either on a quantity or a value basis. For frequently required consumables, the use of this material type enables you to store the information required to create purchasing documents (such as texts and units of measure).

You can procure stock material for stock and for direct consumption. For example, purchasing trading goods for a particular customer sales order.

You can enter an account assignment for each item of a purchasing document or a purchase requisition if it is intended for direct consumption. In certain cases, however, account assignment is mandatory.

**You must enter an account assignment for an item under the following circumstances:**

- If you order a material that is not subject to value-based inventory management. In this case, you need to post the value of the material directly to consumption
- If you order an article that does not have a material master record
- If you order a service

**Account Assignment Category**

List some account assignment categories and name the account assignment object which must be specified depending on the account assignment category. You must also discuss the account assignment category Unknown (U).

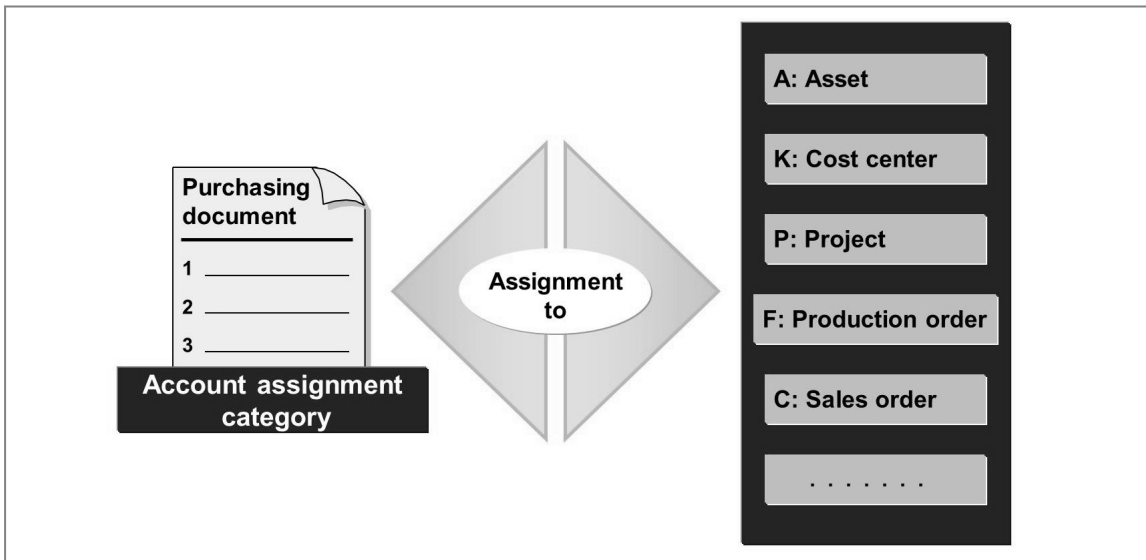


Figure 94: Account Assignment Objects

**To procure a consumable material you must specify the following information in the purchasing document:**

- Account assignment category
- Additional account assignment data

**The account assignment category determines the following decisions:**

- The account assignment object category that is charged
- The account assignment data that must be provided
- The accounts that are debited when the goods receipt or the invoice is posted

**Examples of account assignment object cost center (account assignment category K) are as follows:**

- When you make an account assignment to a cost center, you must enter, on the *Account Assignment Data* screen, the General Ledger (G/L) account number of the consumption account and the cost center for which the material is to be procured.
- You must specify in Customizing that the system automatically proposes the number of the G/L account to be charged.

**Examples of account assignment object asset (account assignment category A) are as follows:**

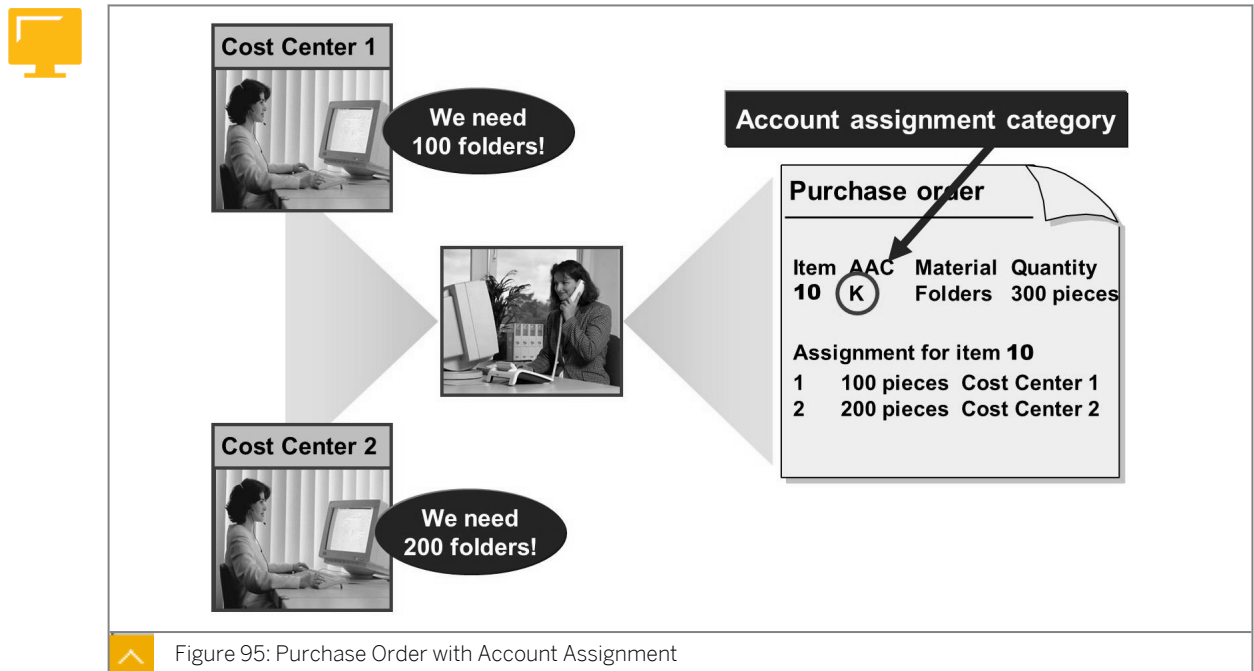
- If you use account assignment category A, you must enter the asset number on the account assignment data screen.
- The system automatically determines the G/L account to be charged from the asset number. You cannot enter it manually.



Note:

It is possible to define further account assignment categories or change existing ones in Customizing. (*Customizing* → *Materials Management* → *Purchasing* → *Account Assignment* → *Maintain Account Assignment Categories*)

## Purchase Order with Account Assignment



You can specify one or more account assignments for an item. If you specify multiple account assignments, you must also specify how the purchase order quantity is to be distributed among the individual account assignment objects.

Distribution can be on a quantity or percentage basis. If you enter a multiple account assignment for an item, the *Non-Valuated Goods Receipt (GR)* checkbox is automatically set for the item.

In addition, you must specify how the costs are to be distributed for the item if only part of the ordered quantity is initially delivered and invoiced.

**The following ways can be adopted for distributing the partial invoice amount:**

- The amount can be distributed among the account assignment items of a purchase order item proportionally (in accordance with the distribution ratio).
- The amount can be distributed among the account assignment items of a purchase order item on a progressive fill-up basis (in sequence). In this procedure, account assignment item 1 is completed first, then account assignment item 2, and so on, until the invoice value is reached.

The *partial invoice* checkbox can also be derived automatically from the account assignment category if a *partial invoice* checkbox is specified in Customizing for the account assignment category.



**Hint:**

As of Enhancement Package 4 of SAP ERP 6.0, a valuated goods receipt can also be posted for purchase order items with multiple account assignment. To do this, you must activate the business function LOG\_MM\_MAA\_1. You can use this business function to post a valuated goods receipt for multiple account assignment and to manage the distribution based on quantity, percentage, and value (new).

From an invoice, you usually cannot differentiate if the invoice relates to a purchase order with an account assignment. You can see this in the item list in *Logistics Invoice Verification*, where the *Account Assignment* column shows you if the purchase order has an account assignment. You can display the account assignment information and, under certain circumstances, change it.

Special display variants are available for the item list when you enter an invoice for a purchase order with account assignment.

**Procurement Process for Consumption**



The figure contrasts the procurement process for stock material with that of consumable material. The differences center on the accounting view and the relevant accounts.

The individual variants of consumable material procurement are as follows:

- Stock material that is procured on an account assignment basis
- Consumable material without material master record
- Consumable material with material master record

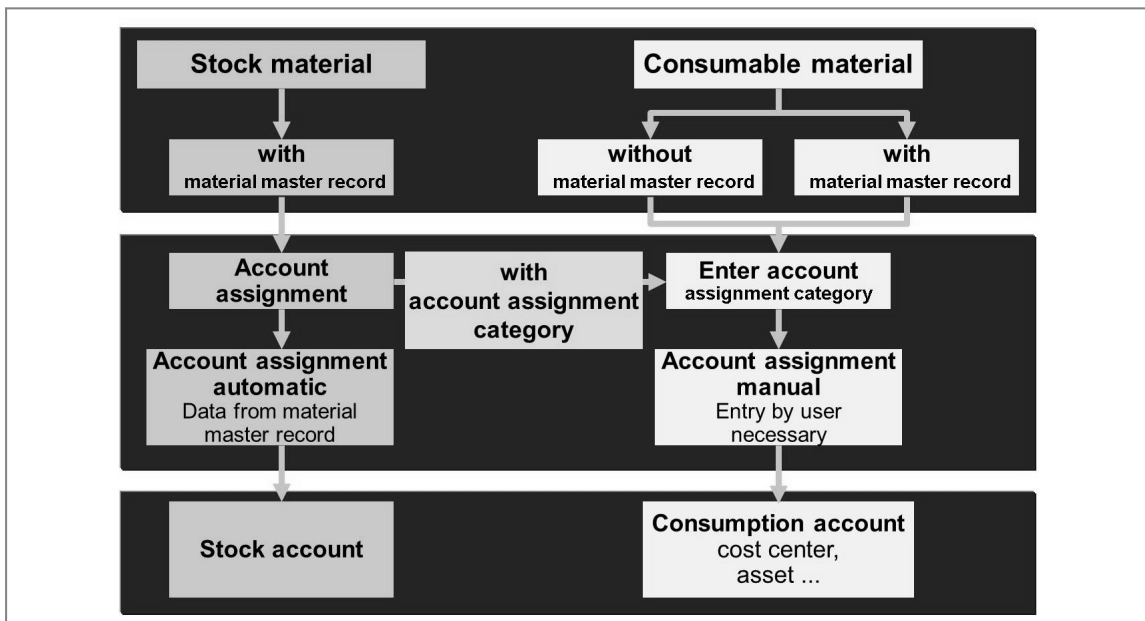


Figure 96: Procurement for Consumption (1)

A material master record is necessary for stock material. You do not specify an account assignment category in the purchase order. The system determines the account assignment

data from the material master record using the valuation class. The system posts the stock value to a stock account during goods receipt. The system updates the stock value and stock quantity in the material master record.

When you procure a consumable material, the material may be a special consumable material with a master record or a material without a master record. However, you can procure stock material for consumption. In all cases, you must specify an account assignment category and other dependent account assignment data, such as an account assignment object and G/L account (consumption account). The system debits the consumption account that you have specified in the purchase order with the procurement value at the time of goods receipt and/or invoice receipt. The system updates the data for the account assignment object.



Summarize the most important differences between stock materials and consumable materials.

### Stock Material and Consumable Material – Comparison

The following table shows the differences between Stock material and Consumable material:

Stock Material	Consumable Material
Necessary to enter material number	Entry of material not necessary but possible
No account assignment category	Account assignment category mandatory
Goods receipt mandatory	Goods receipt optional
Posting to stock accounts	Posting to consumption accounts
Quantity, value, and consumption updated in material master record	No value update; quantity and consumption update in material master record possible
Adjustment of moving average price	



### FACILITATED DISCUSSION

Which materials are procured directly for consumption in your company? Give reasons why you would want to create a material master record for purely consumable materials.



### LESSON SUMMARY

You should now be able to:

- Explain the procurement of consumable materials



## Creating Purchase Requisitions

### LESSON OVERVIEW

This lesson introduces the purchase requisition as an in-house instrument for entering requirements. The creation of purchase requisitions is shown using an example of consumable material with and without a material master record.



Show and discuss the transaction for purchase requisitions, the requirement for material without a master record, and the entry of simple and multiple account assignments.

### Business Example

You regularly require spare parts in your plant maintenance department. You do not want to create material master records for these parts if the requirement is not recurring. You want to test how you can use a purchasing requisition to process the internal requirements of these materials directly for an account assignment object. For this reason, you require the following knowledge:

- How to use transaction `ME51N` for purchase requisitions
- How to create a purchase requisition with items with single and multiple account assignments
- How to request a material without a material master record



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

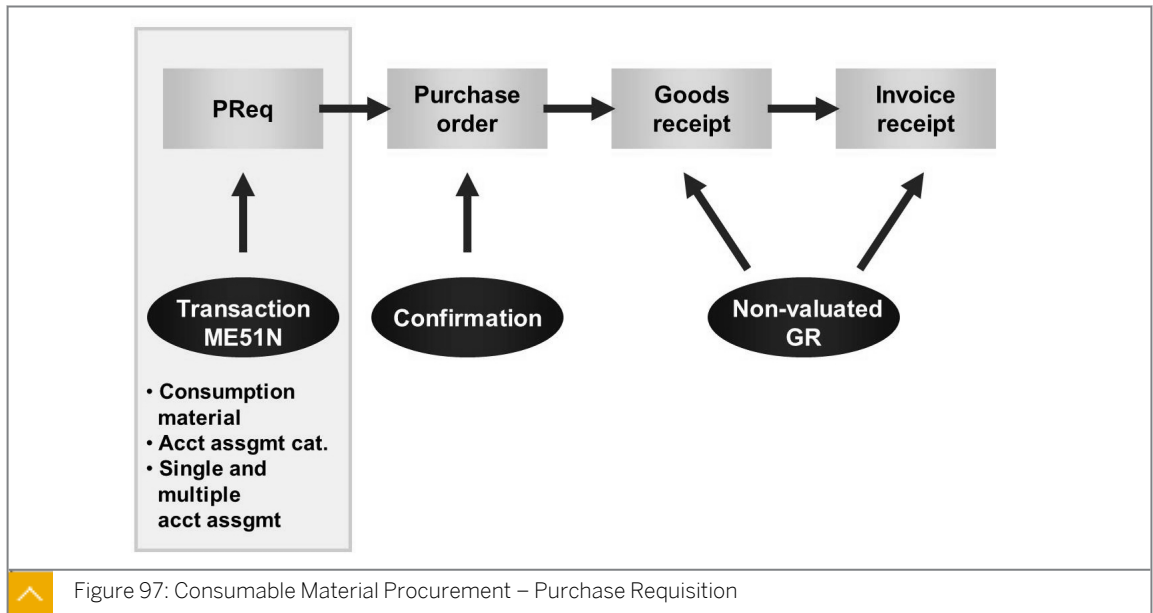
- Create purchase requisitions

### Purchase Requisitions in Procurement



Briefly repeat the planned procurement process. Then discuss the sourcing departments and the ways in which purchase requisitions are entered in the system.





In procurement, the internal requisition for materials or services triggers a procurement process.

Purchase requisitions are internal documents that request your purchasing department to procure a particular quantity of a material or a service for a particular date.

**A purchase requisition can be created directly or indirectly with the following characteristics:**

- Direct

The purchase requisition is created manually by a person from the requesting department. The person creating the requisition determines which material or service is ordered, the quantity, and the delivery date.

- Indirect

The purchase requisition is initiated automatically from another SAP component

**Indirect requisitions can be created in the following ways:**

- Based on material requirements planning (MRP)
- Through maintenance orders
- Through production orders
- Through networks

Purchase requisitions can also come from *SAP Supply Chain Management (SAP SCM)* or *SAP Supplier Relationship Management (SAP SRM)*.

## Purchase Requisitions

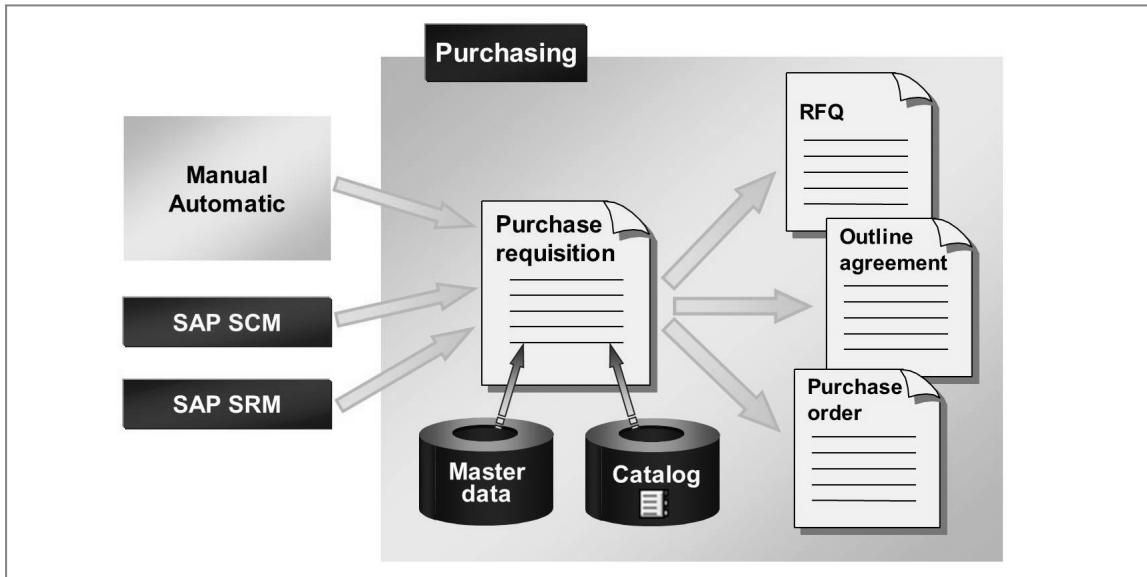


Figure 98: Purchase Requisitions

When you create a purchase requisition for materials that have a material master record, the system transfers data from the material master record to the purchase requisition. As of SAP ERP 6.0, you also have the option of selecting items from a Web-based catalog.



Hint:

For more information about the integration of catalogs in Purchasing, see the SAP documentation under *SAP ERP Central Component → Logistics → Materials Management (MM) → Purchasing (MM-PUR) → Further Functions → Integration of Web-Based Catalogs in Purchasing*.

You can convert purchase requisitions into Request for Quotations (RFQs), purchase orders, or outline agreements.

### Creation of Purchase Requisitions



Discuss the structure of the purchase requisition. Highlight the common features and differences between a purchase requisition and a purchase order, such as the following:

- The purchase requisition does not have a proper document header.
- The purchase requisition can be specified with a vendor at item level though it is not binding.
- The purchase requisition has a document overview available in transaction ME51N.

The purchase requisition transactions are available as single-screen transactions as of 4.6C.

Purchase requisition items are copied from the catalog in the exercise and in the demo.

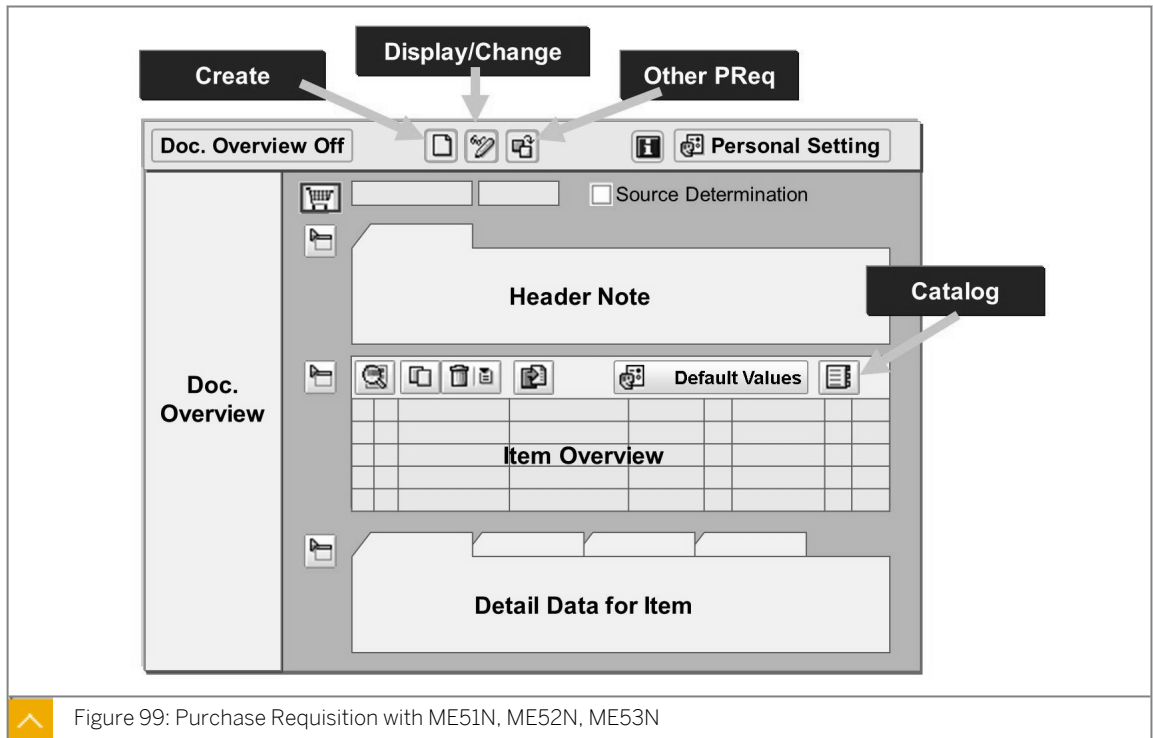


Figure 99: Purchase Requisition with ME51N, ME52N, ME53N

The transactions for creating, changing, or displaying a purchase requisition (ME51N, ME52N, ME53N) are single-screen transactions similar to the purchase order. The division into different screen areas (header data, item overview, item details, and document overview) and the operation correspond with the purchase order transaction.

The header data in the purchase requisition transactions consists only of an internal header memo.

### Entering the Account Assignment



Explain simple and multiple account assignment entry. For multiple account assignments, explain the Distribution and Partial invoice checkboxes.

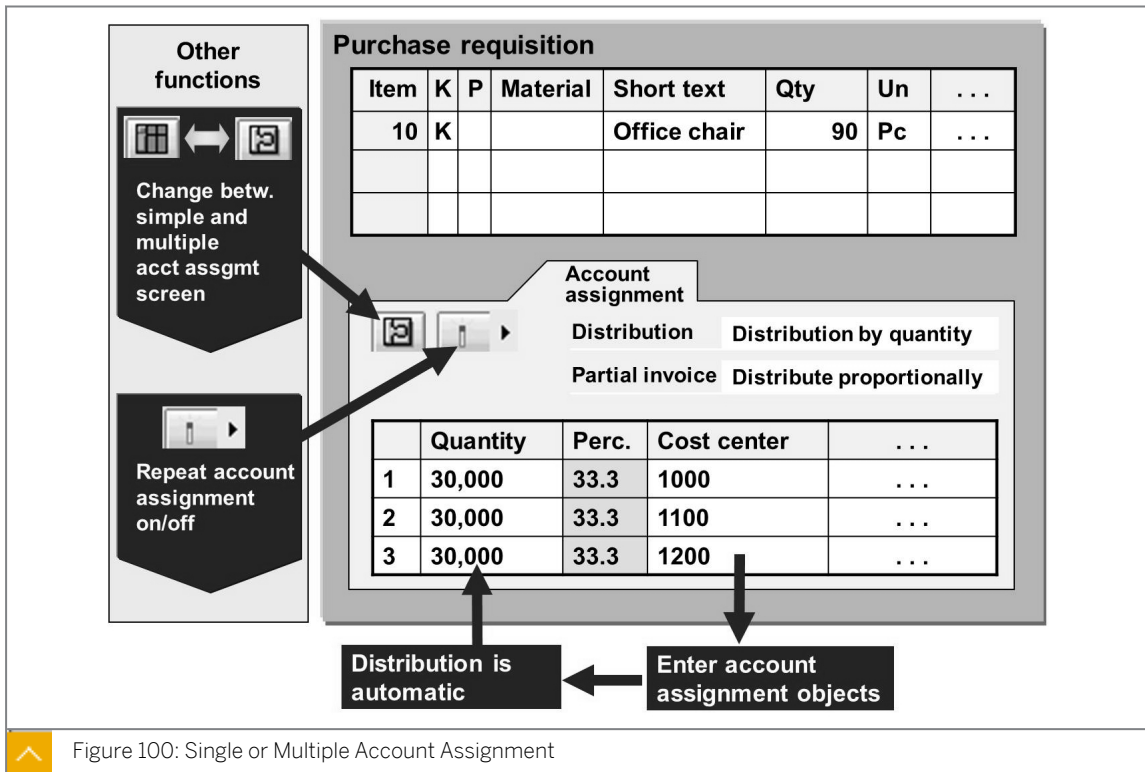


Figure 100: Single or Multiple Account Assignment

If you want to request materials or services directly for an account assignment object, specify the corresponding account assignment category in the item overview. For example, if you want to request materials or services for your cost center or for an asset you must specify the account assignment category and data. This means that you have to enter additional account assignment data in the item detail on the *Account Assignment* tab page.

If you have the single account assignment screen displayed on the *Account Assignment* tab page, you can use (*Multiple Account Assignment*) to switch to the *Multiple Account Assignment* screen. On the *Multiple Account Assignment* screen, you choose (*Single account assignment*) to switch to the *Single Account Assignment* screen. The system makes a note of your last setting. On the *Multiple Account Assignment* screen, you can also create single account assignments.

With multiple account assignments, you can distribute the costs of one purchase order item among several cost centers, for example. In this case, the created account assignment data represents individual account assignment items. With multiple account assignment for an item, you must decide whether the value of the item is to be distributed on a quantity basis or as a percentage, for example, 10 pieces or 10% of the purchase order value to cost center 1000.



Hint:

As of Enhancement Package 4 of SAP ERP 6.0, you can also split the value directly. To do this, you must activate the business function LOG\_MM\_MAA\_1.

**If there are partial invoices, you can decide from the following choices:**

- Whether the partial invoice amount is distributed proportionally to the account assignment items

- Whether the partial invoice amount is distributed in sequence to the account assignment items



If you want to distribute the quantity in a purchase requisition item with account assignment to several account assignment items, you need to enter the account assignments, but not the proportional amounts. The system automatically distributes the requested quantity in equal parts to the existing account assignment items. If you change the requested total quantity in the *item overview* screen, the quantity is adjusted in the relevant account assignment items. **As soon as you change the quantity or percentage of the account assignment item, the system can no longer execute an automatic distribution.**

Here is an example of automatic account assignment distribution.

You have requested 90 office chairs and assigned them equally to three cost centers. However, since you require 120 office chairs, you change the requested quantity in the *item overview* screen. The system then automatically changes the distribution so that 40 office chairs are assigned to each cost center.



Hint:

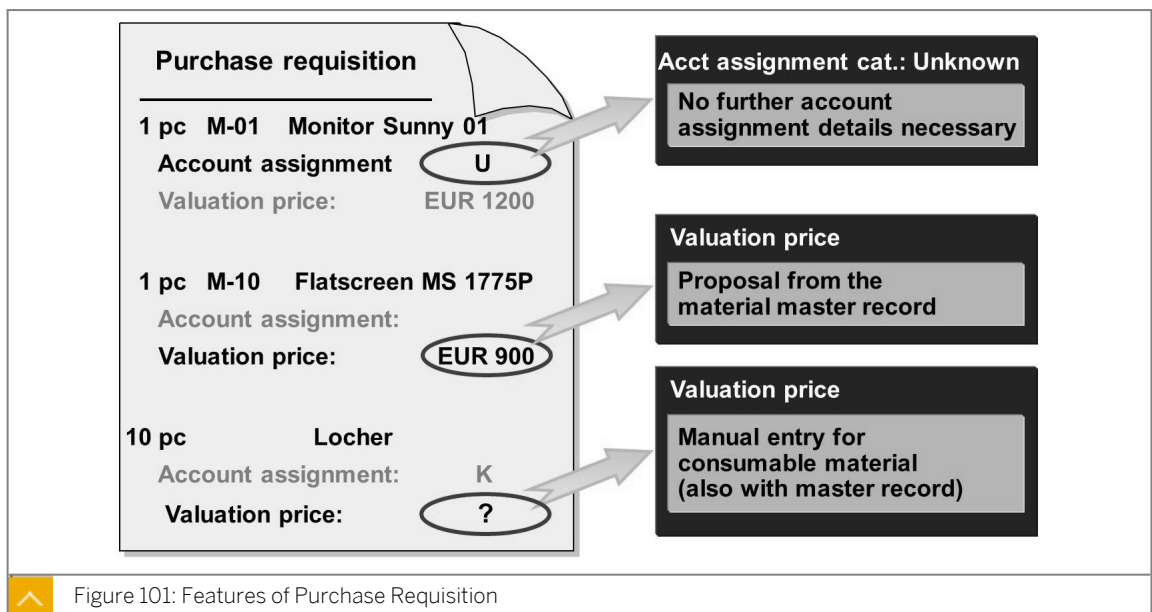
The icons  (*Multiple Account Assignment*) and  (*Single account assignment*) are also used in the purchase order transaction ME21N. **But in a purchase order item with a multiple account assignment, the system cannot automatically distribute the ordered quantity in equal parts to the existing account assignment items.**

## Purchase Requisition Features



Discuss the most important features of purchase requisition as follows:


- **Account assignment category unknown is allowed**
- Valuation price (explain that the valuation price is generally not the same as the order price)



**The most important characteristics of a purchase requisition are as follows:**

- Account assignment category unknown


If you do not know the account assignment object for which the material is being procured when you create the purchase requisition, you can use account assignment category Unknown (U) in the purchase requisition item. Then you do not need to enter any more account assignment details. If you create a purchase order item with reference to this purchase requisition item, you must specify precise account assignment information because **account assignment category U is not allowed in the purchase orders.**



**Hint:**  
Account assignment category U is allowed in purchase orders for external services and blanket purchase orders.

- Valuation price

When you create a purchase requisition item for valuated material, the valuation price is taken from the material master record. For non-valuated material or material without a master record, you must manually enter the valuation price. You use this valuation price for a value-related release procedure. The release can refer to the value of the individual item or to the total value of the requisition. If a previously defined release strategy becomes effective, you can create a request or a purchase order with reference to a purchase requisition only after the system releases the purchase requisition.



**Hint:**  
You can also dispense with the manual entry of a valuation price and use the fact that the valuation price is missing as a criterion for your release strategy.

**Process Status and Creation Indicator**



**Purchase requisition – Item details**

Valuation
Source of supp
Status
Contact person
Texts
Delivery ad

**Processing stat** PO created Ordered 100 L

Doc.cat.LT	Purch.doc.	Item	Short text	Quantity	OU
Purchase ...	4500007533	10	Sched.line	100	L
			Goods receipt	100	L

Valuation
Source of supply
Status
Contact person
Delivery addr

Created by Annette WEISS Changed on 08.11.2001

**Crea. ind.** Realtime (manual)

Requisitioner Req.tracking no

Purch. group T01 LO020-01

MRP controller 001 DISPONENT 001 Telephone 1174

Figure 102: Processing Status and Creation Indicator

To trace if your purchase requisition item has been processed, evaluate the processing status of the purchase requisition item. You can see the processing status on the *Status* tab page in the item detail area. The processing status indicates if the item has been ordered, not ordered or requested, or if the item has been converted into an outline agreement.

The *Status* tab page lists the purchase order history of referenced purchasing documents (created with reference to the purchase requisition item). You can obtain information about previously posted goods receipts and invoices.

As a buyer, you can see how the system creates the purchase requisition manually or automatically, for example, through materials planning. In the item detail on the Contact person tab page, the Creation Indicator field can provide information.

### Templates for Purchase Requisitions and Purchase Orders

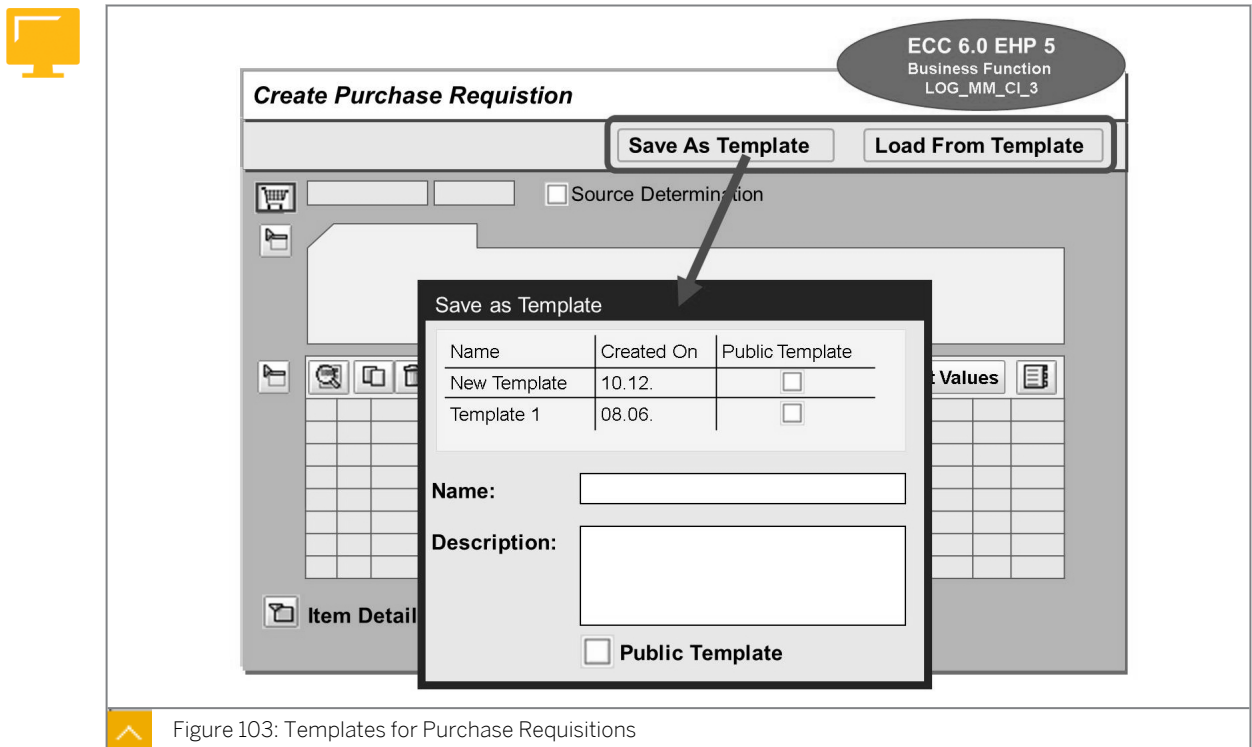


Figure 103: Templates for Purchase Requisitions

As of Enhancement Package 5 for SAP ERP 6.0, you can efficiently create purchase requisitions and purchase orders for materials that are requested or ordered frequently, thereby reducing the effort involved in data entry by using user-specific templates or public templates. The system makes public templates available to all users.

#### Templates can be used in the following transactions:

- To create Purchase Requisition (ME51N) and Change Purchase Requisition (ME52N)
- To create Purchase Order (ME21N) and Change Purchase Order (ME22N)

In these transactions, choose the *Save As Template* pushbutton or the *Load from Template* pushbutton. You see a dialog box in which you can save, load, or delete templates. When you save a template, you can define the template as a public template. When you load a template, you can decide whether you want to copy header and item data to the new purchasing document, or only the item data.

To save and delete public templates that are available to all users, you need the appropriate authorizations (authorization object create or change or delete Public Templates)

M\_TEMPLATE). When you copy a user, the system copies the user-specific templates of the user to the new user master record.



Hint:

Before you can use the template function in purchase requisitions and purchase orders, you have to activate the business function LOG\_MM\_CI\_3.



### How to Create a Purchase Requisition with Account Assignment

In the IT department, you require cordless optical mice, a stereo headset, and external hard disks. You can select the mice and the headset from the catalog. For the external hard disks, you need to enter all the relevant data manually.

#### 1. Maintain personal settings.

Before you create the purchase requisitions, maintain your personal default values. This data is then proposed for each item.

Define the following values:

Field	Value
<i>Pur. Group</i>	<b>SCM500-## (T##)</b>
<i>AcctAssCat</i>	<i>Cost center (K)</i>
<i>Delivery Date</i>	<Today + 7 days>
<i>Plant</i>	<b>1000</b>
<i>Tracking Number</i>	<b>IT##</b>

- Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Requisition* → *Create (ME51N)*.
- Choose the *Personal Setting* pushbutton.
- Choose the *Default Values* tab page.
- Choose *More Fields...* to add the plant and the purchasing group to the default values. In the *Change Layout* dialog box, select *Plant* and *Purchasing Group* from the *Hidden fields* list and choose (*Show selected fields*).
- Choose (*Copy*).
- Enter the following data on the *Default Values* tab page:

Field	Value
<i>Pur. Group</i>	<b>SCM500-## (T##)</b>
<i>AcctAssCat</i>	<i>Cost center (K)</i>
<i>Delivery Date</i>	Today + 7 days
<i>Plant</i>	<b>1000</b>



Field	Value
Tracking Number	IT##

- g) Save your entries to save your personal default values. The system uses these default values in the purchase requisition until you change them again.

2. Create purchase requisition with catalog items.

Create a purchase requisition for a "Stereo Headset Basic X##" and 10 cordless mice of the model "Cordless Optical Mouse S##".

Use the catalog when you create the items for the headset and the mice.


Display the details of the catalog entries before you copy the items to your purchase requisition.

Define the values of account assignment for the individual items using the following list:

Material	Quantity	Cost Center	General Ledger (G/L) Account
Stereo Headset	1 piece	4100	400000
Cordless Optical Mouse	6 pieces	4100	400010
Cordless Optical Mouse	4 pieces	4110	400010



Hint:


To enter the multiple account assignment, go to the *Account Assignment* tab page and choose  (*Multiple Account Assignment*).

This takes you from the single account assignment screen to the multiple account assignment screen.


When you have entered all the data in the purchase requisition, check if a valuated goods receipt is provided for both items.

Save the purchase requisition.

Purchase requisition number: \_\_\_\_\_

- a) Choose  (*Catalog*). The system takes you to the catalog.  
Use the description of the material, or part of the description, as the keyword for the selection. For example, you could enter **Headset\*##** in the *Keyword* field when searching for the headset.
- b) Select the required entry from the search result, enter the quantity you need, and choose the *Add to Cart* pushbutton.
- c) Proceed as described under a) and b) for the material **Cordless Optical Mouse S##**. Choose the *View Cart* pushbutton.
- d) To display the details for an item, select the *Short Description* column. You can use the *Next Item* pushbutton and the *Previous Item* pushbutton to switch between the detail

views for the items. To return to the overview, choose the *Back to Cart Preview* pushbutton.

- e) Choose the *Transfer All* pushbutton or the *Check out* pushbutton to copy the items from the catalog to the purchase requisition.
- f) In the item detail for the first item, choose the *Account Assignment* tab page and enter **400000** in the *G/L account* field and enter **4100** in the *Cost Center* field. Choose the  *Next item* pushbutton to open the details of the second item.
- g) Enter the account assignment data for the second item, choose  (*Multiple Acct Assignment*) from the *Account Assignment* tab page. Enter the following data:

Field	Value
Quantity	6
Cost Ctr	4100
G/L Account	400010

- h) Enter the following data on the *Account Assignment* tab page for *Quantity 4*:

Field	Value
Quantity	4
Cost Ctr	4110
G/L Account	400010

Check if a valued receipt is provided for the item by choosing the *Valuation* tab page in the item details. Ensure that the *Goods Receipt* checkbox is selected and the *GR NonVal.* checkbox is not selected.

- i) Save your entries and note the purchase requisition number.
3. Create a purchase requisition for a material without a master record.  
 Create a purchase requisition for four external hard disks for plant 1000. Enter **EXTERNAL HARD DISK 3.5", 320 GB** in the *Short Text* field. Enter **PC** in the *Unit of Measure* field and **00208 (Hard Disks)** in the *Matl Group* field. Enter **EUR 84.00** in the *Valuation Price* field and select the *GR Non-Val.* checkbox.

Define the following values of account assignment from the following table:

Material	Quantity	Cost Center	General Ledger (G/L) Account
External Hard Disks	1 piece	1000	400000
External Hard Disks	3 pieces	4100	400000

Save your purchase requisition after you have entered all the data.

Purchase requisition number: \_\_\_\_\_

- a) Enter the following data in the *Item Overview* area in the *Item 10* line:

Field	Value
Short Text	<b>External Hard Disk 3.5", 320 GB</b>
Quantity/UoM	<b>4 PC</b>
Material Group	<b>00208 (Hard Disks)</b>

b) Enter the following data on the *Account Assignment* tab page for *Quantity 1*:

Field	Value
Quantity	<b>1</b>
Cost Ctr	<b>1000</b>
G/L Acct	<b>400000</b>

c) Enter the following data on the *Account Assignment* tab page for *Quantity 3*:

Field	Value
Quantity	<b>3</b>
Cost Ctr	<b>4100</b>
G/L Acct	<b>400000</b>

d) Enter the following data in the *Item Detail* area on the *Valuation* tab page:

Field	Value
Valuation Price	<b>85</b>
Goods Receipt	<b>Checked</b>
GR Non-Val.	<b>Checked</b>

e) Save your entries and note the purchase requisition number.

4. Display a list of the purchase requisitions for your requirement tracking number IT##.



Hint:

Use the general list display for purchase requisitions.

Choose *Purchasing* → *Purchase Requisition* → *List Displays* → *General* (ME5A).


Select purchase requisition item directly from the list. What is the processing status of this item?

Status: \_\_\_\_\_


Return to the list. The list also shows the processing status of each requisition item. Which items are assigned to a fixed vendor?

Items: \_\_\_\_\_

a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Requisition* → *List Displays* → *General* (ME5A).

- b) Enter **IT##** in the *Requirement tracking number* field and choose  (*Execute*).
  - c) Double-click a purchase requisition item to branch to the purchase requisition.
  - d) Choose the *Status* tab page in the *Item Detail* area. The item has the status *Not edited*.
  - e) Go back to display the list again.

In the purchase requisitions list, the processing status *N* is in the third line (for each item). If you select *N*, the F1 help and F4 help are available. When you start the F4 help, you will receive the short description *Not edited*.
  - f) You can also see from the list that the vendor **T-K500C##** is already assigned to the two items that you selected from the catalog.
5. When you display the purchase requisition, show the individual tab pages in the item detail and discuss some of the data.

Also show how to determine whether the item list is displayed as a table control or as grid control under  *Personal Settings* on the *Basic settings* tab page.
  6. Optional: Enter a purchase requisition with multiple account assignment with a percentage distribution. You can request one copy, with the costs distributed at 40% and 60% between two cost centers.
-

# Unit 4

## Exercise 15



### Create Purchase Requisitions

#### Business Example

The various departments in your company report their material requirements to Purchasing using purchase requisitions. These purchase requisitions are then processed in the Purchasing department. To simplify processing, the Purchasing department provides a catalog containing the materials most frequently required by the other departments. This catalog contains both materials with master records and materials without master records. Each material in the catalog comes with a short text, vendor, price, and vendor material number. When a purchase requisition is created, items can be copied from the catalog.



#### Hint:

You call the catalog in English. This cannot be altered because the system maintains this catalog only in this language.

If you cannot call the catalog, the exercise can still be performed.

In this case, you need to enter all the items manually in the transaction ME51N:

- Stereo Headset Basic X## (similar to the item for the external hard disks)  
Short text Stereo Headset Basic X##, unit of measure piece, material group, valuation price 24.00
- Cordless Optical Mouse S##  
Material number T-M500C##, quantity 10 pieces, source of supply vendor T-K500C##, purchasing organization 1000 (price for purchase order comes from info record)
- External Hard Disk 3.5", 320 GB  
As described in the exercise

You will have no difficulty performing the following exercises with this data.

Create a Purchase Requisition.

In the IT department, you need cordless optical mice, a stereo headset, and external hard disks. You can select the mice and the headset from the catalog. For the external hard disks, you need to enter all the relevant data manually.

#### 1. Maintain personal settings.

Before you create the purchase requisitions, maintain your personal default values. Enter the data for each item.

Define the following values:

Field	Value
<i>Pur. Group</i>	<b>SCM500-## (T##)</b>
<i>AcctAssCat</i>	<i>Cost center (K)</i>
<i>Delivery Date</i>	<Today + 7 days>
<i>Plant</i>	<b>1000</b>
<i>Tracking Number</i>	<b>IT##</b>

## 2. Create purchase requisition with catalog items.

Create a purchase requisition for a "Stereo Headset Basic X##" and 10 cordless mice of the model "Cordless Optical Mouse S##".

Use the catalog when you create the items for the headset and the mice.


Display the details of the catalog entries before you copy the items to your purchase requisition.

Define the following values of account assignment for the individual items from the following list:

Material	Quantity	Cost Center	General Ledger (G/L) Account
Stereo Headset	1 piece	4100	400000
Cordless Optical Mouse	6 pieces	4100	400010
Cordless Optical Mouse	4 pieces	4110	400010



Hint:

To enter the multiple account assignment, go to the *Account Assignment* tab page and choose  (*Multiple Account Assignment*).

This takes you from the single account assignment screen to the multiple account assignment screen.

When you have entered all the data in purchase requisition, check if a valuated goods receipt is provided for both items.

Save the purchase requisition.

Purchase requisition number: \_\_\_\_\_

## 3. Create a purchase requisition for material without a master record.

Create a purchase requisition for four external hard disks for plant 1000. Enter **External Hard Disk 3.5", 320 GB** in the *Short Text* field. Enter **PC** in the *Unit of Measure* field and **00208 (Hard Disks)** in the *Matl Group* field. Enter **EUR 84.00** in the *Valuation Price* field and select the *GR Non-Val.* checkbox.

Define the following values of the account assignment from the following table:

Material	Quantity	Cost Center	General Ledger (G/L) Account
External Hard Disks	1 piece	1000	400000
External Hard Disks	3 pieces	4100	400000

Save your purchase requisition after you have entered all the data.

Purchase requisition number: \_\_\_\_\_

4. Display a list of the purchase requisitions for your requirement tracking number IT##.



Hint:

Use the general list display for purchase requisitions.

Choose *Purchasing* → *Purchase Requisition* → *List Displays* → *General* (ME5A).

Select the purchase requisition item from the list. What is the processing status of this item?

Status: \_\_\_\_\_

Return to the list. This also shows the processing status of each requisition item.

Which items are assigned to a fixed vendor?

Items: \_\_\_\_\_



## Create Purchase Requisitions

### Business Example

The various departments in your company report their material requirements to Purchasing using purchase requisitions. These purchase requisitions are then processed in the Purchasing department. To simplify processing, the Purchasing department provides a catalog containing the materials most frequently required by the other departments. This catalog contains both materials with master records and materials without master records. Each material in the catalog comes with a short text, vendor, price, and vendor material number. When a purchase requisition is created, items can be copied from the catalog.



#### Hint:

You call the catalog in English. This cannot be altered because the system maintains this catalog only in this language.

If you cannot call the catalog, the exercise can still be performed.

In this case, you need to enter all the items manually in the transaction ME51N:

- Stereo Headset Basic X## (similar to the item for the external hard disks)  
Short text Stereo Headset Basic X##, unit of measure piece, material group, valuation price 24.00
- Cordless Optical Mouse S##  
Material number T-M500C##, quantity 10 pieces, source of supply vendor T-K500C##, purchasing organization 1000 (price for purchase order comes from info record)
- External Hard Disk 3.5", 320 GB  
As described in the exercise

You will have no difficulty performing the following exercises with this data.

Create a Purchase Requisition.

In the IT department, you need cordless optical mice, a stereo headset, and external hard disks. You can select the mice and the headset from the catalog. For the external hard disks, you need to enter all the relevant data manually.




#### 1. Maintain personal settings.

Before you create the purchase requisitions, maintain your personal default values. Enter the data for each item.



Define the following values:

Field	Value
<i>Pur. Group</i>	<b>SCM500-## (T##)</b>
<i>AcctAssCat</i>	<i>Cost center (K)</i>
<i>Delivery Date</i>	<Today + 7 days>
<i>Plant</i>	<b>1000</b>
<i>Tracking Number</i>	<b>IT##</b>

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Requisition* → *Create* (ME51N).
- b) Choose the  *Personal Setting* pushbutton.
- c) Choose the *Default Values* tab page.
- d) Choose *More Fields...* to add the plant and the purchasing group to the default values. In the *Change Layout* dialog box, select *Plant* and *Purchasing Group* from the *Hidden fields* list and choose  (*Show selected fields*).
- e) Choose  (*Copy*).
- f) Enter the following data on the *Default Values* tab page:

Field	Value
<i>Pur. Group</i>	<b>SCM500-## (T##)</b>
<i>AcctAssCat</i>	<i>Cost center (K)</i>
<i>Delivery Date</i>	Today + 7 days
<i>Plant</i>	<b>1000</b>
<i>Tracking Number</i>	<b>IT##</b>

- g) Save your entries to save your personal default values. The system uses these default values in the purchase requisition until you change them again.
2. Create purchase requisition with catalog items.

Create a purchase requisition for a "Stereo Headset Basic X##" and 10 cordless mice of the model "Cordless Optical Mouse S##".


Use the catalog when you create the items for the headset and the mice.


Display the details of the catalog entries before you copy the items to your purchase requisition.

Define the following values of account assignment for the individual items from the following list:

Material	Quantity	Cost Center	General Ledger (G/L) Account
Stereo Headset	1 piece	4100	400000

Material	Quantity	Cost Center	General Ledger (G/L) Account
Cordless Optical Mouse	6 pieces	4100	400010
Cordless Optical Mouse	4 pieces	4110	400010





**Hint:**  
 To enter the multiple account assignment, go to the *Account Assignment* tab page and choose  (*Multiple Account Assignment*).  
 This takes you from the single account assignment screen to the multiple account assignment screen.

When you have entered all the data in purchase requisition, check if a valuated goods receipt is provided for both items.

Save the purchase requisition.

Purchase requisition number: \_\_\_\_\_

- a) Choose  (*Catalog*). The system takes you to the catalog.  
 Use the description of the material, or part of the description, as the keyword for the selection. For example, you could enter Headset\*## in the *Keyword* field when searching for the headset.
- b) Select the required entry from the search result, enter the quantity you need, and choose the *Add to Cart* pushbutton.
- c) Proceed as described under a) and b) for the material **Cordless Optical Mouse s##**. Choose the *View Cart* pushbutton.
- d) To display the details for an item, select the *Short Description* column. You can use the *Next Item* pushbutton and the *Previous Item* pushbutton to switch between the detail views for the items. To return to the overview, choose the *Back to Cart Preview* pushbutton.
- e) Choose the *Transfer All* pushbutton or the *Check out* pushbutton to copy the items from the catalog to the purchase requisition.
- f) In the item detail for the first item, choose the *Account Assignment* tab page and enter **400000** in the *G/L account* field and enter **4100** in the *Cost Center* field. Choose the  *Next item* pushbutton to open the details of the second item.
- g) Enter the account assignment data for the second item, choose  (*Multiple Acct Assignment*) from the *Account Assignment* tab page. Enter the following data:

Field	Value
<i>Quantity</i>	<b>6</b>
<i>Cost Ctr</i>	<b>4100</b>

Field	Value
G/L Account	400010

h) Enter the following data on the *Account Assignment* tab page for *Quantity 4*:

Field	Value
Quantity	4
Cost Ctr	4110
G/L Account	400010

To check if a valued receipt is provided for the item, choose the *Valuation* tab page in the item details. Ensure that the *Goods Receipt* checkbox is selected and the *GR NonVal.* checkbox is not selected.

i) Save your entries and note the purchase requisition number.

3. Create a purchase requisition for material without a master record.

Create a purchase requisition for four external hard disks for plant 1000. Enter **External Hard Disk 3.5", 320 GB** in the *Short Text* field. Enter **PC** in the *Unit of Measure* field and **00208 (Hard Disks)** in the *Matl Group* field. Enter **EUR 84.00** in the *Valuation Price* field and select the *GR Non-Val.* checkbox.

Define the following values of the account assignment from the following table:

Material	Quantity	Cost Center	General Ledger (G/L) Account
External Hard Disks	1 piece	1000	400000
External Hard Disks	3 pieces	4100	400000

Save your purchase requisition after you have entered all the data.

Purchase requisition number: \_\_\_\_\_

a) Enter the following data in the *Item Overview* area in the *Item 10* line:

Field	Value
Short Text	<b>External Hard Disk 3.5", 320 GB</b>
Quantity/UoM	<b>4 PC</b>
Material Group	<b>00208 (Hard Disks)</b>

b) Enter the following data on the *Account Assignment* tab page for *Quantity 1*:

Field	Value
Quantity	1
Cost Ctr	1000
G/L Acct	400000

c) Enter the following data on the *Account Assignment* tab page for *Quantity 3*:


Field	Value
Quantity	3
Cost Ctr	4100
G/L Acct	400000

d) Enter the following data in the *Item Detail* area on the *Valuation* tab page:

Field	Value
Valuation Price	85
Goods Receipt	Checked
GR Non-Val.	Checked

e) Save your entries and note the purchase requisition number.

4. Display a list of the purchase requisitions for your requirement tracking number IT##.



Hint:  
Use the general list display for purchase requisitions.  
Choose *Purchasing* → *Purchase Requisition* → *List Displays* → *General* (ME5A).

Select the purchase requisition item from the list. What is the processing status of this item?

Status: \_\_\_\_\_

Return to the list. This also shows the processing status of each requisition item.

Which items are assigned to a fixed vendor?

Items: \_\_\_\_\_

a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Requisition* → *List Displays* → *General* (ME5A).

b) Enter **IT##** in the *Requirement tracking number* field and choose  (Execute).

c) Double-click a purchase requisition item to branch to the purchase requisition.

d) Choose the *Status* tab page in the *Item Detail* area. The item has the status *Not edited*.

e) Go back to display the list again.

In the purchase requisitions list, the processing status *N* is in the third line for each item. If you select *N*, the F1 help and F4 help are available here. When you start the F4 help, you will receive the short description *Not edited*.

f) You can also see from the list that the vendor **T-K500C##** is already assigned to the two items that you selected from the catalog.



### **LESSON SUMMARY**

You should now be able to:

- Create purchase requisitions



## Creating Purchase Orders with Reference to Purchase Requisitions

### LESSON OVERVIEW

This lesson discusses the conversion of purchase requisitions into purchase orders. The lesson also introduces the confirmation categories that can be used for purchase orders. In addition, you will learn the method to enter an order acknowledgement for a purchase order item.



Discuss and show the conversion of purchase requisitions into purchase orders and the entry of confirmations for the purchase order.

### Business Example

In your company, the material requirements reported internally by the cost center are converted into purchase orders by the Purchasing department. For some of these purchase orders you want the vendors to send confirmations. For this reason, you require the following knowledge:

- How to create a purchase order with reference to a purchase requisition with account assignment
- How to enter an order acknowledgement for a purchase order



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Create a purchase order with reference to a purchase requisition
- Enter an order acknowledgement for a purchase order

## Conversion of Purchase Requisitions into Purchase Orders

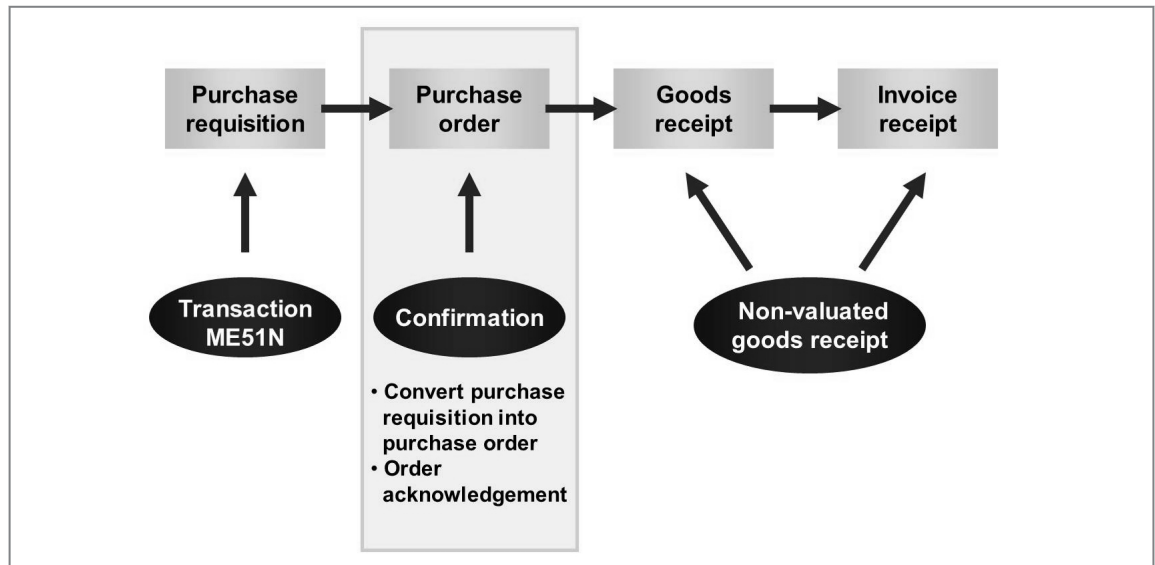


Figure 104: Consumable Material Procurement – Purchase Order

As a buyer, you must convert purchase requisitions created by the user department into purchasing documents. The purchasing document can be a purchase order, a contract release order, a scheduling agreement schedule line, or even a request for quotation (RFQ).



Explain the different options for converting purchase requisitions into purchase orders. On the topic of source of supply, clarify that the specification of a vendor number alone does not yet enable the conversion of a purchase requisition into a purchase order. A price must also be determined in the system for the vendor and the material. A source of supply does not just mean a vendor, but rather a combination of vendor, material, and price.

Various options are available for converting a purchase requisition to a purchase order. Before the actual conversion of a purchase requisition item, you can assign a **source of supply (such as info record, outline agreement, or scheduling agreement)** to the item.



Hint:

**Sources of supply are assigned in the purchase requisition at item level, not at header level.**

You can assign a source of supply to a purchase requisition item in different ways. For example, you can enter a source of supply when creating or changing a purchase requisition item on the *Source of Supply* tab page. You also can use the function source determination to let the system automatically determine the source of supply.

### Converting Purchase Requisitions

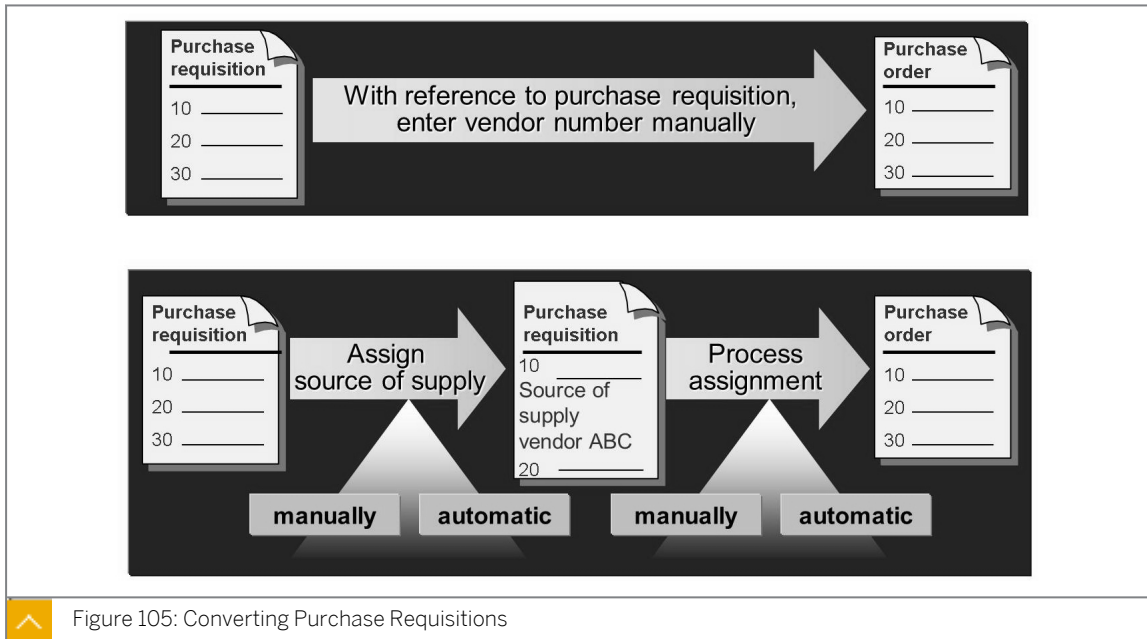


Figure 105: Converting Purchase Requisitions

You can manually or automatically convert a purchase requisition item with source of supply into a purchase order. The system copies the vendor information from the source of supply for the purchase requisition.

If you do not assign a source of supply in the purchase requisition item, you can still create a purchase order with reference to this purchase requisition item. In this case, you must manually enter the vendor information in the purchase order.



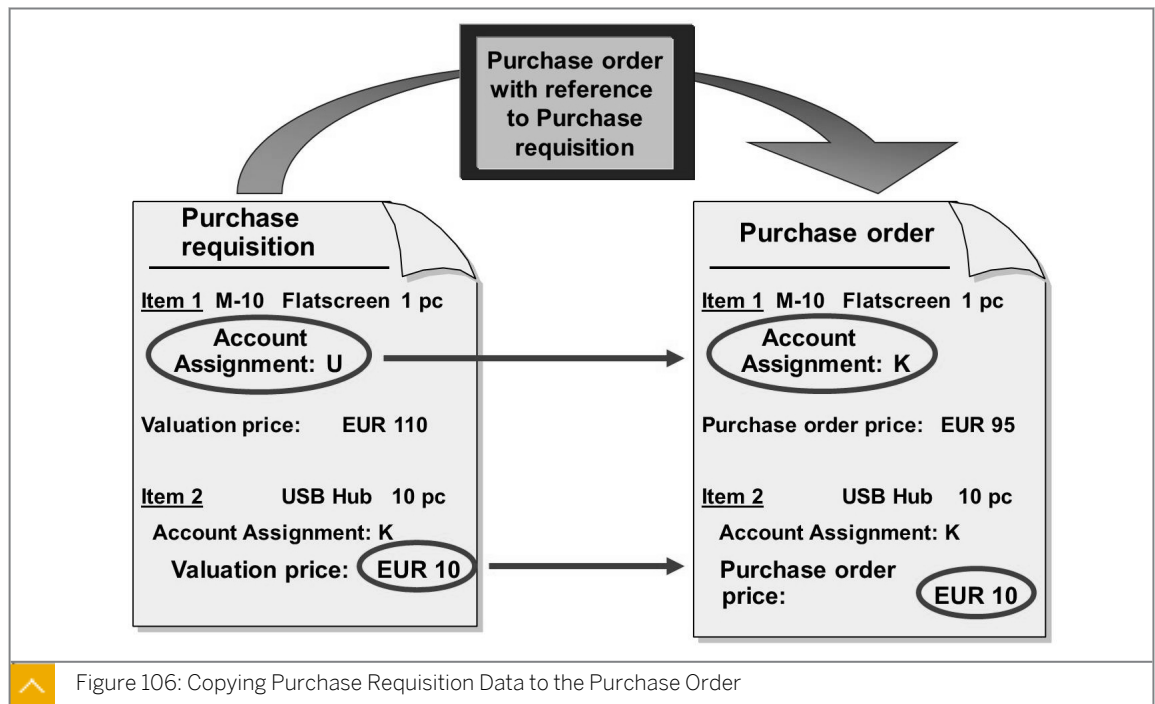
For more information about source of supply determination and converting purchase requisitions, refer to the documentation for *Materials Management* in the Purchasing topic (Optimized Purchasing Processing), and the training course SCM520 – Purchasing.

#### Special Features for Converting Purchase Requisitions



Explain the special cases to be noted when converting a purchase requisition item into a purchase order. **The account assignment category *Unknown (U)* is only allowed in the purchase order for the item categories Service and Limit.** As a rule, the valuation price and the purchase order price do not match.





### The following are special cases to be noted during conversion of purchase requisitions:

- Purchase requisition items with the account assignment category Unknown (*U*)  
The system only allows the account assignment category *U* in the purchase order in connection with the item categories Service and Limit. In all other situations, you must select a valid account assignment object and maintain the corresponding account assignment details when creating the purchase order.
- Purchase requisition items with material master record  
If an info record exists for the vendor and the material, the system proposes the purchase price from the info record when you create a purchase order with reference to a purchase requisition (without source of supply). If this is not the case, you must enter the price manually. The valuation price from the purchase requisition item is not transferred to the purchase order.
- Purchase requisition items without material master record  
If the system transfers a purchase requisition item without a material master to the purchase order, the system proposes the valuation price as the purchase price from the purchase requisition. The buyer can change this default price.



### How to Convert a Purchase Requisition into a Purchase Order

Create a purchase order with reference to a purchase requisition.

Create Purchase Order with Reference to PReq.

The purchase requisitions for the PC accessories need to be converted into purchase orders. Create a purchase order for each purchase requisition.

For the purchase requisition that contains catalog items, the vendor H.A.G. Potsdam Gr.## is already assigned as the source of supply for these items. The external hard disks are also ordered from the vendor H.A.G. Potsdam Gr.##.

### 1. Create a purchase order for the headset and the cordless optical mouse.

Create a purchase order with reference to your first purchase requisition. The vendor T-K500C## (H.A.G. Potsdam Gr.##) will be adopted automatically from the purchase requisition.







Hint:

In the document overview, either choose the current purchase requisitions for your requirement tracking number IT## or choose the selection variant *My Purchase Requisitions*.

Check whether the account assignment data and the control for the valuated goods receipt are adopted from the purchase requisition to the purchase order.

Save your purchase order and make a note of the number.

Purchase order number: \_\_\_\_\_

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.
- b) If you have opened the document overview, choose the *Document Overview On* pushbutton.
- c) Choose  (*Selection Variants*) and select *My purchase requisitions* from the list. You can also choose the selection variant *Purchase requisitions*. Enter **IT##** in the *Requirement tracking number* field, delete all the other selection values, and choose  *Execute*.
- d) Select your purchase requisition with two items in the document overview and choose  *Adopt*.  
Alternatively, you can drag the purchase requisition to the shopping cart.
- e) Open the *Item Detail* area and check the data on the *Account Assignment* and *Delivery* tab pages for both items.
- f) Choose  (*Save*) and make a note of the purchase order number.

### 2. Create a purchase order for external hard disks.

Create a purchase order with reference to your second purchase requisition.

Enter **T-K500C##** in the *Vendor* field for this purchase order.





After consultation with the vendor, the price for the hard disks is calculated at EUR 80 per piece. Adjust the purchase order price accordingly.

For this purchase order, check whether the account assignment data and the control for the non-valuated goods receipt have been adopted correctly from the purchase requisition.

You also want to receive an order acknowledgement from the vendor for the hard disks. Therefore, specify the confirmation control key *Order Acknowledgement* on the *Confirmations* tab page of the item detail.

Save your purchase order immediately after entering all the data.

Purchase order number: \_\_\_\_\_

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.
- b) Enter **T-K500C##** in the *Vendor* field.
- c) If you have not opened the document overview, choose the *Document Overview On* pushbutton.
- d) Choose  (*Selection Variants*) and select *My purchase requisitions* from the list. You can also choose the selection variant *Purchase requisitions*. Enter **IT##** in the *Requirement tracking number* field, delete all the other selection values, and choose  (*Execute*).
- e) Select your second purchase requisition (one item) in the document overview and choose  (*Adopt*).  
Alternatively, you can drag the purchase requisition to the shopping cart.
- f) Change the price from EUR 85 (default value from the purchase requisition) to EUR **80**.
- g) Open the *Item Detail* area for the hard disks item. Choose the *Confirmations* tab page and in the *Conf. Control* list, select *Confirmation SCM500 (T-AB)*.
- h) Choose  (*Save*) and make a note of the purchase order number.

### 3. Display the purchase requisition.

Display one of your converted purchase requisitions. What is the processing status of the purchase requisition items?


Status: \_\_\_\_\_

- a) If you have opened the document overview with your purchase requisitions, double-click the purchase requisition number to display a purchase requisition.
- b) Open the *Item Detail* area.
- c) Choose the *Status* tab page.  
The processing status of the three items is that the purchase order is created.

### 4. Display purchase order for hard disks.

Display your purchase order for the hard disks. Where do you look in the purchase order to find out whether a purchase order item was created with reference to a purchase requisition?

Do not leave the purchase order transaction after this.

- a) In the document overview, choose  (*Selection Variant*) and select *My purchase orders* from the list. Double-click the number of your last purchase order to display it.
- b) The numbers of the reference documents are displayed in the item overview for each item. Scroll to the right until you see the columns *Purchase Req.* and *Requisn Item*.
- c) Keep the purchase order displayed and make a note of the purchase order.



### How to Assign a Source of Supply to a Purchase Requisition

Show how a source of supply can be assigned to a purchase requisition item in transaction ME51N, and then convert the purchase requisition into a purchase order.

1. Create purchase requisition.

Create a new purchase requisition with the following data:

Item	Material	Quantity	Plant
10	T-M500B00	100	1000
20	T-M500B00	50	1200
30	T-M500A00	10	1000

Do not save the purchase requisition yet.

2. Assign a source of supply to *Item 10*.

- a) Choose the *Source of Supply* tab page.
- b) Choose the *Assign Source of Supply* pushbutton.

The system displays a list with two possible sources of supply (info records).

Choose the most favorable vendor *T-K500B00*. Choose the *Assign Source of Supply* pushbutton to leave the selection list.

3. Assign a source of supply to *Item 20*.

- a) Choose the *Source of Supply* tab page.
- b) Enter **T-K500B00** in the *Fixed Vendor* field and choose *Enter*.
- c) Enter **1000** in the *Purch. Org.* field and choose *Enter*. The system determines the number of the info record for vendor T-K500B00 and material T-M500B00.



Note:

Remind the participants that the purchasing organization must always be specified for the price determination.

4. Assign a source of supply to *Item 30*.

- a) Choose the *Source of Supply* tab page.
- b) Enter **T-K500B00** in the *Fixed Vendor* field and **1000** in the *Purch. Org.* field.
- c) Choose *Enter*. The system cannot determine an info record.



Note:

Remind the participants that a fixed vendor alone can be specified in the purchase requisition, but it is not an adequate source of supply in the SAP system.

- d) Save the purchase requisition.

5. Convert purchase requisition into a purchase order.

Create a purchase order with reference to the purchase requisition. As all three purchase requisition items contain the same vendor, they can all be procured in one purchase order. For items 10 and 20, a price is determined from the info record; however, for item 30, you must enter the price manually.



Note:

If the conversion of purchase requisitions into purchase orders has to be automated, a source of supply must already exist.



# Unit 4

## Exercise 16



## Create a Purchase Order with Reference to a Purchase Requisition

### Business Example

As a member of the central Purchasing department, you are responsible for processing purchase requisitions for the different departments in your company. You will be able to create a purchase order with reference to a purchase requisition.



**Caution:**  
You can do this exercise only if you created a purchase requisition earlier.

Create a purchase order with reference to a purchase requisition.

The purchase requisitions for the PC accessories need to be converted into purchase orders. Create a purchase order for each purchase requisition.

For the purchase requisition that contains catalog items, the vendor H.A.G. Potsdam Gr.## is already assigned as the source of supply for these items. The external hard disks are also ordered from the vendor H.A.G. Potsdam Gr.##.

#### 1. Create a purchase order for the headset and the cordless optical mouse.

Create a purchase order with reference to your first purchase requisition. The vendor T-K500C## (H.A.G. Potsdam Gr.##) will be adopted automatically from the purchase requisition.



**Hint:**  
In the document overview, either choose the current purchase requisitions for your requirement tracking number IT## or choose the selection variant *My Purchase Requisitions*.

Check whether the account assignment data and the control for the valuated goods receipt are adopted from the purchase requisition to the purchase order.

Save your purchase order and make a note of the number.

Purchase order number: \_\_\_\_\_

#### 2. Create a purchase order for external hard disks.

Create a purchase order with reference to your second purchase requisition.

Enter **T-K500C##** in the *Vendor* field for this purchase order.

After consultation with the vendor, the price for the hard disks is calculated at EUR 80 per piece. Adjust the purchase order price accordingly.

For this purchase order, check whether the account assignment data and the control for the non-valuated goods receipt have been adopted correctly from the purchase requisition.

You also want to receive an order acknowledgement from the vendor for the hard disks. Therefore, specify the confirmation control key Order Acknowledgement on the *Confirmations* tab page of the item detail.

Save your purchase order immediately after entering all the data.

Purchase order number: \_\_\_\_\_

**3.** Display the purchase requisition.

Display one of your converted purchase requisitions. What is the processing status of the purchase requisition items?

Status: \_\_\_\_\_

**4.** Display purchase order for hard disks.

Display your purchase order for the hard disks. Where do you look in the purchase order to find out whether a purchase order item was created with reference to a purchase requisition?

Do not leave the purchase order transaction after this.





## Create a Purchase Order with Reference to a Purchase Requisition

### Business Example

As a member of the central Purchasing department, you are responsible for processing purchase requisitions for the different departments in your company. You will be able to create a purchase order with reference to a purchase requisition.



**Caution:**  
You can do this exercise only if you created a purchase requisition earlier.

Create a purchase order with reference to a purchase requisition.

The purchase requisitions for the PC accessories need to be converted into purchase orders. Create a purchase order for each purchase requisition.

For the purchase requisition that contains catalog items, the vendor H.A.G. Potsdam Gr.## is already assigned as the source of supply for these items. The external hard disks are also ordered from the vendor H.A.G. Potsdam Gr.##.

#### 1. Create a purchase order for the headset and the cordless optical mouse.

Create a purchase order with reference to your first purchase requisition. The vendor T-K500C## (H.A.G. Potsdam Gr.##) will be adopted automatically from the purchase requisition.





**Hint:**  
In the document overview, either choose the current purchase requisitions for your requirement tracking number IT## or choose the selection variant *My Purchase Requisitions*.



Check whether the account assignment data and the control for the valuated goods receipt are adopted from the purchase requisition to the purchase order.

Save your purchase order and make a note of the number.

Purchase order number: \_\_\_\_\_

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.
- b) If you have opened the document overview, choose the *Document Overview On* pushbutton.
- c) Choose  (*Selection Variants*) and select *My purchase requisitions* from the list.

You can also choose the selection variant *Purchase requisitions*. Enter **IT##** in the *Requirement tracking number* field, delete all the other selection values, and choose  (Execute).

- d) Select your purchase requisition with two items in the document overview and choose  (Adopt).  
Alternatively, you can drag the purchase requisition to the shopping cart.
- e) Open the *Item Detail* area and check the data on the *Account Assignment* and *Delivery* tab pages for both items.
- f) Choose  (Save) and make a note of the purchase order number.

## 2. Create a purchase order for external hard disks.

Create a purchase order with reference to your second purchase requisition.

Enter **T-K500C##** in the *Vendor* field for this purchase order.





After consultation with the vendor, the price for the hard disks is calculated at EUR 80 per piece. Adjust the purchase order price accordingly.

For this purchase order, check whether the account assignment data and the control for the non-valuated goods receipt have been adopted correctly from the purchase requisition.

You also want to receive an order acknowledgement from the vendor for the hard disks. Therefore, specify the confirmation control key *Order Acknowledgement* on the *Confirmations* tab page of the item detail.

Save your purchase order immediately after entering all the data.

Purchase order number: \_\_\_\_\_

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.
- b) Enter **T-K500C##** in the *Vendor* field.
- c) If you have not opened the document overview, choose the *Document Overview On* pushbutton.
- d) Choose  (*Selection Variants*) and select *My purchase requisitions* from the list.  
You can also choose the selection variant *Purchase Requisitions*. Enter **IT##** in the *Requirement tracking number* field, delete all the other selection values, and choose  (Execute).
- e) Select your second purchase requisition (one item) in the document overview and choose  (Adopt).  
Alternatively, you can drag the purchase requisition to the shopping cart.
- f) Change the price from EUR 85 (default value from the purchase requisition) to EUR **80**.
- g) Open the *Item Detail* area for the hard disks item. Choose the *Confirmations* tab page and in the *Conf. Control* list, select *Confirmation SCM500 (T-AB)*.
- h) Choose  (Save) and make a note of the purchase order number.

## 3. Display the purchase requisition.

Display one of your converted purchase requisitions. What is the processing status of the purchase requisition items?

Status: \_\_\_\_\_


- a) If you have opened the document overview with your purchase requisitions, double-click the purchase requisition number to display a purchase requisition.
- b) Open the *Item Detail* area.
- c) Choose the *Status* tab page.

The processing status of the three items is that the purchase order is created.

**4.** Display purchase order for hard disks.

Display your purchase order for the hard disks. Where do you look in the purchase order to find out whether a purchase order item was created with reference to a purchase requisition?

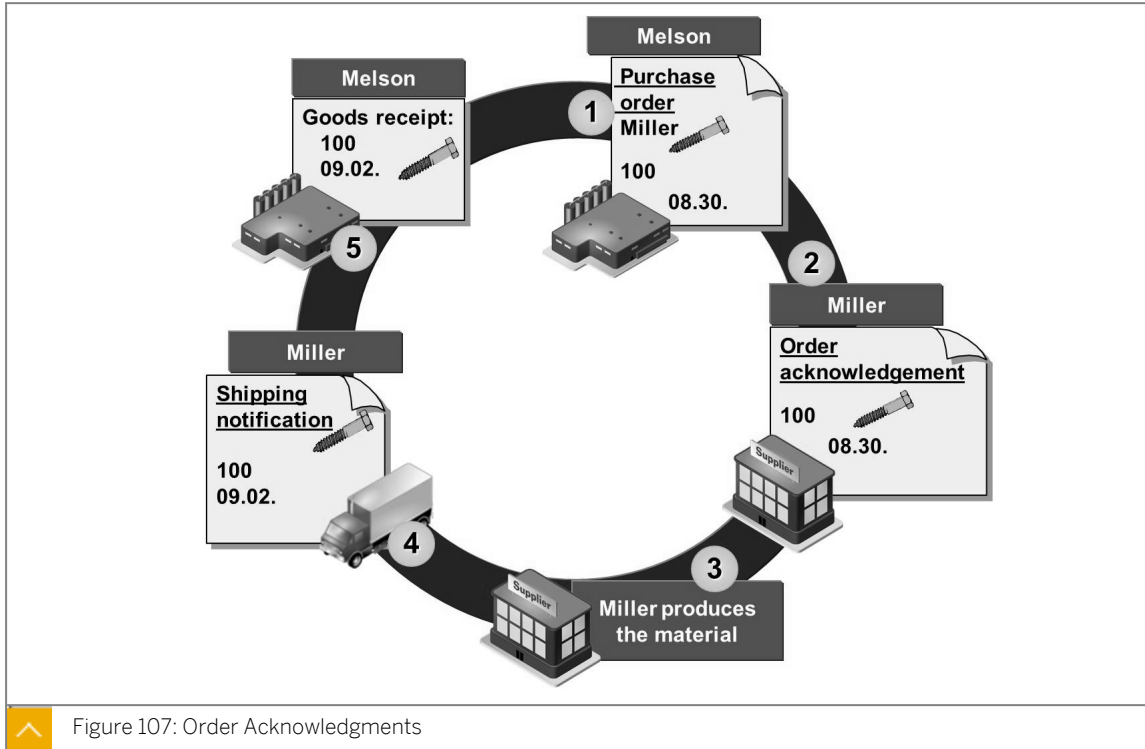
Do not leave the purchase order transaction after this.

- a) In the document overview choose  (*Selection Variant*) and select *My purchase orders* from the list. Double-click the number of your last purchase order to display it.
- b) The numbers of the reference documents are displayed in the item overview for each item. Scroll to the right until you see the columns *Purchase Req.* and *Requisn Item*.
- c) Keep the purchase order displayed and make a note of the purchase order.

## Order Acknowledgement for a Purchase Order



Ask the participants which confirmations they use in the procurement process, and then explain the options that the SAP system offers.



You can enter vendor acknowledgments for purchase orders or schedule agreement schedule lines. Confirmations are notifications to the vendors about the estimated arrival and quantity of ordered materials, such as order acknowledgement, loading or transportation confirmation, and shipping notification. You can manually enter confirmations that you receive, or receive them via Electronic Data Interchange (EDI) and have them processed automatically.

If you are using confirmations, you have the advantage that material requirements planning (MRP) does not exclusively depend on the vendor dates and vendor quantities in the purchase order or the schedule agreement schedule lines. Acknowledgments enable you to plan material requirements more accurately by providing reliable information about the delivery in the time span between the purchase order date and the expected delivery date. You can also monitor receipt of the required confirmations.

You must distinguish between confirmations that are entered directly in the purchasing document (order acknowledgement) and confirmations that represent individual documents (shipping notification).

If you need more than one confirmation category for a purchase document item, you use the confirmation control key. With this key you are able to build a chain of confirmations. For more detailed information, refer to SAP Library under *Logistics → Materials Management → Purchasing → Confirmations*.

If you are expecting a confirmation for a purchase order item, enter a confirmation control key in the item detail area on the *Confirmations* tab page. If you want to urge the vendor to submit outstanding order acknowledgments, you select the *Acknowl. Reqd.* checkbox.

When you receive the order acknowledgment from the vendor, you change your purchase order by entering the confirmation data (date, time, quantity, and number of order acknowledgment) in the purchase order on the *Confirmations* tab page.

**Note:**

You can only select the *Acknowl. Reqd.* checkbox without the confirmation control key. In this case you cannot enter the confirmed quantities and dates separately in the system. If the confirmed quantities and dates differ from the purchase order values, you have to change the original data in the purchase order.

**How to Enter an Order Acknowledgement in the Purchase Order**

The order acknowledgment for the hard disks has been received and must be entered.


**1.** Enter the order acknowledgment in the purchase order.

Display the purchase order in change mode and open the detail data for the external hard disks item. The *Confirmations* tab page includes a table in which you can enter the following vendor specifications.

Field	Value
<i>Confirmation category</i>	<i>AB (order acknowledgement)</i>
<i>Delivery date</i>	<i>Delivery date from purchase order</i>
<i>Quantity</i>	<b>4 pieces</b>
<i>External document (reference)</i>	<b>AB-HAG##</b>

Save your changes.

After you process the previous task, you will be able to display the purchase order for the hard disks.

- a) Choose  (*Display/Change*) to switch to change mode.
- b) Open the *Item Detail* area for the hard disks item.
- c) Choose the *Confirmations* tab page and enter the following data:

Field	Value
<i>CC (Confirmation category)</i>	<i>AB</i>
<i>Delivery Date</i>	<Tomorrow>
<i>Quantity</i>	<b>4</b>
<i>Reference</i>	<b>AB-HAG##</b>

- d) Save your entries.



# Unit 4

## Exercise 17



## Enter an Order Acknowledgement



**Caution:**  
You need to have created a purchase requisition earlier before you can do this exercise.

### Business Example

As a member of the central Purchasing department, you are responsible for processing purchase requisitions. You will enter an order acknowledgment.

Enter an order acknowledgment.

The order acknowledgment for the hard disks has been received and must be entered.

1. Enter the order acknowledgment in the purchase order.

Display the purchase order in change mode and open the detail data for the external hard disks item. The *Confirmations* tab page includes a table in which you can enter the following vendor specifications.

Field	Value
<i>Confirmation category</i>	<i>AB (order acknowledgement)</i>
<i>Delivery date</i>	<i>Delivery date from purchase order</i>
<i>Quantity</i>	<b>4 pieces</b>
<i>External document (reference)</i>	<b>AB-HAG##</b>

Save your changes.

After you process the previous task, you will be able to display the purchase order for the hard disks.



## Enter an Order Acknowledgement



**Caution:**  
You need to have created a purchase requisition earlier before you can do this exercise.

### Business Example

As a member of the central Purchasing department, you are responsible for processing purchase requisitions. You will enter an order acknowledgment.

Enter an order acknowledgment.

The order acknowledgment for the hard disks has been received and must be entered.


1. Enter the order acknowledgment in the purchase order.

Display the purchase order in change mode and open the detail data for the external hard disks item. The *Confirmations* tab page includes a table in which you can enter the following vendor specifications.

Field	Value
<i>Confirmation category</i>	<i>AB (order acknowledgement)</i>
<i>Delivery date</i>	<i>Delivery date from purchase order</i>
<i>Quantity</i>	<b>4 pieces</b>
<i>External document (reference)</i>	<b>AB-HAG##</b>

Save your changes.

After you process the previous task, you will be able to display the purchase order for the hard disks.

- a) Choose  (*Display/Change*) to switch to change mode.
- b) Open the *Item Detail* area for the hard disks item.
- c) Choose the *Confirmations* tab page and enter the following data:

Field	Value
<i>CC (Confirmation category)</i>	<i>AB</i>
<i>Delivery Date</i>	<Tomorrow>
<i>Quantity</i>	<b>4</b>



Field	Value
<i>Reference</i>	<b>AB-HAG##</b>

d) Save your entries.



### **LESSON SUMMARY**

You should now be able to:

- Create a purchase order with reference to a purchase requisition
- Enter an order acknowledgement for a purchase order



## Entering Valuated and Non-Valuated Goods Receipts

### LESSON OVERVIEW

This lesson covers goods receipt (GR) and invoice receipt (IR). The posting in invoice verification is a focal point. For consumable material (in contrast to stock material), you can specify in the purchase order whether or not valuation is to take place at the time of the goods receipt. You can also completely dispense with the goods receipt entry.



Show and discuss the differences between valuated and non-valuated goods receipt and the checkbox that controls this in the purchase order.

### Business Example

In your company, the costs of materials that are procured directly for a cost center are usually posted to consumption only when the invoice is entered. Therefore, you can learn about the valuation of goods receipts and invoice receipts for purchase orders with account assignments. For this reason, you require the following knowledge:

- How to differentiate between a valuated and a non-valuated goods receipt
- An understanding of the posting resulting from a non-valuated goods receipt during invoice entry



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Enter valuated and non-valuated goods receipts

## Goods Receipt and Invoice Receipt for Consumable Material

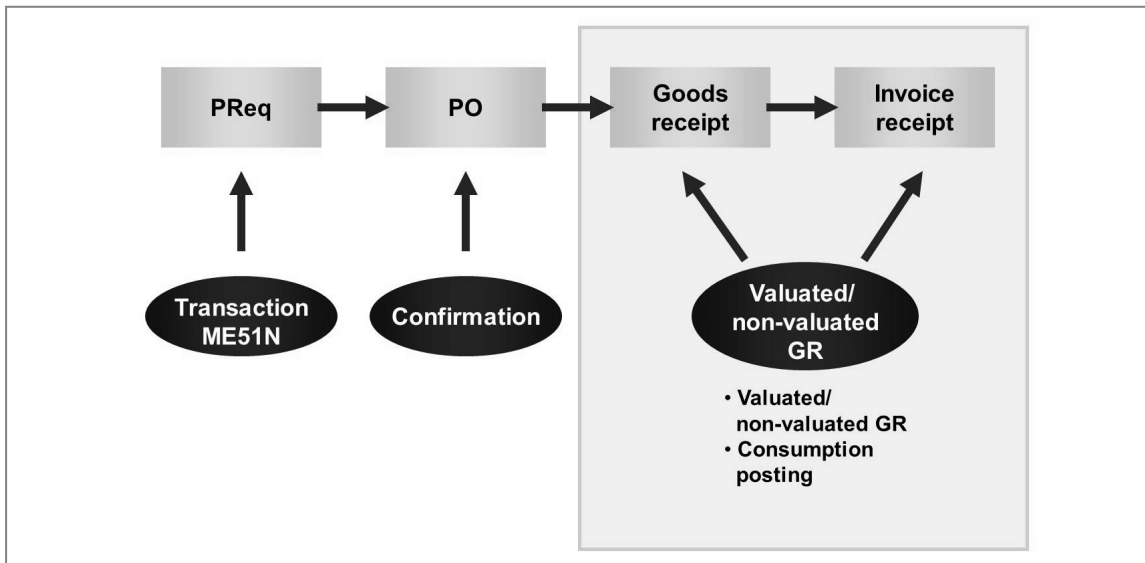


Figure 108: Consumable Material Procurement – Goods Receipt and Invoice Receipt

The account assignment entered in the purchase order affects how the procurement process functions. For example, a consumption account, and not a stock account is used for posting.



Explain why you can carry on without the goods receipt and the valuation at the time of the goods receipt for items with an account assignment category.

Compare and contrast the recognized process for stock material with the process for consumable material. Several standard variants are possible for consumable material. They are valuated goods receipt, non-valuated goods receipt, and no goods receipt.



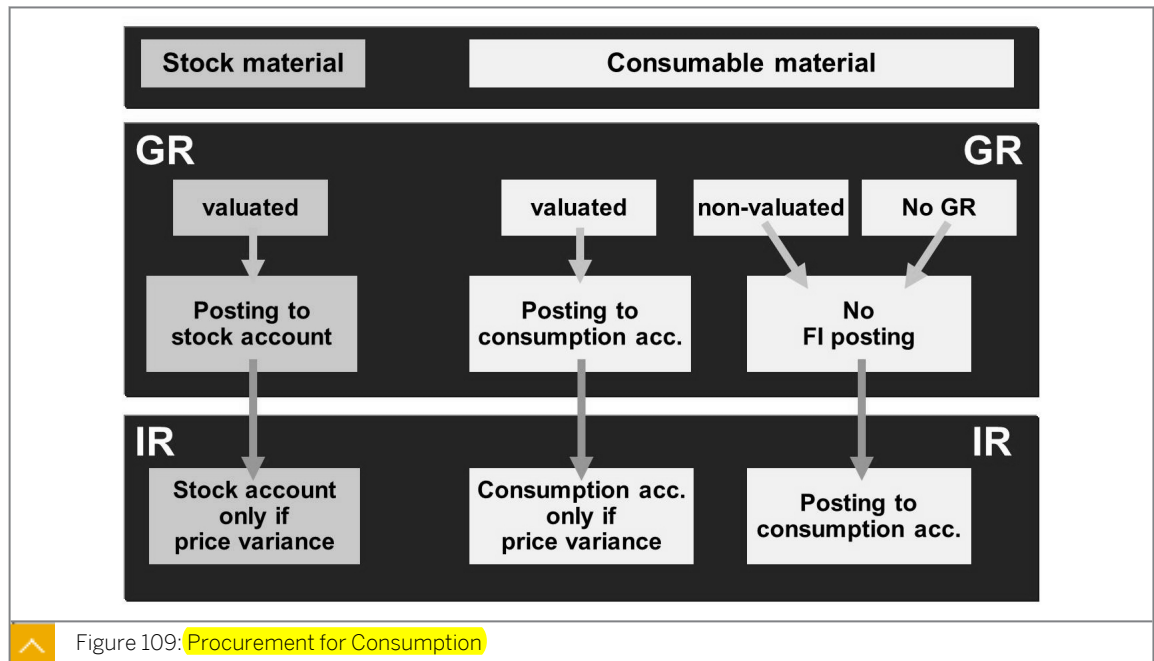
**Caution:**

Inform participants that until they have imported Enhancement Package 3 of SAP ERP 6.0, they can only choose between non-valuated goods receipt or no goods receipt for items with multiple account assignment. Until this release is implemented, they can only distribute the multiple account assignment by specifying the quantity or percentage.

As of Enhancement Package 4 of SAP ERP and with the active business function LOG\_MM\_MAA\_1, the following additional options are available for items with the item categories Standard and Service:

- Distribution by specifying the value
- Valuated goods receipt for items with multiple account assignment

## Procurement for Consumption



An important difference between the procurement of stock material and the procurement of consumable material is that in the latter you can decide whether the goods receipt is to be valuated or non-valuated for order items with account assignments.

If you decide on a non-valuated goods receipt, no posting takes place in accounting at the time of the goods receipt. The value-based consumption posting does not take place until you post the invoice. The commitment, created by the purchase order item with account assignment, can be reduced only by entering an invoice.

Another alternative for purchase order items with account assignments is to perform without the goods receipt. In this case, Financial Accounting (FI) posting corresponds to the posting of a non-valuated goods receipt.

**The GR and GR Non-Val. checkboxes can be found in the following transactions:**

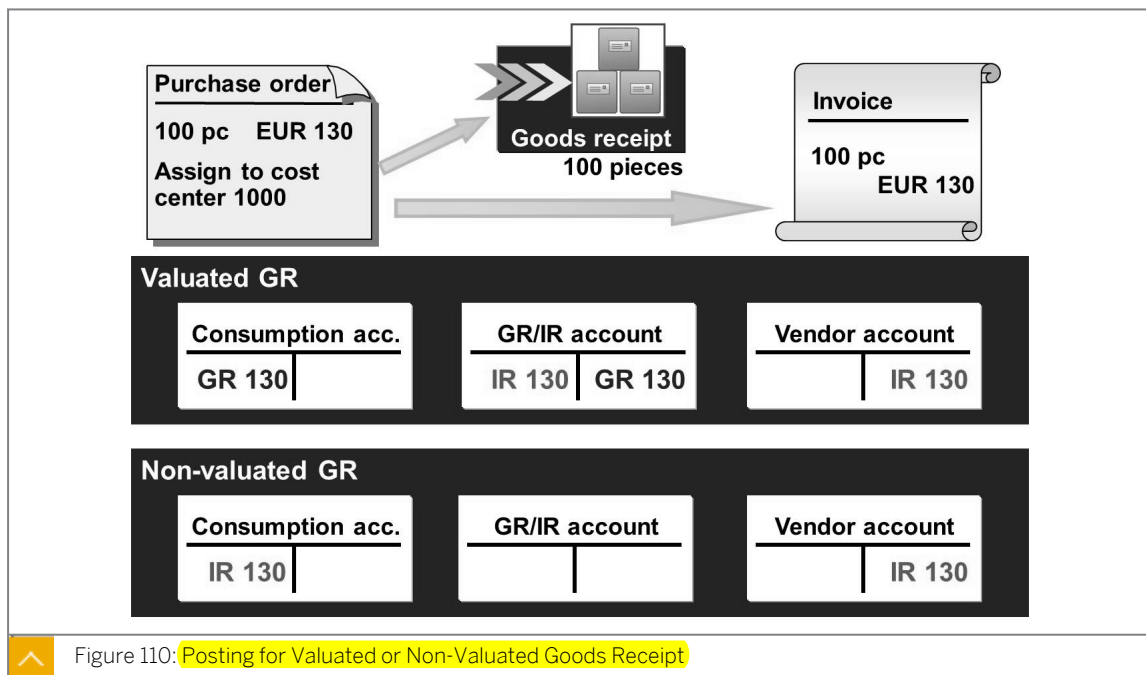
- In the *Purchase Order* (either ME21N or ME22N or ME23N), in the *Item Detail* area on the *Delivery* tab page
- In the *Purchase Requisition* (either ME51N or ME52N or ME53N), in the *Item Detail* area on the *Valuation* tab page

If no updates have taken place in accounting at the time of the goods receipt, you can change the account assignment during invoice entry, if the account assignment category allows this.



Use the figure to explain the differences in the posting for valuated and non-valuated goods receipts.

## Posting for Valuated or Non-Valuated Goods Receipt



The figure shows the consumption account to be debited, as the purchase order item is assigned to an account assignment category. If the item were not assigned to an account assignment, it would have been debited to a stock account. For simplicity, the example does not include any taxes.

**You can explain valuated goods receipt and non-valuated goods receipt as follows:**

- Valuated Goods Receipt

At the time of the goods receipt, the system debits the consumption account that you specified in the purchase order item with the procurement price of EUR 130. The system posts an offsetting entry to the goods receipt/ invoice receipt (GR/IR) clearing account.

During invoice receipt, the system clears the GR/IR clearing account completely. The system posts an offsetting entry to the vendor account. If the invoice price varies from the order price, the corresponding difference will be posted to the consumption account.

- Non-valuated Goods Receipt

At the time of the goods receipt, there are no posting to the consumption account. Therefore, posting to the GR/IR clearing account is not applicable.

During IR, the system debits the consumption account with the invoice amount of EUR 130. The system posts an offsetting entry to the vendor account.



**How to Enter Valuated and Non-Valuated Goods Receipts**

Analyze posting with valuated or non-valuated Goods Receipts (GR) and subsequent invoice verification.

**Caution:**

You can do this exercise only if you created a purchase order earlier.

**Valuated goods receipt and invoice entry**

Vendor T-K500C## delivers the goods from the purchase order. The delivery contains the invoice in addition to the delivery note. Enter the GR and the invoice for the purchase order, and check the correct update in accounting and the purchase order history.

**Non-valuated goods receipt and Invoice Entry**

Vendor T-K500C## delivers the external hard disks, and this delivery also includes the invoice. Enter the goods receipt and the invoice for the purchase order and check the correct update in accounting and the purchase order history.

**1. Enter goods receipt against the purchase order.**

Vendor T-K500C## delivers the headset and the optical mice to you. Enter the GR for your relevant purchase order. Note the specifications of the delivery note.

Post the GR.

Material document number: \_\_\_\_\_

Remain in the transaction after posting the goods receipt.



Delivery note		H.A.G. Potsdam Gr.## Schopenhauer Str. 38 14467 Potsdam	
IDES AG Hamburg Plant Altersdorfer Str. 13 22299 Hamburg		Delivery note number Potsdam	LS-C1## [Today's date]
With reference to your PO no. 45000xxxxx, we hereby deliver the following materials:			
Item	Material number	Name	Quantity / UoM
10	-----	Stereo Headset Basic X##	1 pc
20	T-M500C##	Cordless Optical Mouse S##	10 pc
Sincerely, H.A.G. Potsdam Gr.##			



Figure I-3: Delivery Note Number LS-C1##

- Choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Receipt* → *For Purchase Order* → *PO Number Known (MIGO)*.
- Choose *Goods Receipt* as the transaction and *Purchase Order* as the reference. Enter **101** in the *Movement Type* field. Enter the purchase order number.



Hint:

Choose (Find Purch. Order). Enter **T-K500C##** in the *Vendor* field.

Choose (Find). A separate screen area with the search result appears.

Select the purchase order items for the headset and the optical mice, and choose (Adopt).

Then, close the search result by choosing (Close Search Result).



- c) Open the *Head. data* area and enter **LS-C1##** in the *Delivery Note* field on the *General* tab page.
- d) Select the *OK* checkbox for the items. Note that you can select the checkbox in the *Detail data* area only if the *Detail data* area is open.
- e) Choose *Post*, and make a note of the material document number.  
Do not exit the transaction after posting the GR.
2. Display the accounting document for the goods receipt.  
Display the material document of the goods receipt you just entered.  
Does an accounting document exist for this material document? Give reasons for your answer.

In the following table, check which accounts were posted with which amounts:

Item	Account	Account Short Text	Amount
1	400000	Consumption, raw material 1	24.00
2	191100	Goods Rcvd or Invoice Rcvd (third party)	24.00 (-)
3	400010	Raw materials consumed 2	108.00
4	191100	Goods Rcvd or Invoice Rcvd (third party)	108.00 (-)
5	400010	Raw materials consumed 2	72.00
6	191100	Goods Rcvd or Invoice Rcvd (third party)	72.00 (-)


- a) Choose *Display* as the transaction and *Material Document* as the reference.



- b) The default proposal is the number of material document you last edited. Choose  (Execute).
- c) Open the *Head. Data* area, and choose the *Doc. info* tab page and the  *FI Documents* pushbutton to branch to the accounting document.
- d) In the *List of documents in Accounting* dialog box, double-click the accounting document number. Note the accounting document data in the table.  
When you posted the GR, an accounting document was created because a valuated GR was provided for both purchase order items.
- e) Go back to display the material document again.
3. Enter invoice.  
The vendor included the invoice with the goods delivery. Post the invoice. You can refer to the figure for the exact invoice data.



Invoice		H.A.G. Potsdam Gr.## Schopenhauer Str. 38 14467 Potsdam		
IDES AG Hamburg Plant Altersdorfer Str. 13 22299 Hamburg		Invoice number:	RE-C1##	
		Invoice date:	[Today's date]	
With reference to your PO no. 45000xxxxx, we hereby invoice you for the following materials:				
Item	Qty / UoM	Material number	Name	Price
10	1 pc	-----	Stereo Headset Basic X##	EUR 24.00
20	10 pc	T-M500C##	Cordless Optical Mouse S##	EUR 180.00
			Total net value	EUR 204.00
			plus 10% VAT	EUR 20.40
			<b>Invoice amount</b>	<b>EUR 224.40</b>
Subject to the agreed payment conditions. Sincerely, H.A.G. Potsdam Gr.##				

 Figure I-4: Invoice RE-C1##

Invoice document number: \_\_\_\_\_

Do not leave the invoice entry transaction after you have posted the invoice.


- a) Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice* (MIRO).


- b) Enter the following data on the *Basic Data* tab page:


Field	Value
<i>Invoice date</i>	<Today's date>
<i>Reference</i>	<b>RE-C1##</b>
<i>Amount</i>	<b>224.40</b>



Field	Value
Tax amount	20.40
Tax code	1l (input tax 10%)

- c) On the *PO Reference* tab page, choose *Purchase Order/Scheduling Agreement* as the reference document category and enter your purchase order number.



Hint:  
If you want to search for the purchase order using help, enter **T-K500C##** in the *Vendor* field and then choose  (*Execute*).

Select the purchase order in the results list and choose  (*Copy*).


- d) Choose  (*Enter*) so that the system proposes the data from the purchase order.
- e) If necessary, change the *Tax code* in the item to *1l (input tax for training purposes (10 %))*.
- f) Choose  (*Post*) and note the number of the invoice document.  
Do not leave the invoice entry transaction after you have posted the invoice.
4. Display the invoice accounting document.

Display the accounting document for the invoice and check the posting in the following table:

Item	Account	Account Short Text	Amount
1	T-K500C##	H.A.G. Potsdam Gr.##	224.40 (-)
2	191100	Goods Rcvd or Invoice Rcvd (third party)	24.00
3	191100	Goods Rcvd or Invoice Rcvd (third party)	108.00
4	191100	Goods Rcvd or Invoice Rcvd (third party)	72.00
5	154000	Input tax	20.40

Which account is posted to the goods receipt and the invoice receipt?

After this task, do not leave the invoice document display.

- a) To display the invoice document, choose  (*Other Invoice Document*). The system proposes the number of the invoice you last posted. Choose *Enter* to confirm this number.

- b) Choose the *Follow-On documents* pushbutton.
  - c) In the *List of documents in Accounting* dialog box, double-click the accounting document number to display the accounting document.  
Make a note of the posting in the table. The system posts data to the GR/IR clearing account during GR and IR.
  - d) Go back to display the invoice document again.
5. Display the purchase order.  
Branch from the invoice document to the purchase order and answer the following questions:  
Does the purchase order history have any special features that are not present when you procure a stock material?  
Which checkbox in the purchase order controls whether the GR is valuated or non-valuated?
- a) To branch to the purchase order, double-click the purchase order number in the item list of the invoice document.
  - b) Choose the *Purchase Order History* tab page in the *Item Details* area.
  - c) The purchase order history for this purchase order item with account assignment does not differ from the purchase order history for a stock material item.
  - d) Choose the *Delivery* tab page in the item detail data. The *GR non-valuated* checkbox is not selected. Therefore the goods receipt was valuated.
6. Enter a Goods Receipt for a Purchase Order.  
Vendor T-K500C## delivers the four external hard drives. Enter the Goods Receipt for your relevant purchase order. Note the specifications of the delivery note.  
Post the Goods Receipt. Note the material document number.  
Material document number: \_\_\_\_\_  
Do not leave the transaction after posting the Goods Receipt.



**Delivery note** H.A.G. Potsdam Gr.##  
Schopenhauer Str. 38  
14467 Potsdam

IDES AG  
Hamburg Plant  
Altersdorfer Str. 13  
22299 Hamburg

Delivery note number      LS-C2##  
Potsdam                              [Today's date]

With reference to your PO no. 45000xxxxx, we hereby deliver the following materials:

Item	Material number	Name	Quantity / UoM
10	-----	External Hard Disk 3.5", 320 GB, USB 2.0	4 pc

Sincerely,  
H.A.G. Potsdam Gr.##

Figure I-5: Delivery Note Number LS-C2##

- a) Choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Receipt* → *For Purchase Order* → *PO Number Known (MIGO)*.
- b) Choose *Goods Receipt* as the transaction and *Purchase Order* as the reference. Enter **101** in the *Movement Type* field. Enter the purchase order number.

**Hint:**


Choose (*Find Purch. Order*). Enter **T-K500C##** in the *Vendor* field.


Choose (*Find*). A separate screen area with the search result appears.

In the search result, select the purchase order item for the hard disks and choose (*Adopt*).

Then, close the search result by choosing (*Close Search Result*).

- c) Open the *Head. data* area and enter **LS-C2##** in the *Delivery Note* field on the *General* tab page.
  - d) Select the *OK* checkbox for the items. Note that you can select the checkbox in the *Detail data* area only if the *Detail data* area is open.
  - e) Choose *Post*, and make a note of the material document number.  
Do not exit the transaction after posting the goods receipt.
7. Display the accounting document for the goods receipt.  
Display the material document of the goods receipt you just entered.  
Does an accounting document exist for this material document? Give reasons for your answer.
- a) Choose *Display* as the transaction and *Material Document* as the reference.

b) The default proposal is the number of the material document you last processed. Choose  (Execute).

c) Open the *Head. Data* area, choose the *Doc. info* tab page and then the  *FI Documents* pushbutton to branch to the accounting document.

The system issues the following message:

No subsequent document found in Accounting.

No accounting document was created during the goods receipt posting.

It was specified in the purchase order that the goods receipt is to be posted as non-valuated.

8. Enter invoice.

The vendor dispatched the relevant invoice with the second delivery. Post the invoice. You can refer to the following figure for the exact invoice data:



**Invoice** H.A.G. Potsdam Gr.##  
Schopenhauer Str. 38  
14467 Potsdam


IDES AG  
Hamburg Plant  
Altersdorfer Str. 13  
22299 Hamburg

Invoice number: RE-C2##  
Invoice date: [Today's date]

With reference to your PO no. 45000xxxxx, we hereby invoice you for the following items:

Item	Qty / UoM	Material number	Name	Price
10	4 pc	-----	External Hard Disk 3.5", 320 GB	EUR 320.00
			Total net value	EUR 320.00
			plus 10% VAT	EUR 32.00
			<b>Invoice amount</b>	<b><u>EUR 352.00</u></b>

Subject to the agreed terms of payment.  
Sincerely, H.A.G. Potsdam Gr.##

 Figure I-6: Invoice RE-C2##

Invoice document number: \_\_\_\_\_

Do not leave the invoice entry transaction after you have posted the invoice.


a) Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice* (MIRO).


b) Enter the following data on the *Basic Data* tab page:


Field	Value
<i>Invoice date</i>	<Today's date>
<i>Reference</i>	<b>RE-C2##</b>
<i>Amount</i>	<b>352</b>



Field	Value
Tax amount	32
Tax code	11 (input tax 10%)

- c) On the *PO Reference* tab page, choose *Purchase Order/Scheduling Agreement* as the reference document category and enter your purchase order number.



Hint:  
If you want to search for the purchase order using F4 help, enter **T-K500C##** in the *Vendor* field then choose  (*Execute*).

Select the purchase order in the results list and choose  (*Copy*).


- d) Choose  (*Enter*) so the system proposes the data from the purchase order.
- e) Choose  (*Post*) and make a note of the number of the invoice document.  
Do not leave the invoice entry transaction after you have posted the invoice.

9. Display the invoice accounting document.

Display the accounting document for the invoice and note the posting in the following table:

Item	Account	Account Short Text	Amount
1	T-K500C##	H.A.G. Potsdam Gr.##	352.00 (-)
2	400000	Consumption, raw material 1	80.00
3	400000	Consumption, raw material 1	240.00
5	154000	Input tax	32.00

Do not leave the invoice document display after this task.

- a) To display the invoice document, choose  (*Other Invoice Document*). The system populates the number of the last invoice you posted. Choose *Enter* to confirm this number.
- b) Choose the *Follow-On documents* pushbutton.
- c) In the *List of documents in Accounting* dialog box, double-click the accounting document number to display the accounting document.  
Make a note of the posting in the table.
- d) Go back to display the invoice document again.

10. Display the purchase order.

Branch from the invoice document to the purchase order, and answer the following questions:

Can you recognize from the purchase order history whether the goods receipt is valuated or non-valuated?

Which checkbox in the purchase order controls whether the goods receipt is non-valuated or valuated?

- a) To branch to the purchase order, double-click the purchase order number in the item list of the invoice document.
  - b) Choose the *Purchase Order History* tab page in the *Item Details* area.  
You can recognize the non-valuated GR in the purchase order history because the amount in local currency for the *Goods Receipt* transaction is EUR 0.
  - c) Choose the *Delivery* tab page in the item detail data. You select the *GR non-valuated* checkbox. Therefore, the goods receipt was non-valuated.
-





# Unit 4

## Exercise 18



## Enter Goods Receipts for Consumable Materials

### Business Example

The consumable materials you ordered are forwarded directly to the requesting department instead of being placed in storage.

Enter the valuated Goods Receipt (GR) and invoice entry and the non-valuated GR and invoice entry.

Valuated goods receipt and invoice entry

Vendor T-K500C## delivers the goods from the purchase order. The delivery contains the invoice in addition to the delivery note. Enter the goods receipt and the invoice for the purchase order, and check the correct update in accounting and purchase order history.

1. Enter goods receipt against the purchase order.

Vendor T-K500C## delivers the headset and the optical mice to you. Enter the goods receipt for your relevant purchase order. Note the specifications of the delivery note.

Post the goods receipt. Note the material document number.

Material document number: \_\_\_\_\_

Do not leave the transaction after posting the goods receipt.



Delivery note		H.A.G. Potsdam Gr.## Schopenhauer Str. 38 14467 Potsdam	
IDES AG Hamburg Plant Altersdorfer Str. 13 22299 Hamburg		Delivery note number Potsdam	LS-C1## [Today's date]
With reference to your PO no. 45000xxxxx, we hereby deliver the following materials:			
Item	Material number	Name	Quantity / UoM
10	-----	Stereo Headset Basic X##	1 pc
20	T-M500C##	Cordless Optical Mouse S##	10 pc
Sincerely, H.A.G. Potsdam Gr.##			

Figure 111: Delivery Note Number LS-C1##

2. Display the accounting document for the goods receipt.  
Display the material document of the goods receipt you just entered.

Does an accounting document exist for this material document? Give reasons for your answer.

---



---

In the following table, check which accounts were posted with which amounts:

Item	Account	Account Short Text	Amount
1	400000	Consumption, raw material 1	24.00
2	191100	Goods Rcvd or Invoice Rcvd (third party)	24.00 (-)
3	400010	Raw materials consumed 2	108.00
4	191100	Goods Rcvd or Invoice Rcvd (third party)	108.00 (-)
5	400010	Raw materials consumed 2	72.00
6	191100	Goods Rcvd or Invoice Rcvd (third party)	72.00 (-)

**3. Enter invoice.**

The vendor included the invoice with the goods delivery. Post the invoice. You can refer to the figure for the exact invoice data. Note the invoice document number.



Invoice		H.A.G. Potsdam Gr.## Schopenhauer Str. 38 14467 Potsdam		
IDES AG Hamburg Plant Altersdorfer Str. 13 22299 Hamburg		Invoice number: RE-C1##	Invoice date: [Today's date]	
With reference to your PO no. 45000xxxxx, we hereby invoice you for the following materials:				
Item	Qty / UoM	Material number	Name	Price
10	1 pc	-----	Stereo Headset Basic X##	EUR 24.00
20	10 pc	T-M500C##	Cordless Optical Mouse S##	EUR 180.00
			Total net value	EUR 204.00
			plus 10% VAT	EUR 20.40
			<b>Invoice amount</b>	<b>EUR 224.40</b>
Subject to the agreed payment conditions.				
Sincerely, H.A.G. Potsdam Gr.##				

Figure 112: Invoice RE-C1##

Invoice document number: \_\_\_\_\_

Do not leave the invoice entry transaction after you have posted the invoice.

4. Display the invoice accounting document.

Display the accounting document for the invoice and check the posting in the following table:

Item	Account	Account Short Text	Amount
1	T-K500C##	H.A.G. Potsdam Gr.##	224.40 (-)
2	191100	Goods Rcvd or Invoice Rcvd (third party)	24.00
3	191100	Goods Rcvd or Invoice Rcvd (third party)	108.00
4	191100	Goods Rcvd or Invoice Rcvd (third party)	72.00
5	154000	Input tax	20.40

Which account is posted to the gross receipt and the invoice receipt?

After this task, do not leave the invoice document display.

5. Display the purchase order.

Branch from the invoice document to the purchase order, and answer the following questions:

Does the purchase order history have any special features that are not present when you procure stock material?

Which checkbox in the purchase order controls whether the GR is valuated or non-valuated?

Non-valuated goods receipt and Invoice Entry

Vendor T-K500C## delivers the external hard disks, and the invoice. Enter the goods receipt and the invoice for the purchase order and check the correct update in accounting and the purchase order history.

1. Enter a Goods Receipt for a Purchase Order.

Vendor T-K500C## delivers the four external hard drives. Enter the goods receipt for your relevant purchase order. Note the specifications of the delivery note.

Post the goods receipt. Note the material document number.

Material document number: \_\_\_\_\_

Do not leave the transaction after posting the GR.



**Delivery note** H.A.G. Potsdam Gr.##  
Schopenhauer Str. 38  
14467 Potsdam

IDES AG  
Hamburg Plant  
Altersdorfer Str. 13  
22299 Hamburg

Delivery note number      LS-C2##  
Potsdam                              [Today's date]

With reference to your PO no. 45000xxxxx, we hereby deliver the following materials:

Item	Material number	Name	Quantity / UoM
10	-----	External Hard Disk 3.5", 320 GB, USB 2.0	4 pc

Sincerely,  
H.A.G. Potsdam Gr.##

Figure 113: Delivery Note Number LS-C2##

2. Display the accounting document for the goods receipt.

Display the material document of the goods receipt you just entered.

Does an accounting document exist for this material document? Give reasons for your answer.

3. Enter the invoice.

The vendor dispatched the relevant invoice with the second delivery. Post the invoice. You can refer to the following figure for the exact invoice data:



<b>Invoice</b>		H.A.G. Potsdam Gr.## Schopenhauer Str. 38 14467 Potsdam		
IDES AG Hamburg Plant Altersdorfer Str. 13 22299 Hamburg		Invoice number: RE-C2##	Invoice date: [Today's date]	
With reference to your PO no. 45000xxxxx, we hereby invoice you for the following items:				
Item	Qty / UoM	Material number	Name	Price
10	4 pc	-----	External Hard Disk 3.5", 320 GB	EUR 320.00
			Total net value	EUR 320.00
			plus 10% VAT	EUR 32.00
			<b>Invoice amount</b>	<b><u>EUR 352.00</u></b>
Subject to the agreed terms of payment.				
Sincerely, H.A.G. Potsdam Gr.##				

Figure 114: Invoice RE-C2##

Invoice document number: \_\_\_\_\_

Do not leave the invoice entry transaction after you have posted the invoice.

4. Display the invoice accounting document.

Display the accounting document for the invoice and note the posting in the following table:

Item	Account	Account Short Text	Amount
1	T-K500C##	H.A.G. Potsdam Gr.##	352.00 (-)
2	400000	Consumption, raw material 1	80.00
3	400000	Consumption, raw material 1	240.00
5	154000	Input tax	32.00

Do not leave the invoice document display after this task.

5. Display the purchase order.

Branch from the invoice document to the purchase order, and answer the following questions:

Can you recognize from the purchase order history whether the goods receipt is valuated or non-valuated?

Which checkbox in the purchase order controls whether the GR is valuated or non-valuated?



## Enter Goods Receipts for Consumable Materials

### Business Example

The consumable materials you ordered are forwarded directly to the requesting department instead of being placed in storage.

Enter the valuated Goods Receipt (GR) and invoice entry and the non-valuated GR and invoice entry.

Valuated goods receipt and invoice entry

Vendor T-K500C## delivers the goods from the purchase order. The delivery contains the invoice in addition to the delivery note. Enter the goods receipt and the invoice for the purchase order, and check the correct update in accounting and purchase order history.

#### 1. Enter goods receipt against the purchase order.

Vendor T-K500C## delivers the headset and the optical mice to you. Enter the goods receipt for your relevant purchase order. Note the specifications of the delivery note.

Post the goods receipt. Note the material document number.

Material document number: \_\_\_\_\_

Do not leave the transaction after posting the goods receipt.



Delivery note		H.A.G. Potsdam Gr.## Schopenhauer Str. 38 14467 Potsdam	
IDES AG Hamburg Plant Altersdorfer Str. 13 22299 Hamburg		Delivery note number Potsdam	LS-C1## [Today's date]
With reference to your PO no. 45000xxxxx, we hereby deliver the following materials:			
Item	Material number	Name	Quantity / UoM
10	-----	Stereo Headset Basic X##	1 pc
20	T-M500C##	Cordless Optical Mouse S##	10 pc
Sincerely, H.A.G. Potsdam Gr.##			

Figure 111: Delivery Note Number LS-C1##


- a) Choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Receipt* → *For Purchase Order* → *PO Number Known (MIGO)*.


- b) Choose *Goods Receipt* as the transaction and *Purchase Order* as the reference. Enter **101** in the *Movement Type* field. Enter the purchase order number.




Hint:

Choose  (*Find Purch. Order*). Enter **T-K500C##** in the *Vendor* field.

Choose  (*Find*). A separate screen area with the search result appears.


Select the purchase order items for the headset and the optical mice, and choose  (*Adopt*).

Then, close the search result by choosing  (*Close Search Result*).

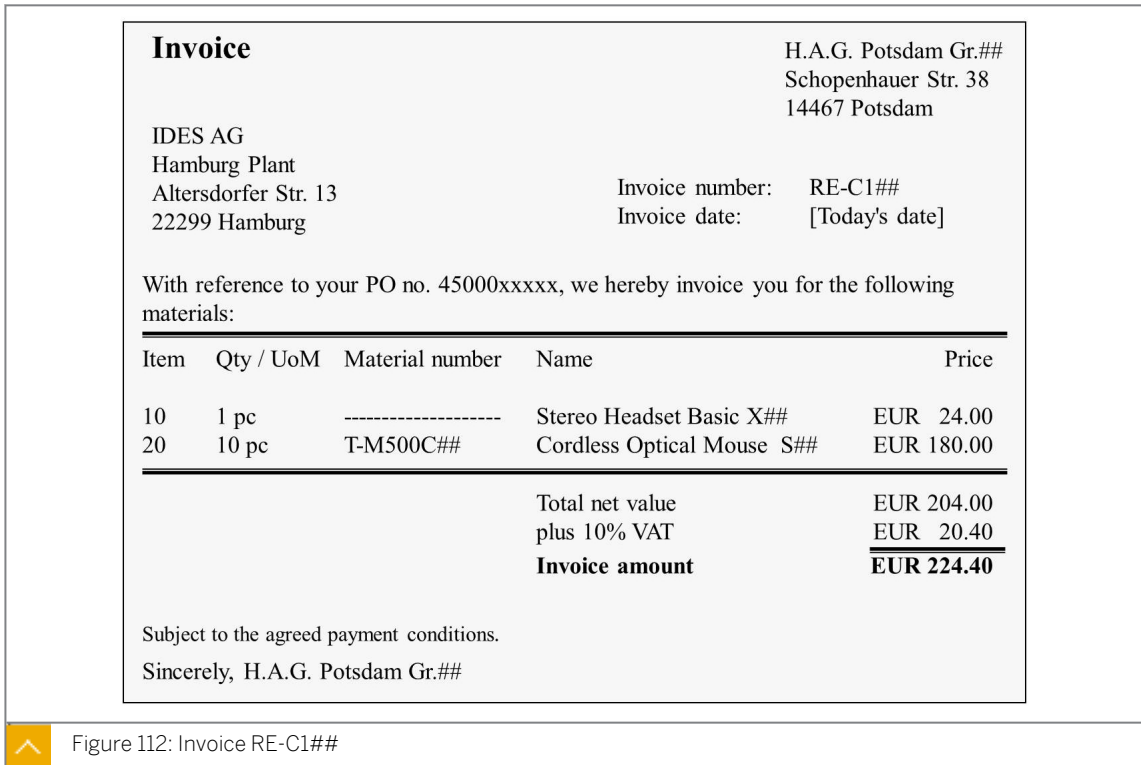
- c) Open the *Head. data* area and enter **LS-C1##** in the *Delivery Note* field on the *General* tab page.
- d) Select the *OK* checkbox for the items. Note that you can select the checkbox in the *Detail data* area only if the *Detail data* area is open.
- e) Choose *Post*, and make a note of the material document number.  
Do not leave the transaction after posting the goods receipt.
2. Display the accounting document for the goods receipt.  
Display the material document of the goods receipt you just entered.  
Does an accounting document exist for this material document? Give reasons for your answer.

In the following table, check which accounts were posted with which amounts:

Item	Account	Account Short Text	Amount
1	400000	Consumption, raw material 1	24.00
2	191100	Goods Rcvd or Invoice Rcvd (third party)	24.00 (-)
3	400010	Raw materials consumed 2	108.00
4	191100	Goods Rcvd or Invoice Rcvd (third party)	108.00 (-)
5	400010	Raw materials consumed 2	72.00
6	191100	Goods Rcvd or Invoice Rcvd (third party)	72.00 (-)

- a) Choose *Display* as the transaction and *Material Document* as the reference.
  - b) The default proposal is the number of the material document you last edited. Choose  (*Execute*).
  - c) Open the *Head. Data* area, choose the *Doc. info* tab page and the *FI Documents* pushbutton to branch to the accounting document.
  - d) In the *List of documents in Accounting* dialog box, double-click the accounting document number. Note the accounting document data in the table.  
When you posted the GR, an accounting document was created because a valued GR was provided for both purchase order items.
  - e) Go back to display the material document again.
3. Enter invoice.

The vendor included the invoice with the goods delivery. Post the invoice. You can refer to the figure for the exact invoice data. Note the invoice document number.



Invoice document number: \_\_\_\_\_

Do not leave the invoice entry transaction after you have posted the invoice.


- a) Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice (MIRO)*.
- b) Enter the following data on the *Basic Data* tab page:


Field	Value
<i>Invoice date</i>	<Today's date>
<i>Reference</i>	<b>RE-C1##</b>






Field	Value
Amount	224 . 40
Tax amount	20 . 40
Tax code	11 (input tax 10%)

- c) On the *PO Reference* tab page, choose *Purchase Order/Scheduling Agreement* as the reference document category and enter your purchase order number.



Hint:  
If you want to search for the purchase order using help, enter **T-K500C##** in the *Vendor* field and then choose  (*Execute*).

Select the purchase order in the results list and choose  (*Copy*).

- d) Choose  (*Enter*) so that the system proposes the data from the purchase order.
- e) If necessary, change the *Tax code* in the item to *11 (input tax for training purposes (10 %))*.
- f) Choose  (*Post*) and make a note of the number of the invoice document.  
Do not leave the invoice entry transaction after you have posted the invoice.


4. Display the invoice accounting document.

Display the accounting document for the invoice and check the posting in the following table:

Item	Account	Account Short Text	Amount
1	T-K500C##	H.A.G. Potsdam Gr.##	224.40 (-)
2	191100	Goods Rcvd or Invoice Rcvd (third party)	24.00
3	191100	Goods Rcvd or Invoice Rcvd (third party)	108.00
4	191100	Goods Rcvd or Invoice Rcvd (third party)	72.00
5	154000	Input tax	20.40

Which account is posted to the gross receipt and the invoice receipt?

After this task, do not leave the invoice document display.

- a) To display the invoice document, choose  (*Other Invoice Document*). The system populates the number of the invoice you last posted. Choose *Enter* to confirm this number.

- b) Choose the *Follow-On documents* pushbutton.
  - c) In the *List of documents in Accounting* dialog box, double-click the accounting document number to display the accounting document.  
Make a note of the posting in the table. The system posts data to the goods receipt/invoice receipt (GR/IR) clearing account during gross receipt and invoice receipt.
  - d) Go back to display the invoice document again.
5. Display the purchase order.  
Branch from the invoice document to the purchase order, and answer the following questions:  
Does the purchase order history have any special features that are not present when you procure stock material?  
Which checkbox in the purchase order controls whether the GR is valuated or non-  
valuated?
- a) To branch to the purchase order, double-click the purchase order number in the item list of the invoice document.
  - b) Choose the *Purchase Order History* tab page in the *Item Details* area.
  - c) The purchase order history for this purchase order item with account assignment does not differ from the purchase order history for a stock material item.
  - d) Choose the *Delivery* tab page in the item detail data. The *GR non-valuated* checkbox is not selected. Therefore, the GR was valuated.

#### Non-valuated goods receipt and Invoice Entry

Vendor T-K500C## delivers the external hard disks, and the invoice. Enter the goods receipt and the invoice for the purchase order and check the correct update in accounting and the purchase order history.

1. Enter a Goods Receipt for a Purchase Order.

Vendor T-K500C## delivers the four external hard drives. Enter the goods receipt for your relevant purchase order. Note the specifications of the delivery note.

Post the goods receipt. Note the material document number.

Material document number: \_\_\_\_\_

Do not leave the transaction after posting the GR.



Delivery note		H.A.G. Potsdam Gr.##	
IDES AG		Schopenhauer Str. 38	
Hamburg Plant		14467 Potsdam	
Altersdorfer Str. 13		Delivery note number	LS-C2##
22299 Hamburg		Potsdam	[Today's date]
With reference to your PO no. 45000xxxxx, we hereby deliver the following materials:			
Item	Material number	Name	Quantity / UoM
10	-----	External Hard Disk 3.5", 320 GB, USB 2.0	4 pc
Sincerely, H.A.G. Potsdam Gr.##			

Figure 113: Delivery Note Number LS-C2##

- Choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Receipt* → *For Purchase Order* → *PO Number Known (MIGO)*.
- Choose *Goods Receipt* as the transaction and *Purchase Order* as the reference. Enter **101** in the *Movement Type* field. Enter the purchase order number.



Hint:


Choose (*Find Purch. Order*). Enter **T-K500C##** in the *Vendor* field.

Choose (*Find*). A separate screen area with the search result appears.

In the search result, select the purchase order item for the hard disks and choose (*Adopt*).

Then, close the search result by choosing (*Close Search Result*).

- Open the *Head. data* area and enter **LS-C2##** in the *Delivery Note* field on the *General* tab page.
  - Select the *OK* checkbox for the items. Note that you can select the checkbox in the *Detail data* area only if the *Detail data* area is open.
  - Choose *Post*, and make a note of the material document number.  
Do not exit the transaction after posting the GR.
2. Display the accounting document for the goods receipt.  
Display the material document of the goods receipt you just entered.  
Does an accounting document exist for this material document? Give reasons for your answer.
- Choose *Display* as the transaction and *Material Document* as the reference.

b) The default proposal is the number of the material document you last processed.  
Choose  (Execute).

c) Open the *Head. Data* area, choose the *Doc. info* tab page and then the *FI Documents* pushbutton to branch to the accounting document.

The system issues the following message:

No subsequent document found in Accounting.

No accounting document was created during the goods receipt posting.


It was specified in the purchase order that the goods receipt is to be posted as non-valuated.

3. Enter the invoice.

The vendor dispatched the relevant invoice with the second delivery. Post the invoice. You can refer to the following figure for the exact invoice data:



<b>Invoice</b>		H.A.G. Potsdam Gr.## Schopenhauer Str. 38 14467 Potsdam		
IDES AG Hamburg Plant Altersdorfer Str. 13 22299 Hamburg		Invoice number: RE-C2##	Invoice date: [Today's date]	
With reference to your PO no. 45000xxxxx, we hereby invoice you for the following items:				
Item	Qty / UoM	Material number	Name	Price
10	4 pc	-----	External Hard Disk 3.5", 320 GB	EUR 320.00
			Total net value	EUR 320.00
			plus 10% VAT	EUR 32.00
			<b>Invoice amount</b>	<b>EUR 352.00</b>
Subject to the agreed terms of payment.				
Sincerely, H.A.G. Potsdam Gr.##				

 Figure 114: Invoice RE-C2##

Invoice document number: \_\_\_\_\_

Do not leave the invoice entry transaction after you have posted the invoice.




a) Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice (MIRO)*.


b) Enter the following data on the *Basic Data* tab page:


Field	Value
<i>Invoice date</i>	<Today's date>
<i>Reference</i>	<b>RE-C2##</b>
<i>Amount</i>	<b>352 .00</b>

Field	Value
Tax amount	32 .00
Tax code	11 11 (input tax 10%)

- c) On the *PO Reference* tab page, choose *Purchase Order/Scheduling Agreement* as the reference document category and enter your purchase order number.

 **Hint:**  
 If you want to search for the purchase order using the F4 help, enter **T-K500C##** in the *Vendor* field and then choose  (*Execute*).  
 Select the purchase order in the results list and choose  (*Copy*).

- d) Choose  (*Enter*) so that the system populates the data from the purchase order.


- e) Choose  (*Post*) and make a note of the number of the invoice document.  
 Do not leave the invoice entry transaction after you have posted the invoice.

4. Display the invoice accounting document.

Display the accounting document for the invoice and note the posting in the following table:

Item	Account	Account Short Text	Amount
1	T-K500C##	H.A.G. Potsdam Gr.##	352.00 (-)
2	400000	Consumption, raw material 1	80.00
3	400000	Consumption, raw material 1	240.00
5	154000	Input tax	32.00

Do not leave the invoice document display after this task.

- a) To display the invoice document, choose  (*Other Invoice Document*). The system populates the number of the last invoice you posted. Choose *Enter* to confirm this number.
- b) Choose the *Follow-On documents* pushbutton.
- c) In the *List of documents in Accounting* dialog box, double-click the accounting document number to display the accounting document.  
 Make a note of the posting in the table.
- d) Go back to display the invoice document again.

5. Display the purchase order.

Branch from the invoice document to the purchase order, and answer the following questions:

Can you recognize from the purchase order history whether the goods receipt is valuated or non-valuated?

Which checkbox in the purchase order controls whether the GR is valuated or non-  
valuated?

- a) To branch to the purchase order, double-click the purchase order number in the item list of the invoice document.
- b) Choose the *Purchase Order History* tab page in the *Item Details* area.  
The non-valuated GR can be recognized in the purchase order history because the amount in local currency for the *Goods Receipt* transaction is EUR 0.
- c) Choose the *Delivery* tab page in the item detail data. You select the *GR non-valuated* checkbox. Therefore the GR was non-valuated.



### **LESSON SUMMARY**

You should now be able to:

- Enter valuated and non-valuated goods receipts



## Creating Blanket Purchase Orders

### LESSON OVERVIEW

This lesson discusses a simplified procurement process for consumable materials using the blanket purchase order. It allows you to eliminate the issue of individual release orders and the recording of goods receipts (GR) to minimize the costs of procuring materials, such as category C in ABC analysis.



Show a procurement process using the blanket purchase order.

Compare a complete standard procurement process for consumable materials to a simplified process using a blanket purchase order. The design of the process is primarily suited to external services and category C. Ask the participants whether they can envision using this process in their companies.

### Business Example

Your company procures all its office supplies from one specific retailer. It is not necessary to precisely monitor the issue of release orders and the delivery of materials in the system, so you test the blanket purchase order process. For this reason, you require the following knowledge:

- An understanding of the item category in purchasing documents
- An understanding of the special aspects of procuring materials using a blanket purchase order
- How to create a blanket purchase order
- How to enter invoices with reference to a blanket purchase order with *Logistics Invoice Verification*



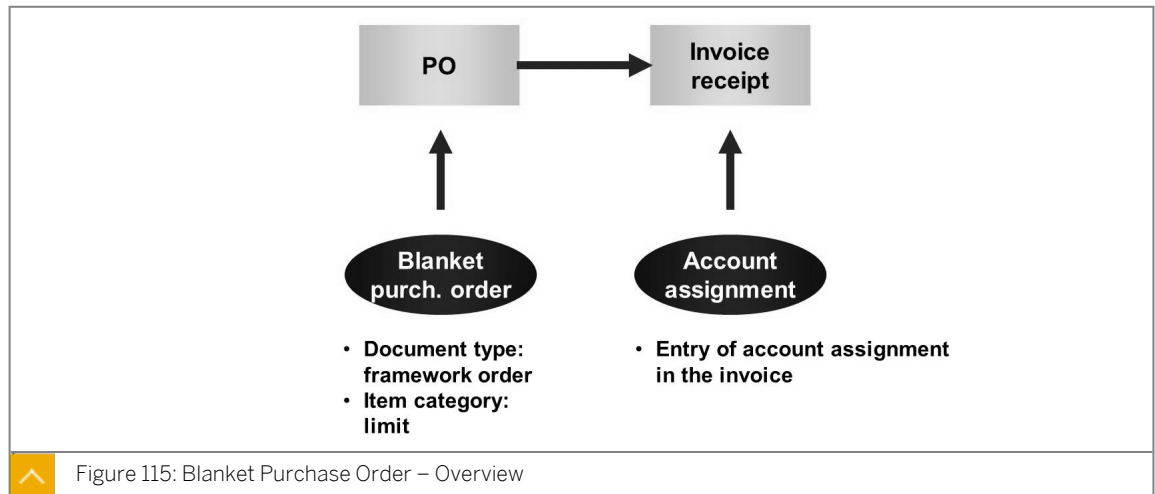
### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Create blanket purchase orders

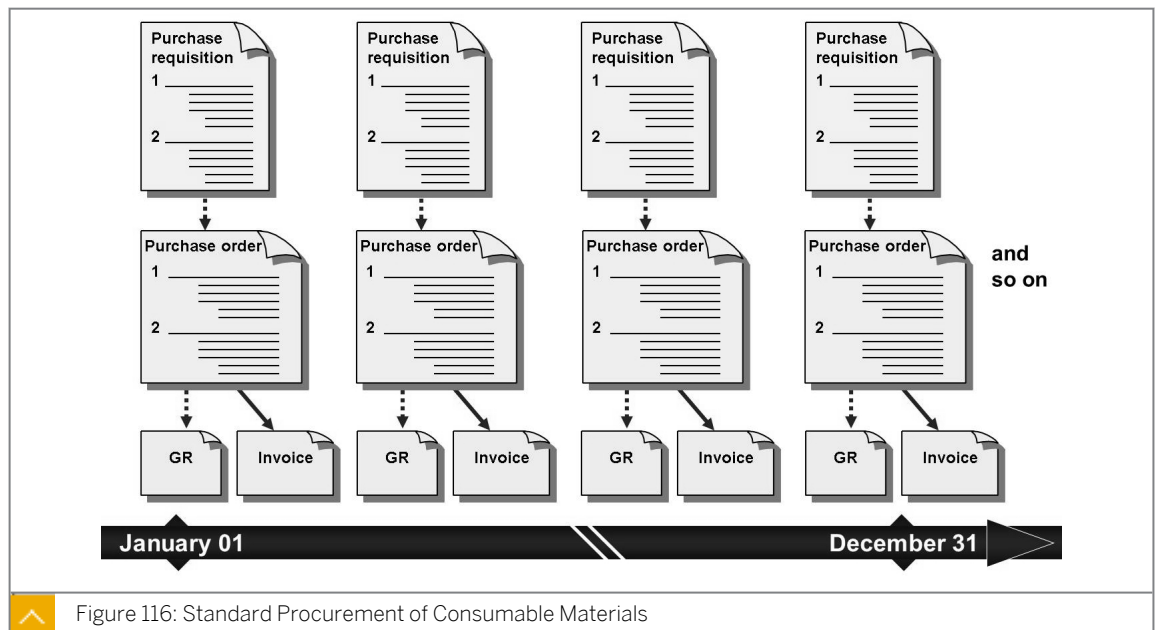


## Creation of Blanket Purchase Orders



In addition to browser-based applications, such as SAP SRM, the standard version of the SAP ERP Central Component offers you another possible option for handling procurement transactions for consumable materials using a lean process.

## Standard Procurement of Consumable Materials

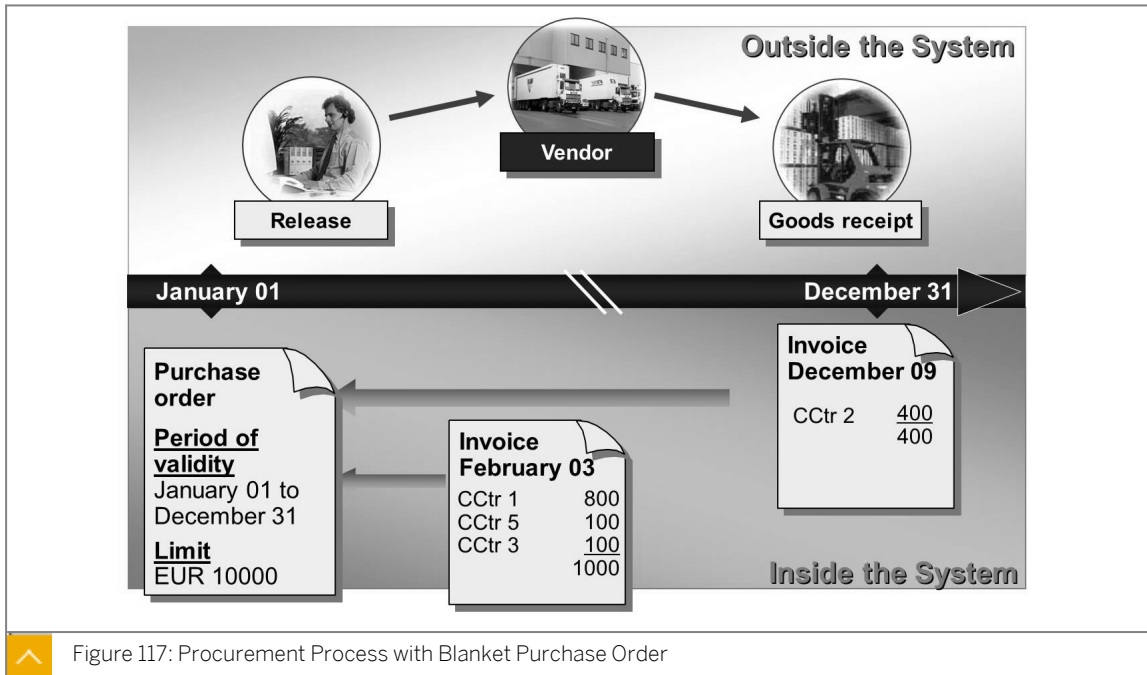


This process shows you how to use the blanket purchase order by means of an example.

In the standard procurement of consumable materials, you must create at least one purchase order for each procurement transaction. You use this purchase order as the basis for invoice verification.

Often, you also enter GR for the purchase orders. In some cases, preceding documents, such as purchase requisitions or quotations, exist.

**Procurement Process with Blanket Purchase Order**



You can create a purchase order that has a longer validity period (for example, one year) and an item-specific value limit. Using such a blanket purchase order, you can procure different consumable materials or services, for which more-detailed individual processing (purchase order, GR, and invoice entry) is considered uneconomical. The materials or services are grouped under a heading or superordinate term (short text) and mapped in an item. In the purchase order, prices for the individual materials are not recorded, such as EUR 0.50/pc for a pencil, EUR 2.00/pc for a folder, and so on.

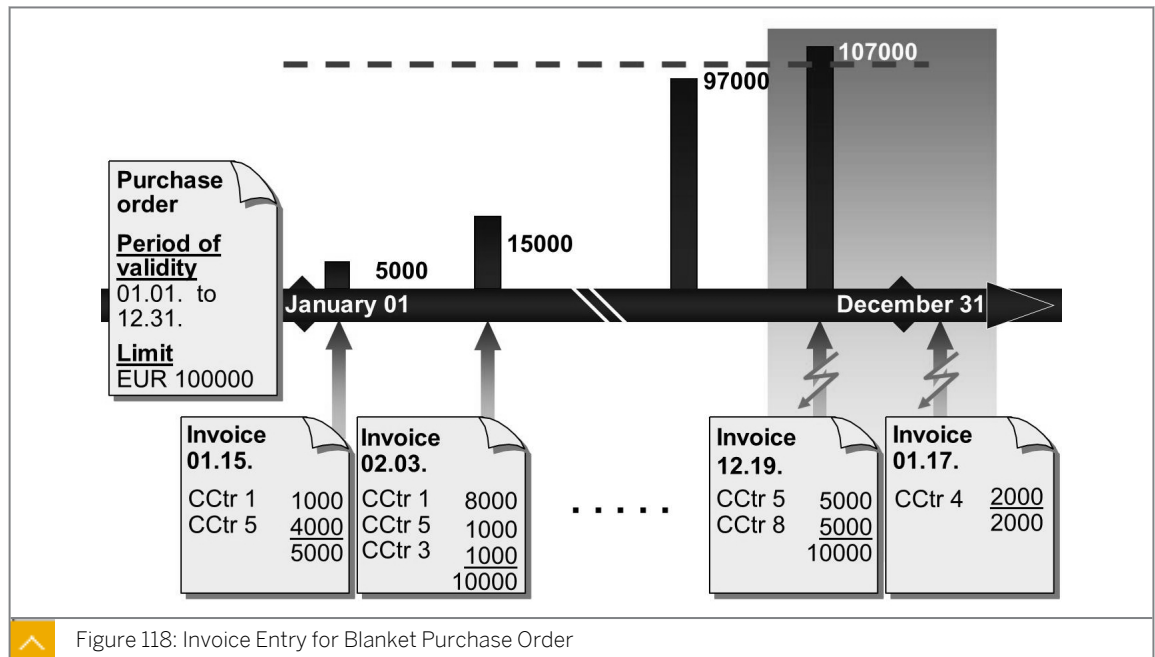
The main difference between this special procurement process and the standard process is that the system deliberately omits certain steps. Although you can use a purchase requisition as the document preceding the blanket purchase order, you cannot create Request for Quotations (RFQs) or contracts. In addition, you do not enter GR and performed services in the system. You post incoming invoices with reference to your blanket purchase order.

A key advantage of the blanket purchase order is the reduction in processing costs.

**The cost saving is due to the following factors:**

- The system uses the same purchase order item to procure different materials and/or services for a longer period of time.
- The system need not issue separate purchase orders for individual procurement transactions.
- There is no goods receipt or service entry process.

## Invoice Entry for Blanket Purchase Order



**When you enter an invoice with reference to a blanket purchase order, the system checks the following:**

- Does the invoice lie within the validity period of the blanket purchase order?
- Will the overall limit of the purchase order item be exceeded because of posting the invoice?

You can change the account assignment when entering the invoice. You can also switch from single to multiple account assignment. If you have assigned the purchase order item to an unknown account, you must manually specify the account assignment data when entering the invoice.



**Note:**

You change the account assignment data in invoice verification if you define such a change as permissible in Customizing for the account assignment category (*Customizing* → *Materials Management* → *Purchasing* → *Account Assignment* → *Maintain Account Assignment Categories*).

### Characteristics of a Blanket Purchase Order

**The most important characteristics of a blanket purchase order are as follows:**

- *Order type* field and value **FO** (framework order)  
 Validity period in the header of the purchase order (field selection)
- *Item category* field and value **B** (limit)  
 - Value limit for the item

- No material number allowed in the purchase order
- Account assignment category U is allowed
- No goods receipt or service entry is allowed
- Proposes data in the invoice if you specify account assignment in the purchase order
- Additional or multiple account assignment possible in invoice verification
- Checks on the validity period and limit in invoice verification

In order to work with validity periods and limits in a purchase order, you must use the document type FO and the item category B (limit). In the standard system, document type FO enables you to specify the validity period at purchase order header data level and use the item category B for limit items (limit items are referred to as blanket items).

You can only use a blanket order to procure consumable materials or services, so you must enter an account assignment for purchase order items with item category B. However, you need not specify the precise account assignment when you create the blanket purchase order. Instead, you can use the account assignment category Unknown (U).

You cannot specify a material number in a purchase order item with item category B. You have to describe the materials or services that you procure (such as office materials) using a short text. You have to specify a material group (if you are procuring a material) or a service group (if you are procuring a service).

### Item Category in Purchasing



In this section, explain the general significance and function of the item category. Briefly introduce some special procurement processes, for example, consignment, subcontracting, and third party procurement.

Point out that an item category was also specified in the purchasing documents and purchase requisitions created previously. It is a standard item category that has a blank key in Customizing.

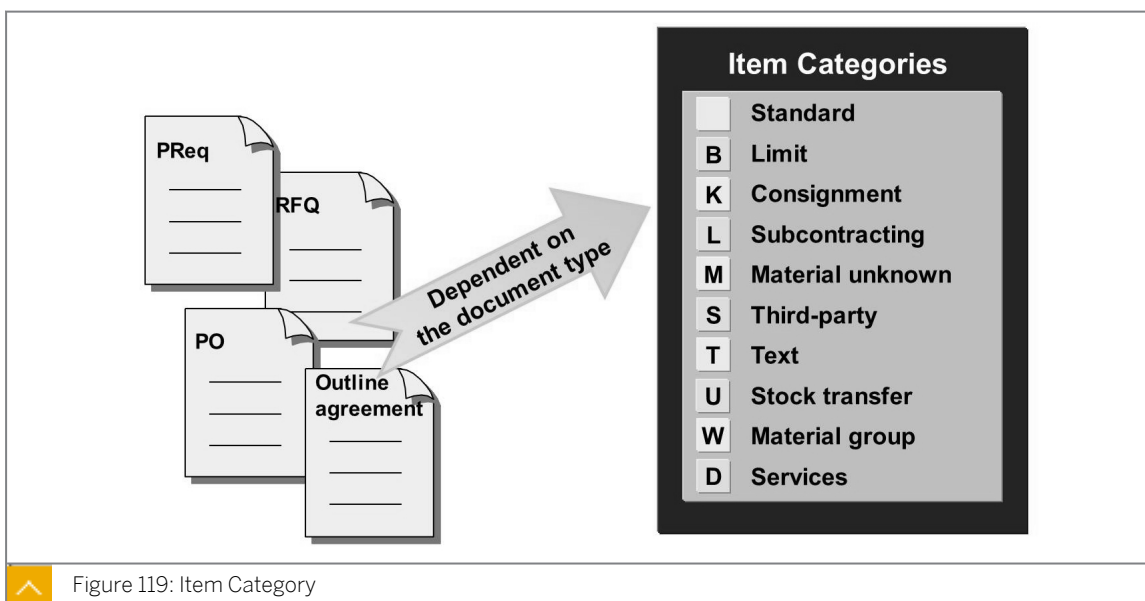


Figure 119: Item Category

The item category enables you to map different procurement processes. You use item categories in all purchasing documents. The document type determines which item categories are available for selection. You can use different item categories for individual items of a purchasing document.

You can change the short description of the individual item categories in Customizing for *Materials Management* → *Purchasing* → *Define External Representation of Item Categories*. You will also find the precise item category controls. However, you cannot change these.

The item category specifies whether a material number, an account assignment, a GR, and/or an invoice receipt are possible or required for an item.

### Item Category – Control

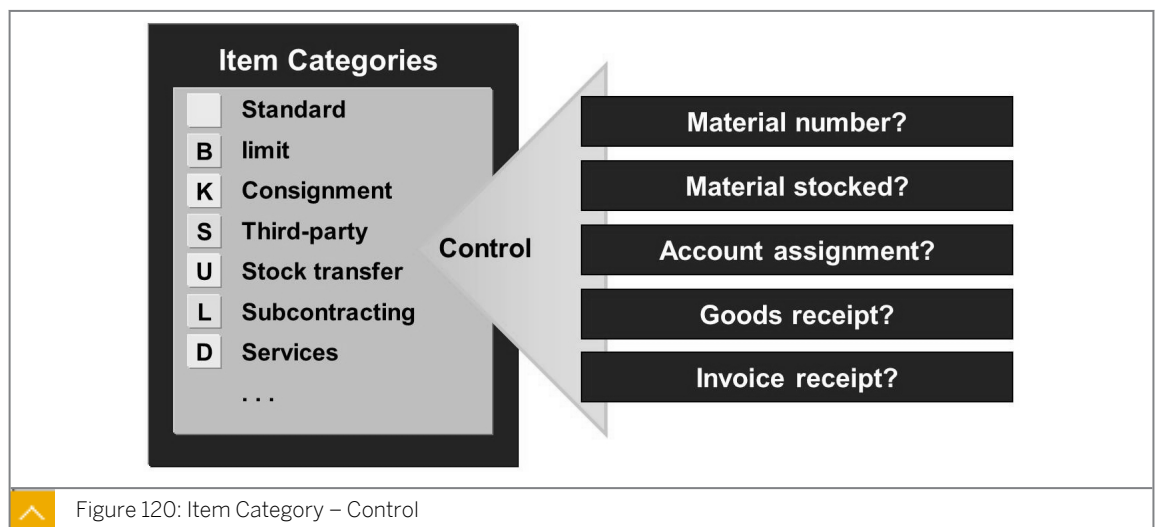


Figure 120: Item Category – Control

### Item categories are predefined as follows:

- Standard
  - This category is used for materials that you procure externally. This category has the following characteristics:
    - Material number is possible
    - Account assignment is possible
    - Goods receipt is possible (mandatory in case of stock materials)
    - Invoice receipt is possible
- Limit
  - This category is used to procure materials or services with a value limit. This category has the following characteristics:
    - Material number is not possible
    - Goods receipt is not possible
    - Account assignment is mandatory
    - Invoice receipt is mandatory
- Consignment

This category is used to procure materials from a vendor, which you then manage as **consignment** stock. The material belongs to the vendor until it is withdrawn. The placement of an ordered consignment material in storage does not immediately lead to the valuation of the material or the creation of a liability in relation to the vendor. A liability only arises when material is withdrawn from the vendor consignment store.

**This category has the following characteristics:**

- **Non-valuation goods receipt is required**
- **Invoice receipt is not possible**
- Subcontracting  
In this category, the finished product is ordered from a vendor. The components that the vendor needs to manufacture are recorded as material to be provided items.
- Stock transport orders  
In this category, the material is transferred from one plant to another.
- Third party order  
In this category, the vendor delivers the ordered material directly to a third party, for example, a customer. You receive the invoice for the material from the vendor.



Hint:  
For more-detailed information on the topics of subcontracting, consignment, stock transport orders, and third party orders, refer to *SAP Library → Materials Management → Inventory Management → Special Stocks and Special Forms of Procurement*.



**How to Create a Blanket Purchase Order**

Create a blanket purchase order and the entry of invoice.

Your Purchasing department has reached an agreement with the office supplies company Office 4U Gr.##, whose plant 1000 (the Hamburg plant) procures office materials by fax.

1. Create a blanket purchase order.  
Create a framework order for Office 4U Gr.##.

What is the number of the vendor master record for this company?

---



---



---

If necessary, specify your purchasing group T## (SCM500-##) and purchasing organization 1000.

The validity period starts today and ends on December 31 next year.

Choose the item category for blanket purchase orders (\_\_\_\_\_).

As this purchase order is used to procure office supplies for different cost centers, the account assignment category is not known at the time of ordering. Enter the relevant account assignment category (\_\_\_\_\_).

Enter **office supplies** in the *Short Text* field and **006** (office supplies) in the *Matl Group* field.

You do not expect the value of the office supplies actually procured to exceed EUR 5000. In addition, stipulate that the overall limit for invoice verification purposes is to be EUR 6000.

What is the purpose of the entry in the *Expected value* field?

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---

When you have entered all the data, save your purchase order.

Purchase order number: \_\_\_\_\_

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.
- b) In the *Order Type* list, choose the *Framework order* entry and enter **T-K500D##** in the *Vendor* field.



Hint:

You can determine the number of the vendor master record using Help, for example. Search for your vendor by *Name*. You can search for Office\*. Choose the vendor for your group number.

- c) Enter the following data on the *Additional Data* tab page in the *Header* area:

Field	Value
<i>Validity Start</i>	<Today's date>
<i>Validity End</i>	<December 31 of next year>

- d) Enter the following data on the *Org. Data* tab page in the *Header* area:

Field	Value
<i>Purch. Org.</i>	1000
<i>Purch. Group</i>	T## (SCM500-##)

- e) Enter the following data in the *Item Overview* area for *Item 10*:

Field	Value
<i>A (account assignment category)</i>	U (unknown)
<i>I (item category)</i>	B (limit)
<i>Short Text</i>	Office supplies

Field	Value
<i>Matl Group</i>	006
<i>Plnt</i>	1000

Choose *Enter*.

- f) Enter the following data in the item details on the *Limits* tab page:

Field	Value
<i>Overall Limit</i>	6000
<i>Expected value</i>	5000

The expected value is the value that the item is not likely to exceed. Among other things, it serves as a criterion for a possible release procedure. In addition, depending on the account assignment category, a commitment of this amount is created in Controlling (CO). This value is also printed in the purchase order.

- g) Save your entries, and make a note of the purchase order number.

2. Enter the first invoice for the blanket purchase order.

The Office 4U Gr.## company sends you the invoice as shown. Enter the invoice and specify the missing account assignment information. Both invoice items are posted to G/L account 476000 (consumption of office supplies). The information about the cost center and distribution is as per the vendor's invoice RE-D1##.



Hint:

Choose the display variant (layout) *Acct Assignment – Cost Center* for the item overview. You can then branch to the account assignment screen with the *multiple account assignment switch*.





Invoice		Office 4U Gr.## Lincolnstraße 3 20359 Hamburg		
IDES AG Hamburg Plant Altersdorferstr. 13 22299 Hamburg		Invoice number: RE-D1## Invoice date: [Today's date]		
In acc. w. your fax dated . . . and your PO no. 45000xxxxx, we invoice you as follows:				
Item	Quantity/UoM	Description	Unit price	Price
10	50 packs	White paper	EUR 10/pack	EUR 500
<b>Breakdown:</b>		Cost center <b>T-L##</b>	10 packs <b>EUR 100</b>	
		Cost center <b>4100</b>	40 packs <b>EUR 400</b>	
			Total net value	EUR 500
			plus 10 % VAT	EUR 50
			<b>Invoice amount</b>	<b>EUR 550</b>
Subject to the agreed payment conditions. Kind regards, Office 4U Gr.##				

Figure I-7: Invoice RE-D1## for Blanket Purchase Order

After you enter all the data, post the invoice. Note the document number.

Document number: \_\_\_\_\_

a) Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice* (MIRO).

b) Enter the following data on the *Basic Data* tab page:

Field	Value
<i>Invoice date</i>	<Today's date>
<i>Reference</i>	RE-D1##
<i>Amount</i>	550
<i>Tax Amount</i>	50
<i>Tax Code</i>	11 (Input tax 10%)

c) On the *PO Reference* tab page, choose *Purchase Order/Scheduling Agreement* as the reference document category and enter your purchase order number.


d) Choose (Enter) so that the system populates the data from the purchase order.

e) Choose *Acct Ass - Cost Center Training* from the *Layout* list.

f) In the *Item* line, choose (*Multi Acc. Ass.*) so that you can enter the account assignment data.


g) Enter the following data in the *Multiple Account Assignment for Item* dialog box:

Amount	G/L Account	Cost Center	Tax Code
100	476000	T-L##	1l (Input tax 10%)
400	476000	4100	1l (Input tax 10%)



**Caution:**  
Ensure that the tax code is set to *1l (Input tax 10%)* in the second item. To do so, scroll to the right in the account assignment list.

h) Go back to post the invoice.

i) Choose  (*Post*) and note the number of the invoice document.

3. Display the purchase order.

Display your blanket purchase order. What is the actual value of the purchase order item?

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Display the purchase order history. Select and display the invoice document.

Go to the accounting document. Which G/L accounts were posted?

Account	Short Text	Amount
T-K500D##	Office 4U Gr.##	550.00
476000	Office supplies	100.00
476000	Office supplies	400.00
154000	Input tax	50.00

a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Display* (ME23N).

b) If your blanket purchase order does not display, choose  (*Other Purchase Order*). Enter the number of the blanket purchase order, and choose the *Other Document* pushbutton.

c) Choose the *Limits* tab page in the *Item Details* area.  
The actual value of the item is EUR 500.

d) Choose the *Purchase Order History* tab page in the *Item Details* area.




e) Click the number of the invoice to display the invoice details.

f) Choose *Follow-On documents* and double-click the number of the accounting document.  
Make a note of the data in the table.

**Hint:**


When you enter the invoice, you must create a system variant in which the *Tax Code* column appears directly after the *Cost Center* column for the table of the multiple account assignment screen. This system variant must be activated before you enter the account assignment data.

Following are the steps to create a system variant:

- a) Move the *Tax Code* column so that it comes after the *Cost Center* column.
- b) Choose  (*Multiple Account Assignment*) pushbutton. The *Table Settings* dialog box appears.
- c) Choose *Administrator* pushbutton. The *Edit System Settings* dialog box appears.
- d) Choose  *Activate* pushbutton and then *Close*. The *Table Settings* dialog box appears again.
- e) Choose  *Transfer*


4. Enter a second invoice with the following values:

Field	Value
<i>Invoice date</i>	<Today's date>
<i>Reference</i>	RE-D2##
<i>Amount</i>	5500
<i>Tax Amount</i>	500

- a) In the *Item* line, choose  (*Multi Acc. Ass.*); enter **476000** in the *G/L Account* field and **T-100** in the *Cost Center* field.
- b) Save your entries.  
As a result of this invoice, the expected value of EUR 5000 is exceeded. No message is issued in invoice verification.

5. Enter a third invoice with the following values:

Field	Value
<i>Invoice date</i>	<Today's date>
<i>Reference</i>	RE-D3##
<i>Amount</i>	1100
<i>Tax Amount</i>	100

- a) In the *Item* line, choose  (*Multi Acc. Ass.*); enter **476000** in the *G/L Account* field and **€-9990** in the *WBS Element* field.
- b) Save your entries.
- As a result of this invoice, the overall value of the limit of EUR 6000 is exceeded. The system issues the message: *Value exceeds limit*.
-

# Unit 4

## Exercise 19



### Create a Blanket Purchase Order

#### Business Example

You are testing the use of blanket purchase orders to simplify the procurement of low-value consumable materials that are required at irregular intervals. Then you enter invoices relating to the blanket purchase orders.

Process blanket purchase orders.

Your Purchasing department has reached an agreement with the office supplies company, Office 4U Gr.##, from which plant 1000 (the Hamburg plant) procures office materials by fax.

1. Create a blanket purchase order.

Create a framework order for Office 4U Gr.##.

What is the number of the vendor master record for this company?

---

---

---

If necessary, specify your purchasing group T## (SCM500-##) and purchasing organization 1000.

The validity period starts today and ends on December 31 next year.

Choose the item category for blanket purchase orders (\_\_\_\_\_).

As this purchase order is used to procure office supplies for different cost centers, the account assignment category is not known at the time of ordering. Enter the relevant account assignment category (\_\_\_\_\_).

Enter **office supplies** in the *Short Text* field and **006** (office supplies) in the *Matl Group* field.

You do not expect the value of the office supplies actually procured to exceed EUR 5000. In addition, stipulate that the overall limit for invoice verification purposes is to be EUR 6000.

What is the purpose of the entry in the *Expected value* field?

---

---

---

When you have entered all the data, save your purchase order.

Note the purchase order number.

Purchase order number: \_\_\_\_\_

2. Enter an invoice for the blanket purchase order.

The Office 4U Gr.## company sends you the invoice as shown. Enter the invoice and specify the missing account assignment information. Both invoice items are posted to G/L account 476000 (consumption of office supplies). The information about the cost center and distribution is as per the vendor's invoice RE-D1##.



Hint:

Choose the display variant (layout) *Acct Assignment – Cost Center* for the item overview. You can then branch to the account assignment screen with the *multiple account assignment switch*.



<b>Invoice</b>		Office 4U Gr.## Lincolnstraße 3 20359 Hamburg		
IDES AG Hamburg Plant Altersdorferstr. 13 22299 Hamburg		Invoice number: RE-D1## Invoice date: [Today's date]		
In acc. w. your fax dated . . . and your PO no. 45000xxxxx, we invoice you as follows:				
Item	Quantity/UoM	Description	Unit price	Price
10	50 packs	White paper	EUR 10/pack	EUR 500
<b>Breakdown:</b>		Cost center <b>T-L##</b>	10 packs <b>EUR 100</b>	
		Cost center <b>4100</b>	40 packs <b>EUR 400</b>	
			Total net value	EUR 500
			plus 10 % VAT	EUR 50
			<b>Invoice amount</b>	<b>EUR 550</b>
Subject to the agreed payment conditions. Kind regards, Office 4U Gr.##				

Figure 121: Invoice RE-D1## for Blanket Purchase Order

After you enter all the data, post the invoice. Note the document number.

Document number: \_\_\_\_\_

3. Display the purchase order.

Display your blanket purchase order. What is the actual value of the purchase order item?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Display the purchase order history. Select and display the invoice document.

Go to the accounting document. Which G/L accounts were posted?

Account	Short Text	Amount
T-K500D##	Office 4U Gr.##	550.00

Account	Short Text	Amount
476000	Office supplies	100.00
476000	Office supplies	400.00
154000	Input tax	50.00

4. Optional: Enter other invoices.

Enter further invoices against your blanket purchase order. Choose an invoice amount that causes the purchase order limit to be exceeded.

Were you able to post the invoice if the limit was exceeded?



## Create a Blanket Purchase Order

### Business Example

You are testing the use of blanket purchase orders to simplify the procurement of low-value consumable materials that are required at irregular intervals. Then you enter invoices relating to the blanket purchase orders.

Process blanket purchase orders.

Your Purchasing department has reached an agreement with the office supplies company, Office 4U Gr.###, from which plant 1000 (the Hamburg plant) procures office materials by fax.

#### 1. Create a blanket purchase order.

Create a framework order for Office 4U Gr.###.

What is the number of the vendor master record for this company?

---

If necessary, specify your purchasing group T## (SCM500-##) and purchasing organization 1000.

The validity period starts today and ends on December 31 next year.

Choose the item category for blanket purchase orders (\_\_\_\_\_).

As this purchase order is used to procure office supplies for different cost centers, the account assignment category is not known at the time of ordering. Enter the relevant account assignment category (\_\_\_\_\_).

Enter **office supplies** in the *Short Text* field and **006** (office supplies) in the *Matl Group* field.

You do not expect the value of the office supplies actually procured to exceed EUR 5000. In addition, stipulate that the overall limit for invoice verification purposes is to be EUR 6000.

What is the purpose of the entry in the *Expected value* field?

---

When you have entered all the data, save your purchase order.

Note the purchase order number.

Purchase order number: \_\_\_\_\_

a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.



- b) In the *Order Type* list, choose the *Framework order* entry and enter **T-K500D##** in the *Vendor* field.



Hint:

You can determine the number of the vendor master record using Help, for example. Search for your vendor by *Name*. You can search for *Office\**. Choose the vendor for your group number.

- c) Enter the following data on the *Additional Data* tab page in the *Header* area:

Field	Value
<i>Validity Start</i>	<Today's date>
<i>Validity End</i>	<December 31 of next year>

- d) Enter the following data on the *Org. Data* tab page in the *Header* area:

Field	Value
<i>Purch. Org.</i>	1000
<i>Purch. Group</i>	T## (SCM500-##)

- e) Enter the following data in the *Item Overview* area for *Item 10*:

Field	Value
<i>A (account assignment category)</i>	U (unknown)
<i>I (item category)</i>	B (limit)
<i>Short Text</i>	Office supplies
<i>Matl Group</i>	006
<i>Plnt</i>	1000

Choose *Enter*.

- f) Enter the following data in the *Item Details* area on the *Limits* tab page:

Field	Value
<i>Overall Limit</i>	6000
<i>Expected value</i>	5000

The expected value is the value that the item is not likely to exceed. Among other things, it serves as a criterion for a possible release procedure. In addition (depending on the account assignment category), a commitment of this amount is created in Controlling (CO). This value is also printed in the purchase order.

- g) Save your entries, and make a note of the purchase order number.

2. Enter an invoice for the blanket purchase order.

The Office 4U Gr.## company sends you the invoice as shown. Enter the invoice and specify the missing account assignment information. Both invoice items are posted to G/L account 476000 (consumption of office supplies). The information about the cost center and distribution is as per the vendor's invoice RE-D1##.



**Hint:**  
Choose the display variant (layout) *Acct Assignment – Cost Center* for the item overview. You can then branch to the account assignment screen with the *multiple account assignment switch*.



<b>Invoice</b>		Office 4U Gr.## Lincolnstraße 3 20359 Hamburg		
IDES AG Hamburg Plant Altersdorferstr. 13 22299 Hamburg		Invoice number:	RE-D1##	
		Invoice date:	[Today's date]	
In acc. w. your fax dated . . . and your PO no. 45000xxxxx, we invoice you as follows:				
Item	Quantity/UoM	Description	Unit price	Price
10	50 packs	White paper	EUR 10/pack	EUR 500
<b>Breakdown:</b>		Cost center T-L##	10 packs	EUR 100
		Cost center 4100	40 packs	EUR 400
			Total net value	EUR 500
			plus 10 % VAT	EUR 50
			<b>Invoice amount</b>	<b>EUR 550</b>
Subject to the agreed payment conditions.				
Kind regards, Office 4U Gr.##				



Figure 121: Invoice RE-D1## for Blanket Purchase Order

After you enter all the data, post the invoice. Note the document number.

Document number: \_\_\_\_\_

- a) Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice (MIRO)*.
- b) Enter 1000 in the Company Code. Enter the following data on the *Basic Data* tab page:

Field	Value
Invoice date	<Today's date>
Reference	RE-D1##
Amount	550
Tax Amount	50
Tax Code	11 (Input tax 10%)


- c) On the *PO Reference* tab page, choose *Purchase Order/Scheduling Agreement* as the reference document category and enter your purchase order number.
- d) Choose  (*Enter*) so that the system proposes the data from the purchase order.
- e) Choose *Acct Ass - Cost Center Training* from the *Layout* list.
- f) In the *Item* line, choose  (*Multi Acc. Ass.*) so that you can enter the account assignment data.
- g) Enter the following data in the *Multiple Account Assignment for Item* dialog box:

Amount	G/L Account	Cost Center	Tax Code
100	476000	T-L###	1l (Input tax 10%)
400	476000	4100	1l (Input tax 10%)



Caution:


Ensure that the tax code is set to *1l (Input tax 10%)* in the second item. To do so, scroll to the right in the account assignment list.

- h) Go back to post the invoice.
  - i) Choose  (*Post*) and note the number of the invoice document.
3. Display the purchase order.

Display your blanket purchase order. What is the actual value of the purchase order item?

Display the purchase order history. Select and display the invoice document. Go to the accounting document. Which G/L accounts were posted?

Account	Short Text	Amount
T-K500D##	Office 4U Gr.##	550.00
476000	Office supplies	100.00
476000	Office supplies	400.00
154000	Input tax	50.00

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Display* (ME23N).
- b) If your blanket purchase order does not display, choose  (*Other Purchase Order*). Enter the number of the blanket purchase order, and choose the *Other Document* pushbutton.

- c) Choose the *Limits* tab page in the *Item Details* area.  
The actual value of the item is EUR 500.
- d) Choose the *Purchase Order History* tab page in the *Item Details* area.
- e) Click the number of the invoice to display the invoice.
- f) Choose *Follow-On documents* and double-click the number of the accounting document.  
Make a note of the data in the table.

4. Optional: Enter other invoices.

Enter further invoices against your blanket purchase order. Choose an invoice amount that causes the purchase order limit to be exceeded.

Were you able to post the invoice if the limit was exceeded?

- a) Proceed as described in sub step 2 (enter an invoice for the blanket purchase order), and select suitable data (such as amount 6600 and tax EUR 600). It is sufficient to make an assignment to just one cost center (for example, T-L##).  
You can still post the invoice even if the limit is exceeded. However, the system blocks it for payment due to price variance.



### **LESSON SUMMARY**

You should now be able to:

- Create blanket purchase orders





## Learning Assessment

1. You post a goods receipt for a purchase order item with account assignment. Which of the following accounts may be updated in accounting?

*Choose the correct answers.*

- A Vendor account
- B Consumption account
- C Price difference account
- D GR/IR clearing account

2. You want to procure material for consumption. Which of the following data must exist in the purchase requisition?

*Choose the correct answers.*

- A Material short text
- B Account assignment category
- C Material number
- D Account assignment data
- E G/L account
- F Material group

3. Which of the following factors is used to determine that an account assignment category needs to be specified in a purchase order for a material with a material master record?

*Choose the correct answer.*

- A Material group
- B Industry sector
- C Material type
- D Field selection

4. In which documents can you use the account assignment category Unknown (U)?

*Choose the correct answers.*

- A Request for Quotation(RFQ)
- B Purchase requisition
- C Purchase order
- D Material document

5. If you create a multiple account assignment in an item, you can choose the following options for the distribution checkbox.

*Choose the correct answers.*

- A Quantity basis
- B Proportional
- C Percentage
- D Sequential

6. Which of the following statements applies for the internal requisition of material without a material master record?

*Choose the correct answers.*

- A You do not enter a material description.
- B You do not enter a material number.
- C You must enter the unit of measure.
- D You must enter an order price.
- E You must always enter an account assignment category.
- F You may only enter the account assignment category unknown.

7. Purchase requisitions are internal documents for asking your purchasing department to procure a particular quantity of a material or a service for a particular date.

*Determine whether this statement is true or false.*

- True
- False



8. The purchase requisition can only be created directly.

*Determine whether this statement is true or false.*

True

False

9. When creating a purchase order with reference to a purchase requisition, note the following: If there is no purchasing info record with a valid price for a vendor and a material, then the valuation price is always populated from the purchase requisition as the order price.

*Determine whether this statement is true or false.*

True

False

10. Which checkbox must be set in the purchase order item so that the GR/IR clearing account is not posted during invoice entry?

*Choose the correct answers.*

**A** Goods Receipt checkbox: set / GR Non-Val. checkbox: set

**B** Goods Receipt checkbox: set / GR Non-Val. checkbox: not set

**C** Goods Receipt checkbox: not set / GR Non-Val. checkbox: not set

**D** Goods Receipt checkbox: not set / GR Non-Val. checkbox: set

11. You can enter a goods receipt or any services against a purchase order item with the item category Limit (B).

*Determine whether this statement is true or false.*

True

False

12. A purchase requisition can be converted into a purchase order, a contract release order, a scheduling agreement schedule line, or even an RFQ.

*Determine whether this statement is true or false.*

True

False

13. A difference between the procurement of stock material and the procurement of consumable material is that in the latter, you can decide whether the GR is to be valuated or non-valuated for order items with account assignments.

*Determine whether this statement is true or false.*

- True  
 False

14. Which of the following do you enter when you create a blanket purchase order?

*Choose the correct answers.*

- A Vendor  
 B Material  
 C Delivery date  
 D Short text  
 E Account assignment category  
 F Item category B  
 G Material group  
 H Quantity and unit of measure  
 I Plant

15. In standard procurement of consumable materials, you must create at least two purchase orders for each procurement transaction.

*Determine whether this statement is true or false.*

- True  
 False

16. You can use different item categories for the individual items of a purchasing document.

*Determine whether this statement is true or false.*

- True  
 False

17. You procure consumable materials or services without a value limit.

*Determine whether this statement is true or false.*

True

False



## Learning Assessment - Answers

1. You post a goods receipt for a purchase order item with account assignment. Which of the following accounts may be updated in accounting?

*Choose the correct answers.*

- A Vendor account
- B Consumption account
- C Price difference account
- D GR/IR clearing account

If the goods receipt is posted as valuated for a purchase order item with account assignment, a consumption account and the GR/IR clearing account are updated for Financial Accounting (FI).

2. You want to procure material for consumption. Which of the following data must exist in the purchase requisition?

*Choose the correct answers.*

- A Material short text
- B Account assignment category
- C Material number
- D Account assignment data
- E G/L account
- F Material group

For A and C: You can procure materials with and without master records for consumption. However, you must always specify a material short text. For B: The account assignment category determines that the material is procured for consumption. For D and E: If you have selected account assignment category U (unknown), you do not need to specify any account assignment data or a G/L account. For F: In the case of materials with master records, the material group is transferred from the material master record. For materials without a master record, you must specify the material group manually.

3. Which of the following factors is used to determine that an account assignment category needs to be specified in a purchase order for a material with a material master record?

*Choose the correct answer.*

- A Material group
- B Industry sector
- C Material type
- D Field selection

The material type determines whether or not inventory management for a material is to take place on a value basis. All materials that are not subject to inventory management on a value basis can only be procured with account assignments.

4. In which documents can you use the account assignment category Unknown (U)?

*Choose the correct answers.*

- A Request for Quotation(RFQ)
- B Purchase requisition
- C Purchase order
- D Material document

The RFQ does not contain the field for the account assignment category. You cannot specify an account assignment regardless of whether it is known or unknown.

5. If you create a multiple account assignment in an item, you can choose the following options for the distribution checkbox.

*Choose the correct answers.*

- A Quantity basis
- B Proportional
- C Percentage
- D Sequential

To create a multiple account assignment in an item, you can choose whether the value of the item is to be distributed on a quantity basis or as a percentage.

6. Which of the following statements applies for the internal requisition of material without a material master record?

*Choose the correct answers.*

- A You do not enter a material description.
- B You do not enter a material number.
- C You must enter the unit of measure.
- D You must enter an order price.
- E You must always enter an account assignment category.
- F You may only enter the account assignment category unknown.

For A and B: There are no material numbers for materials without master records; therefore, you must manually enter a short text that describes the material. For C: The unit of measure cannot be determined from the material master record, so you must enter it manually. For D: Do not enter an order price in the purchase requisition, enter the valuation price instead. For E and F: Items without a material master record must have account assignment, but there is no restriction on the possible account assignment categories.

7. Purchase requisitions are internal documents for asking your purchasing department to procure a particular quantity of a material or a service for a particular date.

*Determine whether this statement is true or false.*

- True
- False

8. The purchase requisition can only be created directly.

*Determine whether this statement is true or false.*

- True
- False

9. When creating a purchase order with reference to a purchase requisition, note the following: If there is no purchasing info record with a valid price for a vendor and a material, then the valuation price is always populated from the purchase requisition as the order price.

*Determine whether this statement is true or false.*

- True  
 False

The valuation price from the purchase requisition is adopted in the purchase order as the order price only for items without a material master record.

10. Which checkbox must be set in the purchase order item so that the GR/IR clearing account is not posted during invoice entry?

*Choose the correct answers.*

- A Goods Receipt checkbox: set / GR Non-Val. checkbox: set  
 B Goods Receipt checkbox: set / GR Non-Val. checkbox: not set  
 C Goods Receipt checkbox: not set / GR Non-Val. checkbox: not set  
 D Goods Receipt checkbox: not set / GR Non-Val. checkbox: set

The GR/IR clearing account is not posted in the invoice if no goods receipt is planned or a non-valuated goods receipt is planned for the order item. This setting is not possible for D.

11. You can enter a goods receipt or any services against a purchase order item with the item category Limit (B).

*Determine whether this statement is true or false.*

- True  
 False

The item category Limit determines that no GR can be entered for a purchase order item.

12. A purchase requisition can be converted into a purchase order, a contract release order, a scheduling agreement schedule line, or even an RFQ.

*Determine whether this statement is true or false.*

- True  
 False

13. A difference between the procurement of stock material and the procurement of consumable material is that in the latter, you can decide whether the GR is to be valuated or non-valuated for order items with account assignments.

*Determine whether this statement is true or false.*

- True  
 False

14. Which of the following do you enter when you create a blanket purchase order?

*Choose the correct answers.*

- A Vendor  
 B Material  
 C Delivery date  
 D Short text  
 E Account assignment category  
 F Item category B  
 G Material group  
 H Quantity and unit of measure  
 I Plant

When creating a blanket purchase order, you must enter the following: Order type framework order, vendor, validity period, account assignment category (where relevant, additional account assignment data), item category B, short text, material group, plant, and limit (overall value, expected value).

15. In standard procurement of consumable materials, you must create at least two purchase orders for each procurement transaction.

*Determine whether this statement is true or false.*

- True  
 False



16. You can use different item categories for the individual items of a purchasing document.

*Determine whether this statement is true or false.*

True

False

17. You procure consumable materials or services without a value limit.

*Determine whether this statement is true or false.*

True

False



# UNIT 5

# Procurement of External Services

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### UNIT OBJECTIVES

- Maintain master data for external services
- Create a purchase order for services
- Create and accept a service entry sheet
- Enter an invoice for a service purchase order

# Unit 5

## Lesson 1



## Maintaining Master Data for External Services

### LESSON OVERVIEW

This lesson deals with the process of procuring externally provided services. It also introduces the master data for external services.



Discuss and show the service master record and the service conditions.

### Business Example

Your company pays an external service provider to carry out maintenance work, such as the replacement of defective fluorescent tubes. You have maintained service master records and special conditions for this process. For this reason, you require the following knowledge:

- An understanding of the most important master data used in the procurement of external services
- An understanding of the basic procurement process for services and how to follow that process
- How to display a service master record and service conditions



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Maintain master data for external services

### External Services in Procurement



Outline the complete procurement process for external services. Compare the procurement process for services with that for materials. Discuss their similarities and the differences.

Indicate that the work done by the service provider can normally be broken down into subtasks or individual services. These individual services are consolidated in sets of service specifications.

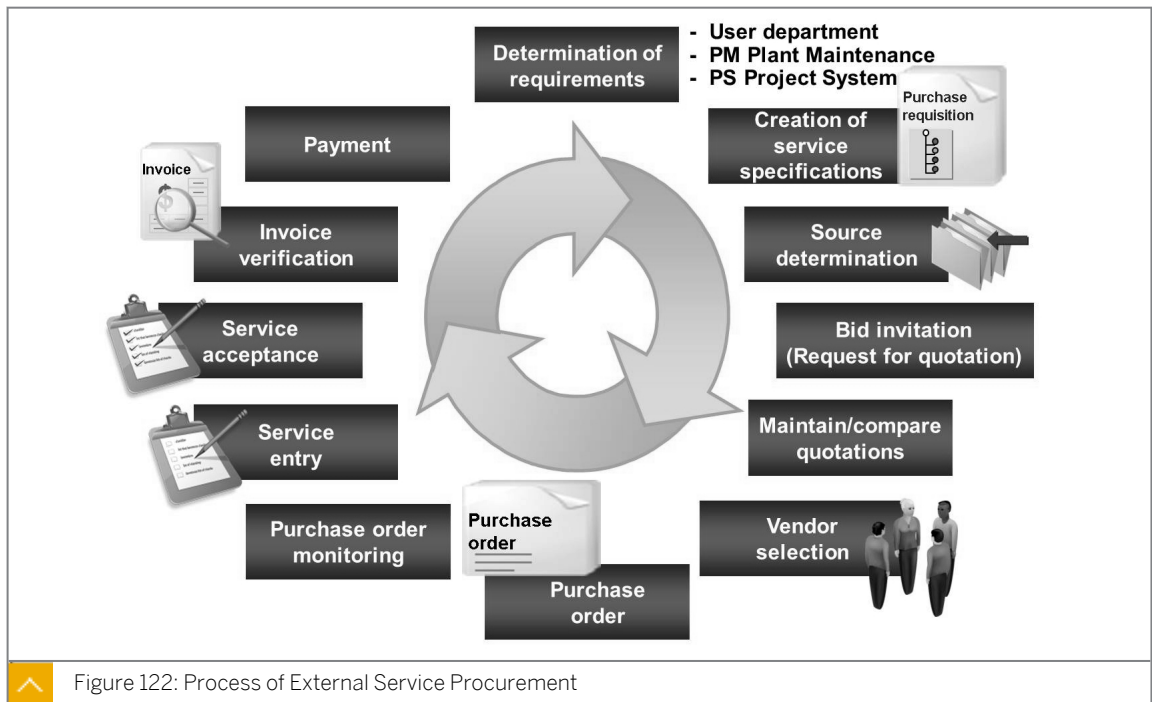
Explain using the example of painting an office, which involves the following individual services:

- Covering the floor and furniture
- Masking windows
- Applying a primer
- Applying the top coat

- Removing and disposing of covers
- Cleaning the room

You can also ask the participants to provide an example.

The second important difference between the procurement of services and the procurement of materials is the entry and acceptance of the services that are actually performed. Explain this using the previous example.



The figure shows all steps in the process of procuring external services.

### Process of External Service Procurement

The following steps are involved in procuring external services:

#### 1. Determination of requirements

A need for certain services may arise within a department of a company. It may involve a project (such as the translation of software documentation) or maintenance work (such as a repair that requires an industrial electrician)

#### 2. Creation of service specifications

When a requirement is established, a document (such as a purchase requisition) is created in the system that serves as the basis for the procurement process. The document can contain a set of service specifications listing the necessary services in detail. In this early phase of the procurement process, you also have the option of skipping service specifications and considering only the unplanned services by setting value limits.

#### 3. Source determination for vendor selection

To convert a requirement into a purchase order, you must determine a suitable provider for the necessary services. The system can help you find potential service providers in

several ways. The source determination function analyzes and evaluates purchasing data that has already been entered in the system in the form of service conditions or contracts. If an entirely new service has been requested, and if no source is currently recorded in the system, a bid invitation process can be carried out. You can replicate this bid invitation process using the request for quotation (RFQ) or quotation facility for services.

#### 4. Purchase order and purchase order monitoring

In addition to manual entry, you can create purchase orders with reference to purchase requisitions, RFQs, or contracts. During the phase of actual service performance, the actual values for services performed or work done are continuously updated in the underlying purchase order or contract release order. You can view how far a certain procurement project has progressed by referring to the purchase order history. You can also monitor the confirmations of work done for each individual service line.

#### 5. Service entry and service acceptance

Once the service is actually performed, the system records it in a service entry sheet. One or more persons responsible then review the service entry sheet and accept it. You can separate the tasks of service entry and service acceptance within the organization, in order to maintain the dual control principle. The same individual may carry out both service entry and acceptance but in that case, the individual is playing two different roles.

#### 6. Invoice verification and payment

The last step in the procurement process is the verification of the vendor invoice(s). The system checks the value, as calculated from the accepted service entry sheets, against the vendor's invoice. The system checks the taxes, as mentioned in the purchase order, with those mentioned in the vendor's invoice. If the values tally, the invoice is released to Finance for payment. If they do not, the system issues a warning or error message (based on settings in Customizing).

### Service Master Record



Explain which applications use service master records and describe the corresponding data that is entered in a service master record.

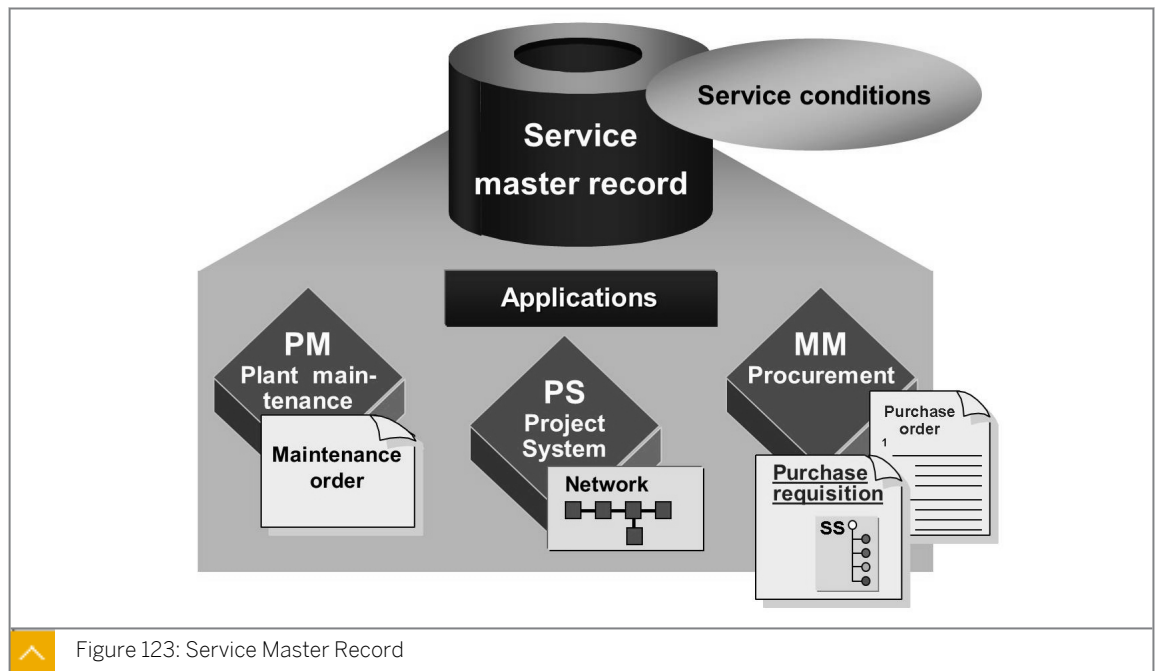


Figure 123: Service Master Record

The service master record provides a description of a service. The service master record counts as part of the master data and serves as a source of data while creating service specifications. Using service master records can help you avoid errors and reduce the amount of time spent on this activity, because you only need to enter the complete set of service specifications once.

**A service master record contains the following principal information for the unique description of an external service:**

- Service number
- Service category
- Descriptive texts (short and long text)
- Base unit of measurement
- Material group
- Valuation class

Service master records can be used by various applications. Besides Purchasing (MM-PUR), service master records are also used in the Project System (PS), Plant Maintenance (PM), and Customer Service (CS).

## Service Master – Transaction AC03

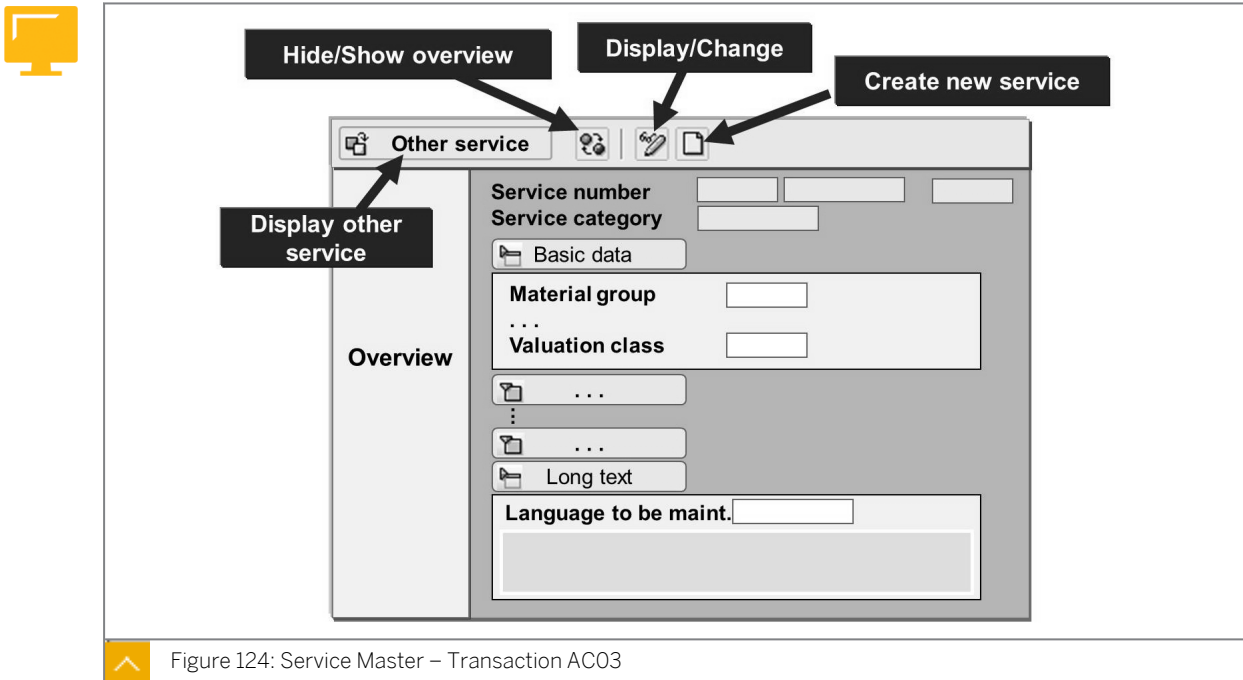




Figure 124: Service Master – Transaction AC03



Discuss the structure and use of transaction AC03. You could then demonstrate how to display the service master record.

The service master record transaction (AC03) is a single-screen transaction that helps you to create, change, and display services. When you invoke the function, you are initially in display mode. You can choose a specific service with the *Other Service* pushbutton or search for one in the overview. The overview is used in the same way as the document overview in the purchase order (selection, layout, and breakdown), and can be displayed or hidden in this transaction by choosing the *Show/Hide Overview* pushbutton.

To expand and collapse the data areas in the right-hand area of the screen, choose  (*Open*) and  (*Close*). The first time you call this screen, the data areas *Basic Data* and *Long Text* are open. Each time you call the screen after this, the screen settings and the data you selected or maintained before exiting the function are displayed.





### How to Create a Service Master Record

Display and Create a Service Master Record.

1. Show the options for the service master and for service entry in the *SAP Easy Access* screen. Briefly discuss the options in the *Service Master* menu, especially the *Service* section. Explain the importance of model service specifications and the standard service catalog. **The model service specification is a collection of services that serves as a template for further specifications.**
2. Choose *Logistics* → *Materials Management* → *Service Master* → *Service* → *Service Master* (AC03).
3. Display the services *T-LM100* and *T-LM200*. Explain how to use the transaction.



4. Create a new service.
  - a) Choose the  *Other Service* pushbutton and enter **T-LM1##** in the *Activity Number* field in the *Display Other Service* dialog box.
  - b) Choose  (*Copy*) to copy the service master record.
  - c) Enter **T-LM3##** in the *Activity Number* field and **Cleaning of reflective surfaces for lamps** as the short text.
  - d) Delete the long text from the template and enter **with environmentally friendly cleaning agent**.
  - e) Save your entries.

## Service Conditions

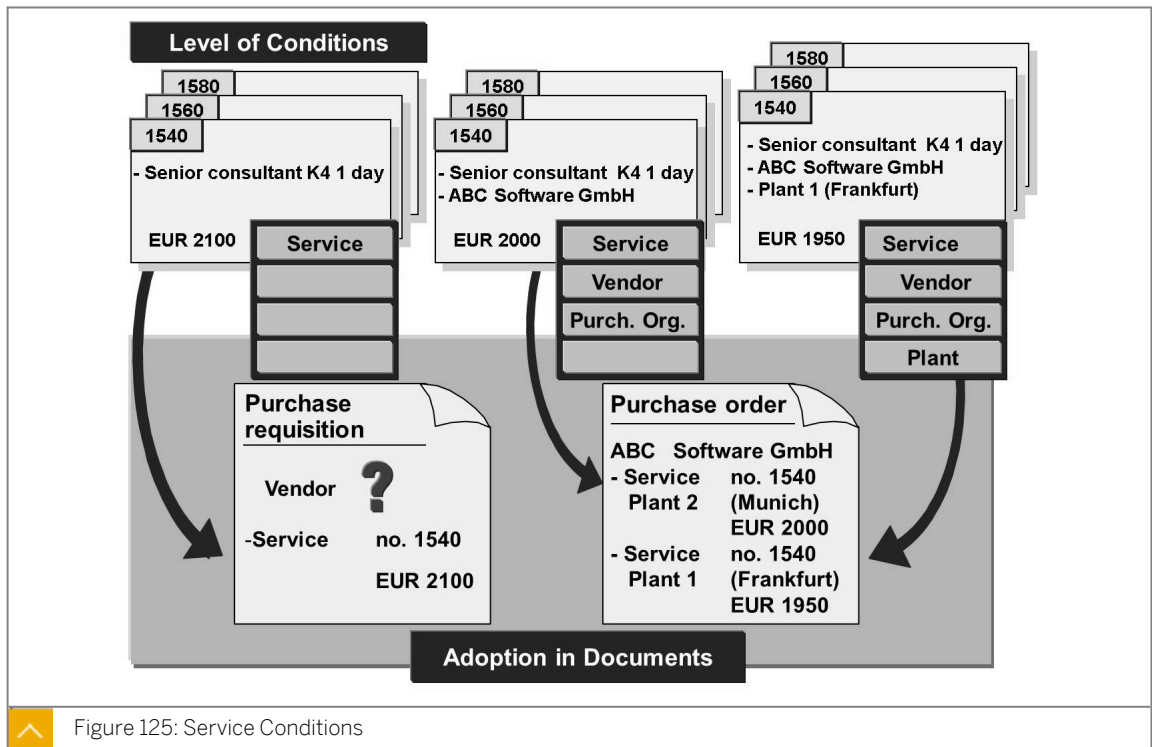


Discuss the levels based on which service conditions are maintained. The dependency of the vendor-specific service conditions on the purchasing organization is not discussed. Point out to the participants that the **purchasing organization must be specified for vendor-specific service conditions**.



Hint:

Clarify that the own estimate is specified without a purchasing organization.



Prices for valid external services that extend over a longer period can be recorded in the system in the form of service conditions. The system applies these conditions while

determining the price in the purchasing document. You can enter further conditions in the purchasing document itself.

**You can define service master conditions at several levels in the system as follows:**

- At the level of service (market price or own estimate)
- At the level of service, vendor, and purchasing organization
- At the level of service, vendor, purchasing organization, and plant



Note:

For more information on service conditions, refer to the SAP Library, application component *External Services* (MM-SRV).



### How to Add Service Conditions

1. Choose *Logistics* → *Materials Management* → *Service Master* → *Service* → *Service Conditions*.
  2. Briefly discuss the menu options.
-



## Maintain Master Data for External Services

### Business Example

The fluorescent tubes in your office need to be replaced due to wear and tear. An external service provider will carry out this work. Test the procurement process for external services.

Display service master records and list the conditions for service master records depending on the vendor.


Service master records exist in the system for some regular maintenance work involving the replacement of worn-out fluorescent tubes on your company's premises. Review this master data and the conditions for these services. You need to create a new master record in the system for cleaning the reflective surface of the lamps.

1. Display a service master record.

Display the service master records T-LM1## (this indicates removal of fluorescent tubes) and T-LM2## (this indicates installation of fluorescent tubes).



Hint:

Choose the  *Other Service* pushbutton and then enter the service number. You can close the service overview using (*Hide Overview*) pushbutton.

Is there a long text describing the service in more detail in each case?

What is the unit of measure for managing the services?

2. Display service conditions.

Check whether conditions have been followed with vendor T-K500E## (Home-Electric Gr.##) in both of the aforementioned service master records for purchasing organization 1000 (without a plant).

Note the prices of the service provider for each service.

T-LM1##: \_\_\_\_\_

T-LM2##: \_\_\_\_\_

3. Create a service master record.

In addition to exchanging the fluorescent tubes, the reflective surfaces of the lamps must also be cleaned. Create a new master record for this service. Copy this service, because the service type, unit of measure, material group, and valuation class for the new service are identical to the values for the service T-LM2##.

Change the number of the new service to T-LM3## and the short text to Cleaning of reflective surfaces for lamp. The surfaces must be cleaned with a special, environmentally friendly cleaning agent. Note this in the long text for the service.

4. Add conditions for the new service master record.

You do not yet know the actual price charged by the service provider for cleaning the reflective surfaces. The approximate price for cleaning the lamps is EUR 3.00 for each lamp. Store this cost as your own estimate in the system. For the time being, your own estimate is only valid until the end of the year.



## Maintain Master Data for External Services

### Business Example

The fluorescent tubes in your office need to be replaced due to wear and tear. An external service provider will carry out this work. Test the procurement process for external services.

Display service master records and list the conditions for service master records depending on the vendor.


Service master records exist in the system for some regular maintenance work involving the replacement of worn-out fluorescent tubes on your company's premises. Review this master data and the conditions for these services. You need to create a new master record in the system for cleaning the reflective surface of the lamps.

#### 1. Display a service master record.

Display the service master records T-LM1## (this indicates removal of fluorescent tubes) and T-LM2## (this indicates installation of fluorescent tubes).





Hint:

Choose the  *Other Service* pushbutton and then enter the service number. You can close the service overview using (*Hide Overview*) pushbutton.

Is there a long text describing the service in more detail in each case?

What is the unit of measure for managing the services?

- Choose *Logistics* → *Materials Management* → *Service Master* → *Service* → *Service Master* (AC03).
- Choose the  *Other Service* pushbutton and enter the **T-LM1##** in the *Activity Number* field in the *Display Other Service* dialog box.
- If the *Long text* data area is closed, choose the  *Long Txt* pushbutton to view the text in question. A long text has been maintained for each of the two services.
- Both services are managed in the base unit of measure piece (pc).

#### 2. Display service conditions.

Check whether conditions have been followed with vendor T-K500E## (Home-Electric Gr.##) in both of the aforementioned service master records for purchasing organization 1000 (without a plant).

Note the prices of the service provider for each service.

T-LM1##: \_\_\_\_\_

T-LM2##: \_\_\_\_\_

a) Choose *Logistics* → *Materials Management* → *Service Master* → *Service* → **Service Conditions** → **For Vendor Without Plant** → **Display (ML41)**.

b) Enter the following data on the selection screen:

Field	Value
<i>Purch. Organization</i>	1000
<i>Vendor</i>	T-K500E##
<i>Activity Number</i>	<No input necessary>

c) Choose  (*Execute*). The following services and prices are listed:


Field	Value
<i>T-LM1##</i>	2.00
<i>T-LM2##</i>	4.50

3. Create a service master record.

In addition to exchanging the fluorescent tubes, the reflective surfaces of the lamps must also be cleaned. Create a new master record for this service. Copy this service, because the service type, unit of measure, material group, and valuation class for the new service are identical to the values for the service T-LM2##.

Change the number of the new service to T-LM3## and the short text to *Cleaning of reflective surfaces for lamp*. The surfaces must be cleaned with a special, environmentally friendly cleaning agent. Note this in the long text for the service.

a) Choose *Logistics* → *Materials Management* → *Service Master* → *Service* → *Service Master (AC03)*.

b) Choose the  *Other Service* pushbutton and enter T-LM2## in the *Activity Number* field in the *Display Other Service* dialog box.

c) Choose  (*Copy*).

d) Enter **T-LM3##** in the *Activity Number* field and **Cleaning of reflective surfaces for lamps** as the short text.

e) Delete the long text from the template and instead enter **with environmentally friendly cleaning agent**.

f) Save your entries.

4. Add conditions for the new service master record.

You do not yet know the actual price charged by the service provider for cleaning the reflective surfaces. The approximate price for cleaning the lamps is EUR 3.00 for each lamp. Store this cost as your own estimate in the system. For the time being, your own estimate is only valid until the end of the year.

a) Choose *Logistics* → *Materials Management* → *Service Master* → *Service* → **Service Conditions** → **For Service** → **Add (ML45)**.

b) Enter the following data:

Field	Value
<i>Activity</i>	<b>T-LM3##</b>
<i>Amount</i>	<b>3</b>
<i>Unit</i>	<b>EUR</b>
<i>Valid From</i>	<Today's date>
<i>Valid to</i>	<12/31 current year>

c) Save your entries.



### **LESSON SUMMARY**

You should now be able to:

- Maintain master data for external services





## Ordering Services

### LESSON OVERVIEW

This lesson discusses the special features of a service item in purchasing documents, using a purchase order as an example. For each service, enter a set of service specifications (SS) and limits for the item.



Discuss and show the creation of a purchase order for services.

### Business Example

In your company, many fluorescent tubes in the building are damaged and must be replaced. An external service provider will perform this maintenance work. As a buyer, you must create a purchase order with the corresponding SS and a limit for unexpected additional work. For this reason, you require the following knowledge:

- An understanding of the structure of the purchase order item for services
- How to create a purchase order item for services



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

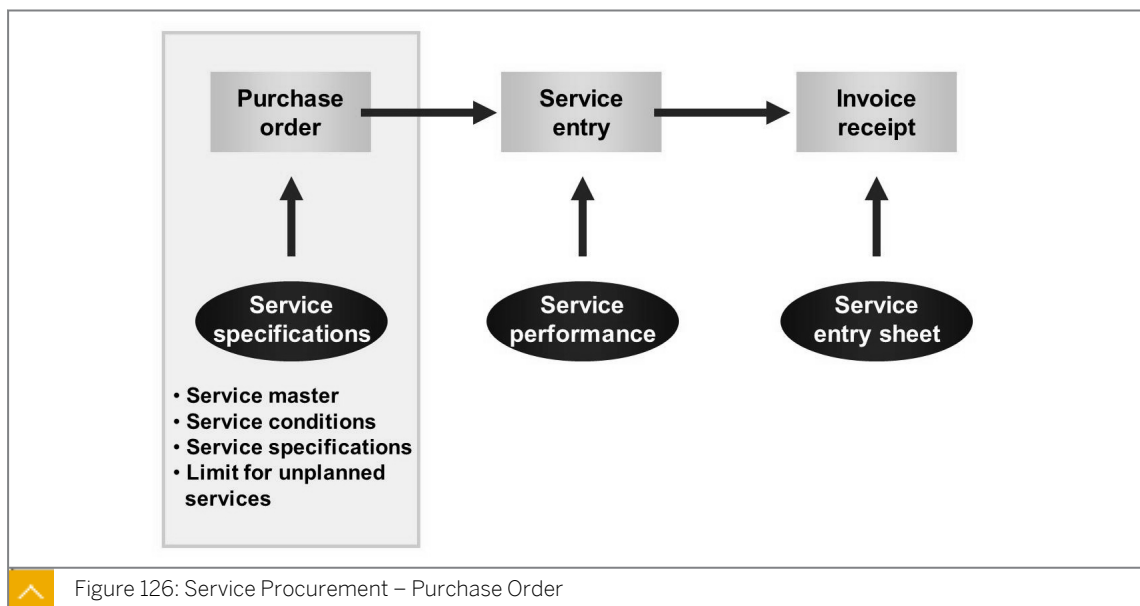
- Create a purchase order for services

### Purchase Orders for Services



Explain the procurement process in this unit. Then explain the distinct characteristics of the purchase order for services. Highlight the following:

- Item category is *D* and in the *Item Details* area, *Services* and *Limits* tab pages are displayed
- In the purchase order for item category *D*, Account assignment category *U* (unknown) is allowed
- At the *Item Overview* area, there is a brief description of the work to be completed by way of the short text
- At the *Item Details* area, a service specifications (SS) is created. This lists individual services to be performed under the brief description mentioned in *Item Overview* area.
- The value limit for unplanned services is displayed.



The figure shows a simple procurement process for services consisting of a purchase order, service entry and acceptance, and invoice entry. The process begins with the purchase order, in which the individual services are summarized in a service specification and forwarded to the service provider.

When you procure the material, you are aware of necessary information, such as the material to be procured and the quantity. When you procure the service, however, neither the exact service description nor the order quantity is clearly specified. For example, when a machine is undergoing maintenance work, you do not know whether the settings simply have to be adjusted or whether the parts have to be replaced.

You may only be able to estimate the amount of working hours, because you do not know exactly how long a maintenance task will take. By specifying a limit for unplanned services, you can control the costs of unexpected services and services that cannot be planned.

### Purchase Order – Stock Material or Services

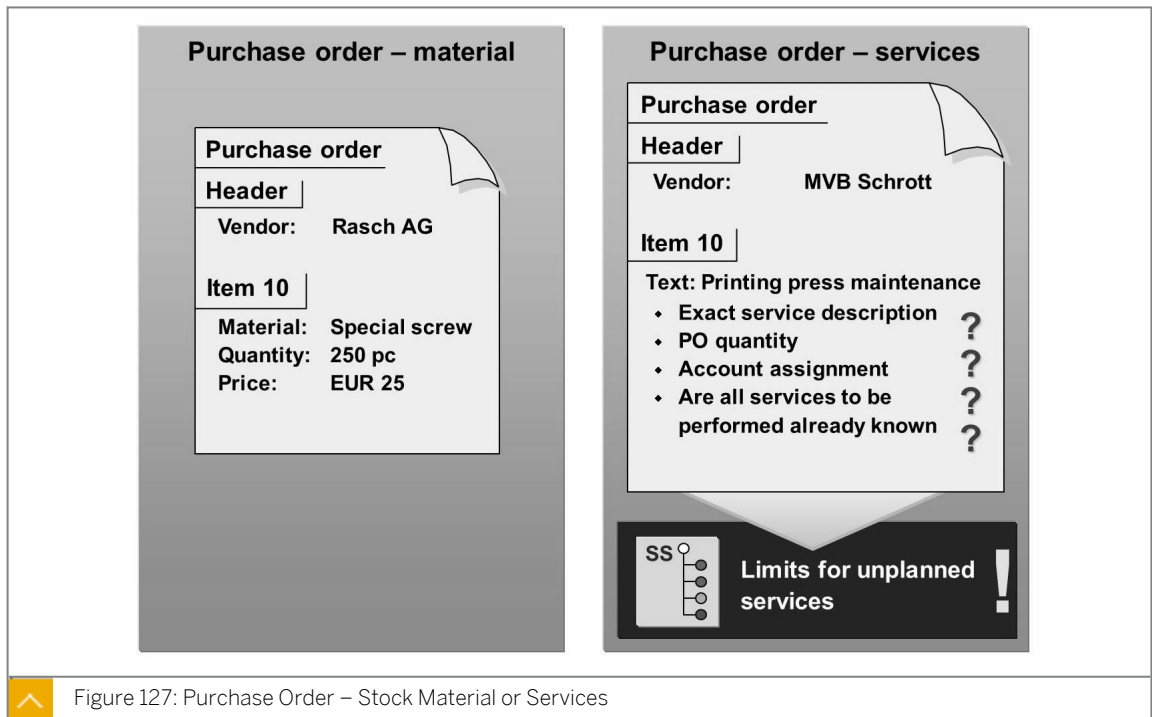


Figure 127: Purchase Order – Stock Material or Services

The work to be performed cannot be mapped in a single service master record. During machine maintenance, parts that may be wearing out need to be identified, examined, and replaced. The total work includes shutting down, removing and examining these parts, cleaning or replacing the worn-out parts, installation, and performing a function test. These individual services are consolidated in sets of SS.

### Purchasing Document Structure

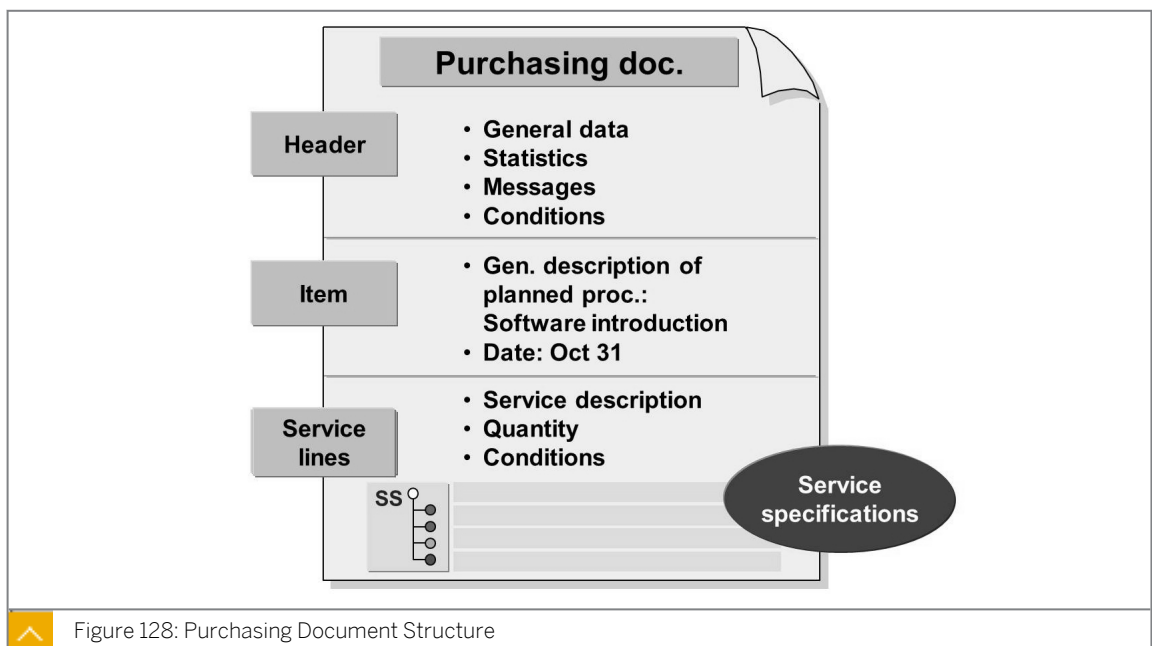


Figure 128: Purchasing Document Structure

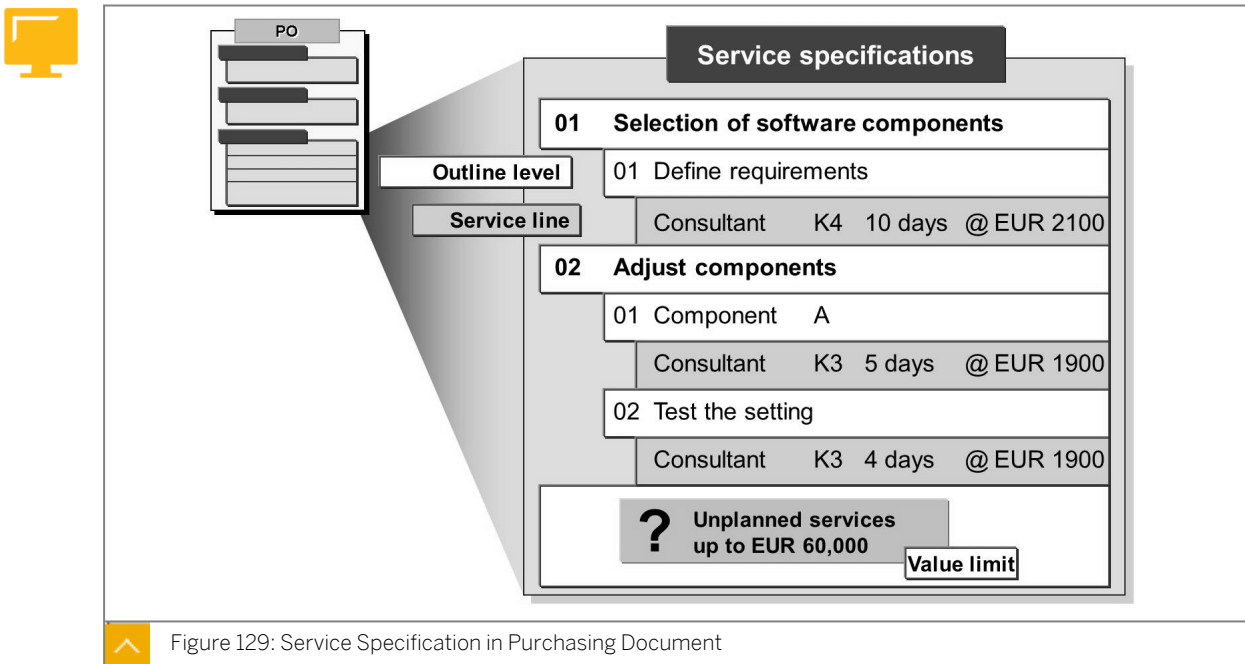
You must always assign a service item to an account assignment object. Procurement for the warehouse, which is possible for materials, does not exist in service procurement. However,

you can use account assignment category *U* (unknown) in connection with *Item category D* (service) because in some cases the account assignment has not been determined at the time of ordering.

When you procure the material, enter material type and the relevant data for each item. When you procure the service, the item contains only a short text to describe the general procurement project. To list the individual services with a description, quantity specification, prices, and other details, use the SS in the *Item Details* area. You can summarize both the services with master records and the services without master records in the SS.

**Item category D (service) activates the service function, and enables you to create a service specification, and sets the value limits for unplanned services.**

### Service Specification in Purchasing Document



**A set of service specifications can consist of any number of service lines.** To maintain a clear overview of more extensive specifications, use the outline function to structure the services hierarchically. The outline is comparable to the table of contents in a book. A maximum of four hierarchy levels is possible. You can change the numbers of the outline levels and their short and long texts at any time. You can assign any number of service lines to each outline level.



### How to Order Services

Purchase Order Handling for Services.

A company called Elektrolitz is responsible for replacing the fluorescent tubes in your office buildings. Enter a purchase order for this upcoming maintenance work.

1. Create a purchase order for the replacement of fluorescent tubes in plant 1000 with vendor T-K500E##.

In the item overview, enter a relevant short text that provides a general description of your service specifications.

Do not forget to select the appropriate item category (\_\_\_\_\_) and the material group for services (007). The cost of replacing the fluorescent tubes is to be charged to cost center T-L##.

Maintain services T-LM1## and T-LM2## on the *Services* tab page in the item detail. Both services are required in quantities of 100 pieces.

On the *Limit* tab page, determine an overall limit of EUR 200 for unplanned services. The expected value is also EUR 200.

Use service-based invoice verification when entering the invoice. You must check whether the corresponding checkbox has been set on the *Invoice* tab page.

Save your purchase order after you have entered all the data.

Purchase order number: \_\_\_\_\_

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.
- b) Enter **T-K500E##** in the *Vendor* field.
- c) Enter the following data in the *Item Overview* area:

Field	Value
<i>Itm (Item)</i>	10
<i>A (Acct Ass. Cat.)</i>	K (cost center)
<i>I (Item Cat.)</i>	D (service)
<i>Short Text</i>	<b>Replacement of fluorescent tubes</b>
<i>Matl Group</i>	007
<i>Plnt</i>	1000

- d) In the *Item Detail* area, enter the following data for the *Services* tab page in field *Line 10*:

Field	Value
<i>Service No.</i>	T-LM1##
<i>Quantity</i>	100
<i>Cost Center</i>	T-L##

- e) In the *Item Detail* area, enter the following data for the *Services* tab page in field *Line 20*:

Field	Value
<i>Service No.</i>	T-LM2##
<i>Quantity</i>	100
<i>Cost Center</i>	T-L##

- f) Enter the following data on the *Limits* tab page:

Field	Value
<i>Overall Limit</i>	200
<i>Expected value</i>	200
<i>Cost Center</i>	<b>T-L##</b>

g) Enter the data on the *Invoice* tab page:

Field	Value
<i>S-Based IV</i>	Checked

h) Save your purchase order and make a note of the purchase order number.

---

# Unit 5

## Exercise 21



## Create a Purchase Order for Services

### Business Example

The fluorescent tubes in your office need to be replaced due to wear and tear. An external service provider will be carrying out this work. You need to create a purchase order for external services, taking into account value limits for unplanned services.

Purchase Order Handling for Services.

A company called Elektrolitz is responsible for replacing the fluorescent tubes in your office buildings. Enter a purchase order for this upcoming maintenance work.

1. Create a purchase order for the replacement of fluorescent tubes in plant 1000 with vendor T-K500E##.

In the item overview, enter a relevant short text that provides a general description of your SS.

Do not forget to select the appropriate item category (\_\_\_\_\_) and the material group for services (007). The cost of replacing the fluorescent tubes is to be charged to cost center T-L##.

Maintain services T-LM1## and T-LM2## on the *Services* tab page in the item detail. Both services are required in quantities of 100 pieces.

On the *Limit* tab page, determine an overall limit of EUR 200 for unplanned services. The expected value is also EUR 200.

Use service-based invoice verification when entering the invoice. You must check whether the corresponding checkbox has been set on the *Invoice* tab page.

Save your purchase order after you have entered all the data.

Purchase order number: \_\_\_\_\_



## Create a Purchase Order for Services

### Business Example

The fluorescent tubes in your office need to be replaced due to wear and tear. An external service provider will be carrying out this work. You need to create a purchase order for external services, taking into account value limits for unplanned services.

Purchase Order Handling for Services.

A company called Elektrolitz is responsible for replacing the fluorescent tubes in your office buildings. Enter a purchase order for this upcoming maintenance work.

1. Create a purchase order for the replacement of fluorescent tubes in plant 1000 with vendor T-K500E##.

In the item overview, enter a relevant short text that provides a general description of your SS.

Do not forget to select the appropriate item category (\_\_\_\_\_) and the material group for services (007). The cost of replacing the fluorescent tubes is to be charged to cost center T-L##.

Maintain services T-LM1## and T-LM2## on the *Services* tab page in the item detail. Both services are required in quantities of 100 pieces.

On the *Limit* tab page, determine an overall limit of EUR 200 for unplanned services. The expected value is also EUR 200.

Use service-based invoice verification when entering the invoice. You must check whether the corresponding checkbox has been set on the *Invoice* tab page.

Save your purchase order after you have entered all the data.

Purchase order number: \_\_\_\_\_

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.

- b) Enter **T-K500E##** in the *Vendor* field.

- c) Enter the following data in the *Item Overview* area:

Field	Value
<i>Itm (Item)</i>	10
<i>A (Acct Ass. Cat.)</i>	K (cost center)
<i>I (Item Cat.)</i>	D (service)
<i>Short Text</i>	<b>Replacement of fluorescent tubes</b>
<i>Matl Group</i>	007



Field	Value
<i>Plnt</i>	1000

- d) In the *Item Detail* area, enter the following data for the *Services* tab page in field *Line 10*:

Field	Value
<i>Service No.</i>	T-LM1##
<i>Quantity</i>	100
<i>Cost Center</i>	T-L##

- e) In the *Item Detail* area, enter the following data for the *Services* tab page in field *Line 20*:

Field	Value
<i>Service No.</i>	T-LM2##
<i>Quantity</i>	100
<i>Cost Center</i>	T-L##

- f) Enter the following data on the *Limits* tab page:

Field	Value
<i>Overall Limit</i>	200
<i>Expected value</i>	200
<i>Cost Center</i>	T-L##

- g) Enter the data on the *Invoice* tab page:

Field	Value
<i>S-Based IV</i>	Checked

- h) Save your purchase order and make a note of the purchase order number.



### **LESSON SUMMARY**

You should now be able to:

- Create a purchase order for services



## Creating Service Entries and Verifying Invoices

### LESSON OVERVIEW

This lesson deals with the entry and acceptance of services performed by external service providers. In the case of external services, these two steps replace the goods receipt process that takes place in conjunction with goods deliveries.



Discuss and demonstrate how to create and accept service entry sheets, and enter an invoice for services.

### Business Example

The external service provider has informed you that the task of replacing depleted fluorescent tubes has been completed. The service provider advises you that the lamp ballasts also need to be replaced. You are responsible for ensuring that these services are performed and then entering the services in the system. You must also review the invoice. For this reason, you require the following knowledge:

- How to create a service entry sheet referencing a purchase order
- How to add unplanned services during the service entry process
- How to accept a service entry sheet
- How to check an invoice for a service purchase order



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Create and accept a service entry sheet
- Enter an invoice for a service purchase order

### Service Entry and Acceptance of Performed Services

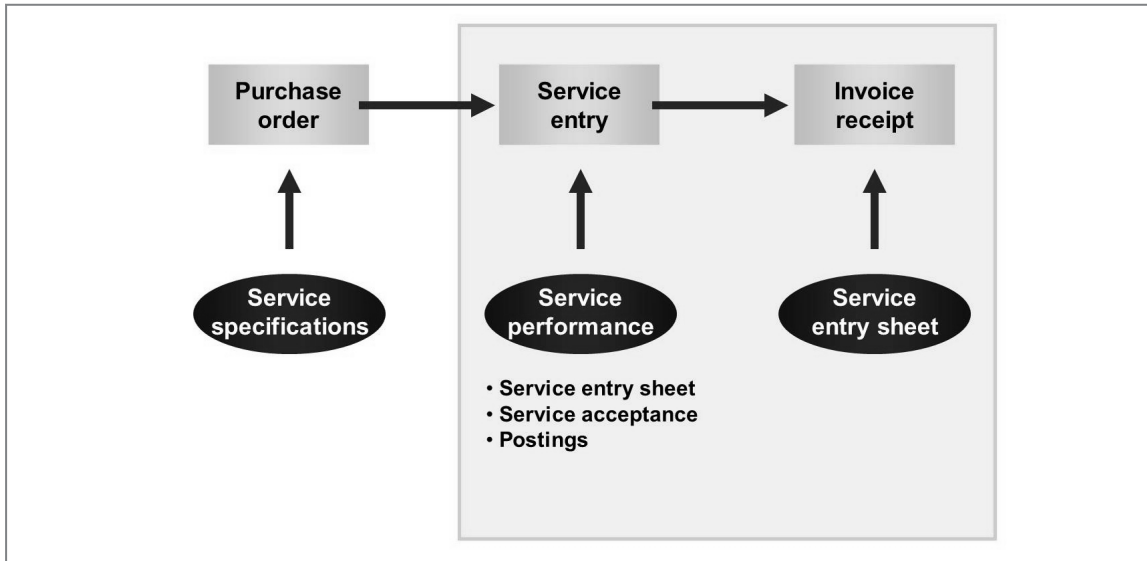


Figure 130: Procurement of External Services – Entry of Services Performed, Invoice Receipt

The process of procuring external services is similar to material procurement in that the issue of a purchase order is not followed by the receipt of goods. The purchase order is issued by entering the service that is actually performed on a service entry sheet. The service entry sheet is subsequently accepted and the incoming invoice is entered into the system.

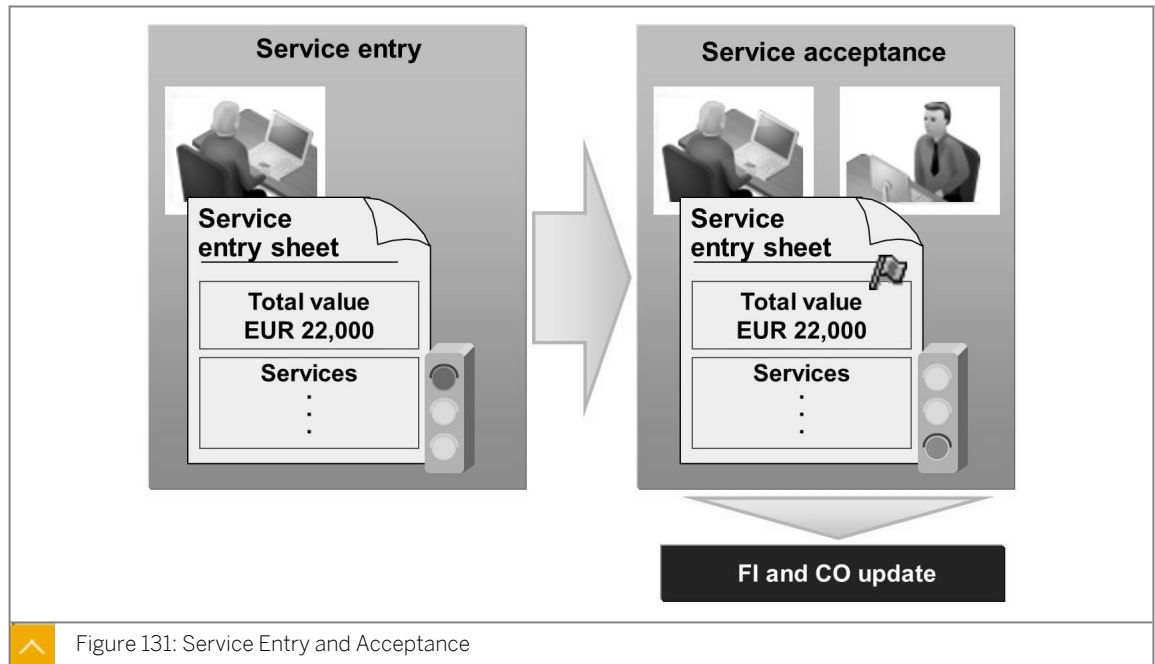
#### Service Entry and Acceptance



Discuss why services that have been performed are entered in the system in two steps (create an entry sheet and then accept the entry sheet) and not in a single step (as in the case of material that is delivered).

**Note:**  
 Entering and accepting services have an approach that is parallel to that of goods receipt when materials are procured. At the time of goods receipt (GR), material is posted to stock in quality inspection, from where it is subsequently released.

**Note:**  
 The entry and acceptance of services can also be carried out in a single step. In this case, acceptance occurs at the time of entry.



The system records the services that you perform in service entry sheets. When entering services, reference the purchase order. You can copy planned services directly from the purchase order to the service entry sheet. The system records the services actually performed but does not describe the unplanned services in detail. It neither specifies the quantity nor the prices until the completed work is recorded. The system verifies that the unplanned services do not exceed the limit set in the purchase order.

Saving a service entry sheet does not automatically post it in Financial Accounting. The relevant postings are not made in Financial Accounting and cost accounting until the system accepts the service entry sheets. **Service entry sheets can be entered and accepted in one step or two, depending on user authorization.**

**You can set up release procedures for service entry sheets.**

## Entry of Services Performed – Transaction ML81N

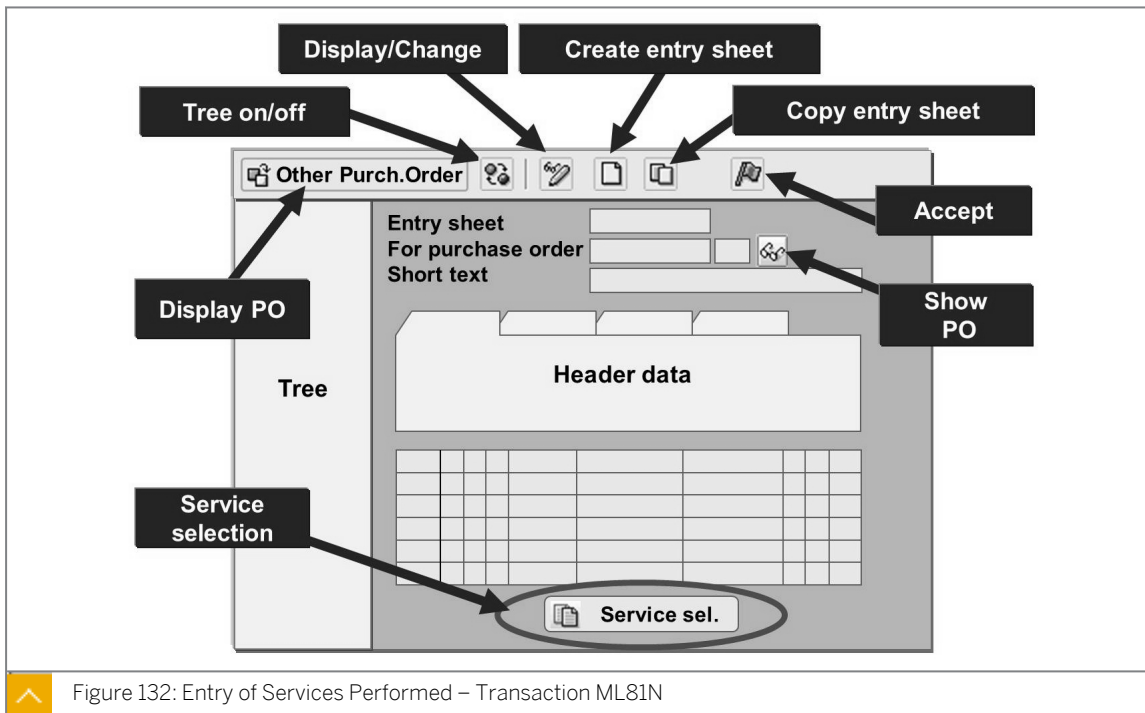


Figure 132: Entry of Services Performed – Transaction ML81N

In service entry transaction **ML81N**, all header and service data is maintained on one screen (this is called a single-screen transaction).

When you call the function, you are initially in display mode. Enter the purchase order for which the service entry sheet is to be created by choosing the *Other Purchase Order* pushbutton.



**Note:**

If the purchase order is already displayed in the overview, double-click on the document number to copy the data.


Choose (*Create Entry Sheet*) to start the entry process. You can enter the services manually in the service entry sheet, or choose the *Service Sel.* pushbutton from either the purchase order or a set of model service specifications. If you have defined a limit in the purchase order, you can also manually enter unplanned services up to that limit. You can print out service entry sheets if necessary.

You can also accept the services actually performed when you are creating an entry sheet, provided that separate acceptance is not required as part of a release strategy. To do so, choose (*Accept*) before saving the service entry sheet. Service entry sheets can also be accepted collectively (transaction **ML85**).

Click the *Tree On/Off* pushbutton to call the list of completed purchase orders for the list of completed services that have recently been entered in the left-hand side of the screen. You can also call the associated service entry sheets. Double-click a service entry sheet in this list to display, modify, or copy it.



## To Create and Accept a Service Entry Sheet

1. Choose *Logistics* → *Materials Management* → *Service Entry Sheet* → *Maintain* (ML81N).
2. Choose the  *Other Purchase Order* pushbutton and enter the number of the purchase order.





The relevant purchase order is shown preselected in the document overview.

If the purchase order is shown unselected in the document overview, select it and double-click to copy the data.



Hint:

Choose the *Tree On/Off* pushbutton to open or close the document overview.

3. To create a new service entry sheet, choose  (*Create Entry Sheet*).
4. Enter a short description for the service entry sheet and enter the necessary data, such as an account assignment category (in the case of account assignment unknown in the purchase order) or the external number.
5. If you want to adopt services from the service specifications in the purchase order, choose the  *Service Sel.* pushbutton. The system automatically proposes the purchase order number for selection of the services. Confirm your entry.
6. To copy the desired services to the service entry sheet, select the service lines and choose  (*Copy Entry Sheet*). You are taken back to the service entry sheet.
7. After copying the relevant services, make the necessary changes, such as correcting the quantity or specifying the cost center.
8. Enter unplanned services if necessary.
9. Choose  (*Accept*) to accept the entry sheet immediately and save your entries.







## Create a Service Entry Sheet

### Business Example

The Home Electric Company has been given the job of replacing the fluorescent tubes in your office building. You have just received a list of the actual services performed on each floor of the building. After completion of the maintenance work, you receive the invoice.

Create and accept service entry sheets.


#### 1. Service entry sheet for the first floor


Service provider T-K500E## sends you a service entry sheet for the first floor in which the maintenance personnel informs you that the fluorescent tubes have been replaced.

Maintain the service entry sheet in the system and reference your purchase order in the process.



Hint:

Choose the  *Other Purchase Order* pushbutton in the service entry transaction and enter your purchase order number.

Choose  (*Create Entry Sheet*) to create a new service entry sheet.

Enter **Service entry, 1st floor** in the *Short Text* field as a description of the service entry sheet. The number of the entry sheet used by the service provider is 4700##. Enter **4700##** in the *External Number* field.


The service provider has carried out the following work:


Short Text Description	Quantity with Unit of Measure
Removed old fluorescent tubes	60 pieces at EUR 2.00
Delivered and installed new fluorescent tubes	60 pieces at EUR 4.50
Cleaned the reflective surfaces	20 pieces at EUR 2.50
Replaced lamp ballasts	2 pieces at EUR 35.00

Enter the services that were performed. If possible, use a service master record to enter unplanned services too.



Hint:

You can also copy the planned services from the purchase order. To copy the services from the purchase order, choose the  *Service Sel.* pushbutton.

Then select the two items and choose  (*Copy Entry Sheet*).

Ensure that you modify the quantity by 60 pieces for each service.

Answer the following questions about unplanned services.

Is there a service master record?

Does the system propose a price, and if so, why?

Task	Cleaning the Reflective Surfaces	Replacement of Lamp Ballast
Service number	T-LM3##	<None>
Proposed price	3.00	<None>
Price origin	Own estimate (condition for service)	<None>

Do not exit the service entry transaction after this step.

Service entry sheet number: \_\_\_\_\_

**2. Purchase order history after creating service entry sheet**

Display the purchase order history from the service entry transaction. Check whether the service entry sheet is listed in the purchase order history.

Do not exit the service entry transaction after this step.

**3. Service acceptance for the first floor**

After you have reviewed the work performed by the service provider, accept the service entry sheet.

Do not exit the service entry transaction after this step.

Acceptance document: \_\_\_\_\_

**4. Purchase order history after acceptance of the service entry sheet**

Display the purchase order history again. Check whether the acceptance document is listed in the purchase order history. Display the acceptance document too.

What type of document is this?

\_\_\_\_\_



## Create a Service Entry Sheet

### Business Example

The Home Electric Company has been given the job of replacing the fluorescent tubes in your office building. You have just received a list of the actual services performed on each floor of the building. After completion of the maintenance work, you receive the invoice.

Create and accept service entry sheets.


#### 1. Service entry sheet for the first floor


Service provider T-K500E## sends you a service entry sheet for the first floor in which the maintenance personnel informs you that the fluorescent tubes have been replaced.

Maintain the service entry sheet in the system and reference your purchase order in the process.



Hint:

Choose the  *Other Purchase Order* pushbutton in the service entry transaction and enter your purchase order number.

Choose  (*Create Entry Sheet*) to create a new service entry sheet.

Enter **Service entry, 1st floor** in the *Short Text* field as a description of the service entry sheet. The number of the entry sheet used by the service provider is 4700##. Enter **4700##** in the *External Number* field.

The service provider has carried out the following work:

Short Text Description	Quantity with Unit of Measure
Removed old fluorescent tubes	60 pieces at EUR 2.00
Delivered and installed new fluorescent tubes	60 pieces at EUR 4.50
Cleaned the reflective surfaces	20 pieces at EUR 2.50
Replaced lamp ballasts	2 pieces at EUR 35.00

Enter the services that were performed. If possible, use a service master record to enter unplanned services too.



**Hint:**  
 You can also copy the planned services from the purchase order. To copy the services from the purchase order, choose the *Service Sel.* pushbutton. Then select the two items and choose (*Copy Entry Sheet*). Ensure that you modify the quantity by 60 pieces for each service.

Answer the following questions about unplanned services.

Is there a service master record?

Does the system propose a price, and if so, why?

Task	Cleaning the Reflective Surfaces	Replacement of Lamp Ballast
Service number	T-LM3##	<None>
Proposed price	3.00	<None>
Price origin	Own estimate (condition for service)	<None>

Do not exit the service entry transaction after this step.

Service entry sheet number: \_\_\_\_\_

- a) Choose *Logistics* → *Materials Management* → *Service Entry Sheet* → *Maintain* (ML81N).
- b) Choose the *Other Purchase Order* pushbutton. Enter your purchase order number in the *Purchase Order* field in the *Select Purchase Order/Entry Sheet* dialog box and choose *Enter*.



**Hint:**  
 If you do not know the number of your purchase order, choose the input help for the *Purchase Order* field and search for *Purchasing Documents per Vendor T-K500E##*.

- c) To create a new entry sheet, choose (*Create Entry Sheet*). Enter the following data:

Field	Value
<i>Short Text</i>	<b>Service entry sheet, 1st floor</b>

Confirm your entries.

- d) Enter the following data on the *Basic Data* tab page:

Field	Value
<i>External Number</i>	<b>4700##</b>

- e) Enter the following data in *Line 10*:

Field	Value
Service No.	T- <b>LM1##</b>
Quantity	60

f) Enter the following data in *Line 20*:

Field	Value
Service No.	T- <b>LM2##</b>
Quantity	60

g) Enter the following data in *Line 30*:

Field	Value
Service No.	T- <b>LM3##</b>
Quantity	20
Gross Price	2,50

h) Enter the following data in *Line 40*:

Field	Value
Short Text	<b>Replacement of lamp ballast</b>
Quantity	2
Un (Unit of Meas.)	<b>pc</b>
Gross Price	35

i) Save your entries and note the number of the service entry sheet.

## 2. Purchase order history after creating service entry sheet

Display the purchase order history from the service entry transaction. Check whether the service entry sheet is listed in the purchase order history.

Do not exit the service entry transaction after this step.

a) Choose *Environment* → *Purchase Order History*.

b) The service entry sheet is recorded in the purchase order history with the field *Short Text* in the line *Lerf*.


## 3. Service acceptance for the first floor

After you have reviewed the work performed by the service provider, accept the service entry sheet.

Do not exit the service entry transaction after this step.

Acceptance document: \_\_\_\_\_

a) Choose  (*Display <-> Change*).

b) Choose  (*Accept*) to accept the service entry sheet.

c) Save your entries and note the number of the acceptance document.

4. Purchase order history after acceptance of the service entry sheet

Display the purchase order history again. Check whether the acceptance document is listed in the purchase order history. Display the acceptance document too.

What type of document is this?

- 
- a) In the service entry transaction, choose *Environment* → *Purchase Order History*.
  - b) The acceptance document is recorded in the purchase order history. Since this is a material document, the document is recorded in the purchase order history under the *Short Text* field *WE*.
  - c) Double-click on the number of the *Material Document*. A separate line appears in the material document for each service line in the service entry sheet. This is due to the service-related invoice verification for the purchase order item. You will find the checkbox for service-related invoice verification in the purchase order item on the *Invoice* tab page. The checkbox was transferred from the vendor master record.

## Invoice Entry and Purchase Order History



Explain the process of entering invoices as it relates to service entry sheets, and indicate which data is updated in the purchase order history.

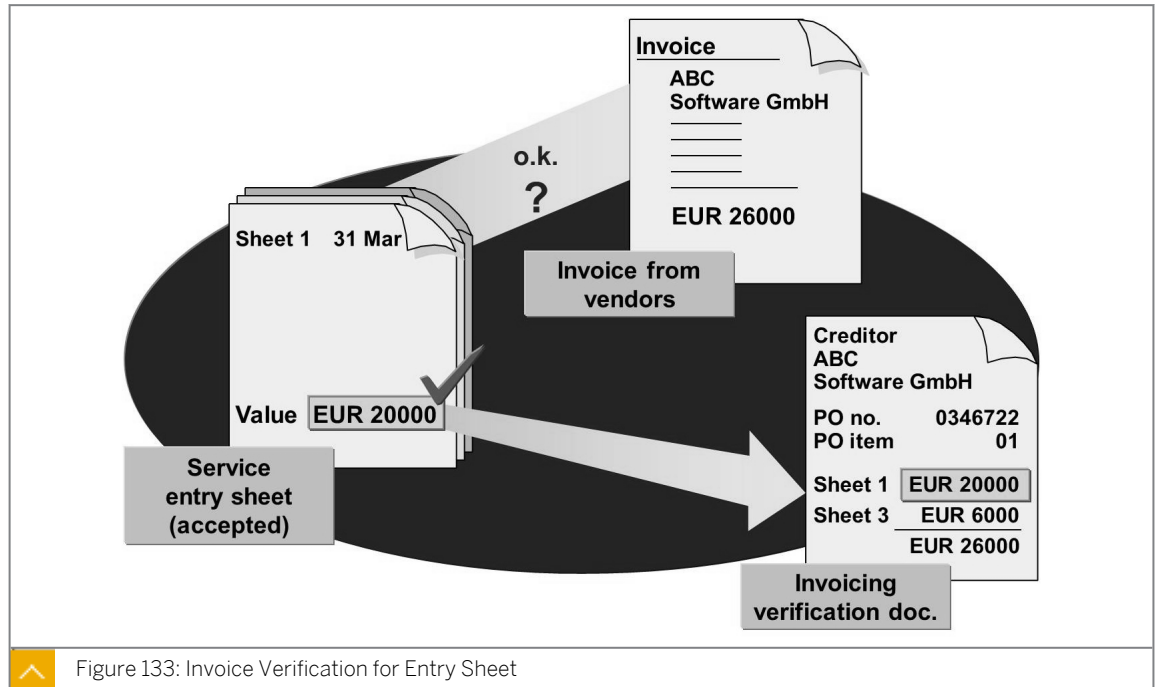


Figure 133: Invoice Verification for Entry Sheet

You can enter invoice verification for services for a purchase order only after the service entry sheet has been accepted.

When entering the invoice, you can reference the purchase order or the service entry sheets. If you specify the purchase order as the reference, the system proposes all of the accepted service entry sheets and accepted services for this purchase order.

The system compares the prices in the invoice with the prices from the service entry sheets. If there are no discrepancies, you can enter and post the invoice. If the system finds any discrepancies, it blocks the invoice for payment.

## Purchase Order History

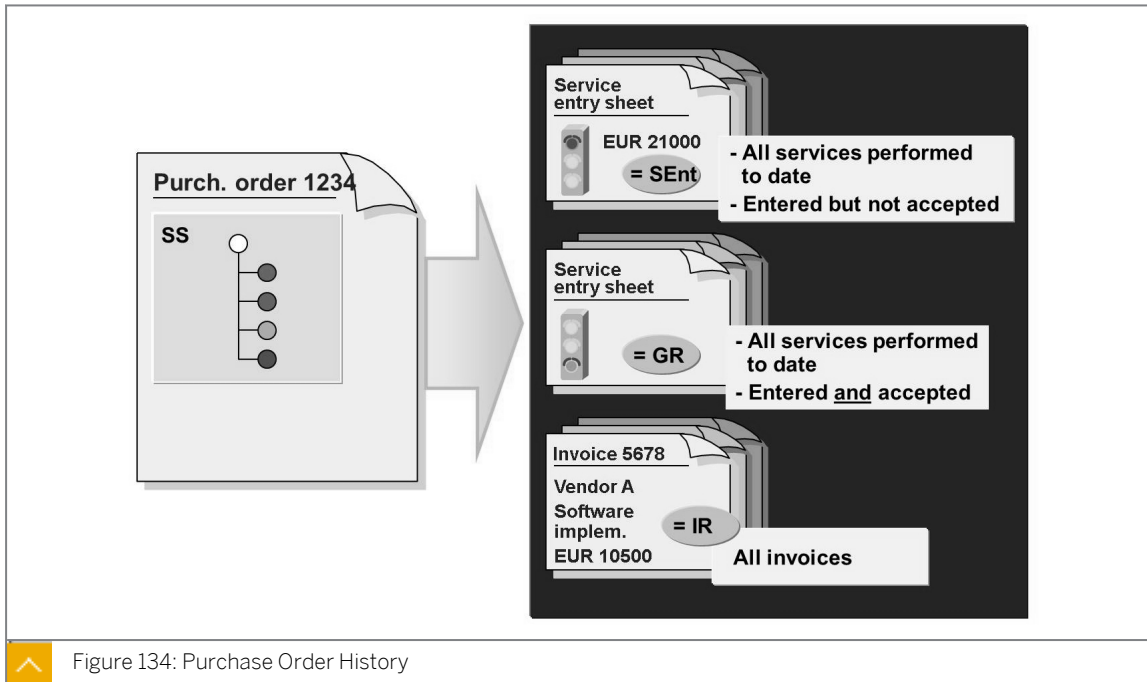


Figure 134: Purchase Order History

In the purchase order history, all follow-on activities relating to a purchase order item are listed. The activities listed are all of the services performed and entered on the service entry sheet, all of the accepted services entered on a material document, and all entered invoices.

### External Services: Notes



The various options available for managing external services in the SAP ERP Component are discussed in detail in the two-day course SCM540.

Further information on MM External Services Management (MM-SRV) is available in the Materials Management section of SAP Library.



### How to Perform a Service Entry and Invoice Verification

Show transaction `ML81N` and invoice verification with reference to the service entry sheet.

1. Enter the vendor invoice.

Enter the following invoice for your purchase order. Note that you can only settle services that have already been accepted. When you enter the invoice, choose the tax code *11* (input tax 10%) for all items.





Invoice		Home-Electric Gr.##		
IDES AG Hamburg Plant Altersdorferstr. 13 22299 Hamburg		Schillerstrasse 8 25451 Quickborn		
		Invoice number:	RE-E1##	
		Invoice date:	[Today's date]	
With reference to purchase order no. 450000#####, we hereby charge you for services rendered in accordance with the items in sheet no. 4700##:				
Item	Quantity	Service number	Name	Price
10	60 pc	T-LM1##	Remove fluorescent tubes	EUR 120
20	60 pc	T-LM2##	Deliver and install fluorescent tubes	EUR 270
30	20 pc		Clean reflective surfaces	EUR 50
40	2 pc		Lamp ballast replaced	EUR 70
			Total net value	EUR 510
			plus 10% VAT	EUR 51
			<b>Invoice amount</b>	<b>EUR 561</b>
Subject to the agreed terms of payment.				
Kind regards, Home-Electric Gr.##				

Figure I-8: Invoice RE-E1##


Invoice document number: \_\_\_\_\_

- a) Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice (MIRO)*.
- b) Enter the following data on the *Basic Data* tab page:

Field	Value
<i>Invoice date</i>	<Current date>
<i>Reference</i>	<b>RE-E1##</b>
<i>Amount</i>	<b>561</b>
<i>Tax amount</i>	<b>51</b>

- c) Enter the following data on the *PO Reference* tab page:

Field	Value
<i>Purchase Order/Scheduling Agreement</i>	<Your purchase order number>

- d) Check the proposed items. In total, the proposed quantity and amount values correspond to those in the vendor invoice.
- e) Check the tax codes for the items and if necessary, change these to *1I (Input tax 10%)*.
- f) Choose  (*Post*) and note the number of the invoice document.



# Unit 5

## Exercise 23



## Enter an Invoice for a Service Purchase Order

### Business Example

You need to know how to use *Logistics Invoice Verification* to post a vendor invoice for external services.

1. Enter the vendor invoice.

Enter the following invoice for your purchase order. Note that you can only settle services that have already been accepted. When you enter the invoice, choose the tax code *11* (*input tax 10%*) for all of the items.



<b>Invoice</b>		Home-Electric Gr.## Schillerstrasse 8 25451 Quickborn		
IDES AG Hamburg Plant Altersdorferstr. 13 22299 Hamburg		Invoice number: RE-E1## Invoice date: [Today's date]		
With reference to purchase order no. 450000#####, we hereby charge you for services rendered in accordance with the items in sheet no. 4700##:				
Item	Quantity	Service number	Name	Price
10	60 pc	T-LM1##	Remove fluorescent tubes	EUR 120
20	60 pc	T-LM2##	Deliver and install fluorescent tubes	EUR 270
30	20 pc		Clean reflective surfaces	EUR 50
40	2 pc		Lamp ballast replaced	EUR 70
Total net value				EUR 510
plus 10% VAT				EUR 51
<b>Invoice amount</b>				<b>EUR 561</b>
Subject to the agreed terms of payment. Kind regards, Home-Electric Gr.##				

Figure 135: Invoice RE-E1##

Invoice document number: \_\_\_\_\_

# Unit 5 Solution 23



## Enter an Invoice for a Service Purchase Order

### Business Example

You need to know how to use *Logistics Invoice Verification* to post a vendor invoice for external services.

#### 1. Enter the vendor invoice.

Enter the following invoice for your purchase order. Note that you can only settle services that have already been accepted. When you enter the invoice, choose the tax code *1* (*input tax 10%*) for all of the items.



Invoice		Home-Electric Gr.## Schillerstrasse 8 25451 Quickborn		
IDES AG Hamburg Plant Altersdorferstr. 13 22299 Hamburg		Invoice number: RE-E1## Invoice date: [Today's date]		
With reference to purchase order no. 450000#####, we hereby charge you for services rendered in accordance with the items in sheet no. 4700##:				
Item	Quantity	Service number	Name	Price
10	60 pc	T-LM1##	Remove fluorescent tubes	EUR 120
20	60 pc	T-LM2##	Deliver and install fluorescent tubes	EUR 270
30	20 pc		Clean reflective surfaces	EUR 50
40	2 pc		Lamp ballast replaced	EUR 70
Total net value				EUR 510
plus 10% VAT				EUR 51
<b>Invoice amount</b>				<b>EUR 561</b>
Subject to the agreed terms of payment. Kind regards, Home-Electric Gr.##				

Figure 135: Invoice RE-E1##

Invoice document number: \_\_\_\_\_

a) Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice* (MIRO).


b) Enter the following data on the *Basic Data* tab page:

Field	Value
<i>Invoice date</i>	<Current date>
<i>Reference</i>	<b>RE-E1##</b>

Field	Value
<i>Amount</i>	<b>561</b>
<i>Tax amount</i>	<b>51</b>

c) Enter the following data on the *PO Reference* tab page:

Field	Value
<i>Purchase Order/Scheduling Agreement</i>	<Your purchase order number>

- d) Check the proposed items. In total, the proposed quantity and amount values correspond to those in the vendor invoice.
- e) Check the tax codes for the items and change these if necessary to *1I* (*Input tax 10%*).
- f) Choose  (*Post*) and note the number of the invoice document.



### **LESSON SUMMARY**

You should now be able to:

- Create and accept a service entry sheet
- Enter an invoice for a service purchase order



## Learning Assessment

1. Which of the following master data is relevant to the procurement of external services?

*Choose the correct answers.*

- A Vendor master record
- B Material master record
- C Service master record
- D Purchasing info record
- E Bill of material
- F Service conditions

2. The individual steps in the procurement of services are similar to those in the procurement process for materials. Which of the following steps are specific to the process of procuring external services?

*Choose the correct answers.*

- A The creation of a set of service specifications
- B The steps of service entry and acceptance
- C The creation of a purchase order

3. When you enter vendor-specific conditions, you create a separate service info record for each service and vendor (comparable to the purchasing info record for material).

*Determine whether this statement is true or false.*

- True
- False

4. When services are procured, the item has only a short text to describe the general procurement project. The individual services are summarized in a service specification that can be maintained at item detail level.

*Determine whether this statement is true or false.*

True

False

5. Which of the following statements are correct?

*Choose the correct answers.*

A When procuring services, you can work with or without a service master record.

B The account assignment category unknown (U) is allowed only in purchase orders with item category D (service).

C You must specify a limit in a service item.

D The service specification of a service item can be structured in a maximum of four hierarchy levels.

E You cannot specify just one limit in a service item. A service specification with at least one service must exist.

6. You must always assign a service item to an account assignment object.

*Determine whether this statement is true or false.*

True

False

7. Item category D (service) activates the service function and enables you to change a service specification and set value limits for unplanned services.

*Determine whether this statement is true or false.*

True

False

8. Procurement for the warehouse, which is possible for materials, does not exist in service procurement.

*Determine whether this statement is true or false.*

True

False



9. When entering the service, you can also always enter unplanned services.

*Determine whether this statement is true or false.*

True

False

10. When the service entry sheets are saved, the postings are made in Financial Accounting. However, these postings are blocked and are not released until the service entry sheet is accepted.

*Determine whether this statement is true or false.*

True

False

11. Which of the following sheets are used to record details of services rendered?

*Choose the correct answer.*

**A** Service entry sheets

**B** Purchase orders

**C** Purchase requisitions

12. You can only enter a service provider's invoice for a purchase order after the service entry sheet has been accepted.

*Determine whether this statement is true or false.*

True

False



## Learning Assessment - Answers

1. Which of the following master data is relevant to the procurement of external services?

*Choose the correct answers.*

- A Vendor master record
- B Material master record
- C Service master record
- D Purchasing info record
- E Bill of material
- F Service conditions

For the procurement of external services, you need a vendor master record for the service provider. You can also use master records for services and service conditions. Bills of material, purchasing info records, and material master records are used for the procurement of materials.

2. The individual steps in the procurement of services are similar to those in the procurement process for materials. Which of the following steps are specific to the process of procuring external services?

*Choose the correct answers.*

- A The creation of a set of service specifications
- B The steps of service entry and acceptance
- C The creation of a purchase order

3. When you enter vendor-specific conditions, you create a separate service info record for each service and vendor (comparable to the purchasing info record for material).

*Determine whether this statement is true or false.*

- True
- False

Service conditions are entered for each vendor. You can enter conditions for several services for one vendor at the same time.

4. When services are procured, the item has only a short text to describe the general procurement project. The individual services are summarized in a service specification that can be maintained at item detail level.

*Determine whether this statement is true or false.*

- True  
 False

5. Which of the following statements are correct?

*Choose the correct answers.*

- A When procuring services, you can work with or without a service master record.  
 B The account assignment category unknown (U) is allowed only in purchase orders with item category D (service).  
 C You must specify a limit in a service item.  
 D The service specification of a service item can be structured in a maximum of four hierarchy levels.  
 E You cannot specify just one limit in a service item. A service specification with at least one service must exist.

For B: Account assignment category U is also allowed for item category B (Limit). For C and E: You can define limits for unplanned services but this is not required. You are also allowed to specify a single limit, but no services.

6. You must always assign a service item to an account assignment object.

*Determine whether this statement is true or false.*

- True  
 False

7. Item category D (service) activates the service function and enables you to change a service specification and set value limits for unplanned services.

*Determine whether this statement is true or false.*

- True  
 False

8. Procurement for the warehouse, which is possible for materials, does not exist in service procurement.

*Determine whether this statement is true or false.*

- True  
 False

9. When entering the service, you can also always enter unplanned services.

*Determine whether this statement is true or false.*

- True  
 False

Unplanned services can be entered only if a limit has been specified in the purchase order item and the value of the unplanned services does not exceed this limit.

10. When the service entry sheets are saved, the postings are made in Financial Accounting. However, these postings are blocked and are not released until the service entry sheet is accepted.

*Determine whether this statement is true or false.*

- True  
 False

No FI postings are made when a service entry sheet is saved. The data is only updated in Financial Accounting when the service entry sheet is accepted.

11. Which of the following sheets are used to record details of services rendered?

*Choose the correct answer.*

- A Service entry sheets  
 B Purchase orders  
 C Purchase requisitions

12. You can only enter a service provider's invoice for a purchase order after the service entry sheet has been accepted.

*Determine whether this statement is true or false.*

- True  
 False

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### UNIT OBJECTIVES

- Explain how to work with lists in SAP ERP
- Use standard reports in Purchasing
- Use standard reports in Inventory Management
- Use standard reports in Logistics Invoice Verification
- Perform standard analyses in the Logistics Information System

# Unit 6

## Lesson 1



## Using Standard Reports

### LESSON OVERVIEW

This lesson introduces you to reports using SAP ERP. It also introduces you to the SAP List Viewer and the Advanced List Viewer (ALV) grid control, and reviews individual reports and analyses from the areas of purchasing, inventory management, and invoice verification.



Discuss and show the standard reports from the areas of purchasing, inventory management, and invoice verification. Explain that the standard reports analyze and evaluate documents and master data, and that they work with the tables in which documents and master data are stored.

### Business Example

As a buyer, you are responsible for monitoring your purchase orders. It is therefore necessary that you are able to analyze and evaluate purchase orders based on various criteria. For example, you need a list of all open purchase orders for a certain period. You must determine which functions the SAP system provides can support this activity. For this reason, you require the following knowledge:

- How to use standard reports and analyses in Purchasing
- How to search for material documents using the material document list
- How to display a list of your manually created invoices
- An understanding of the most important functions of the SAP List Viewer and the Advanced List Viewer grid control



### LESSON OBJECTIVES

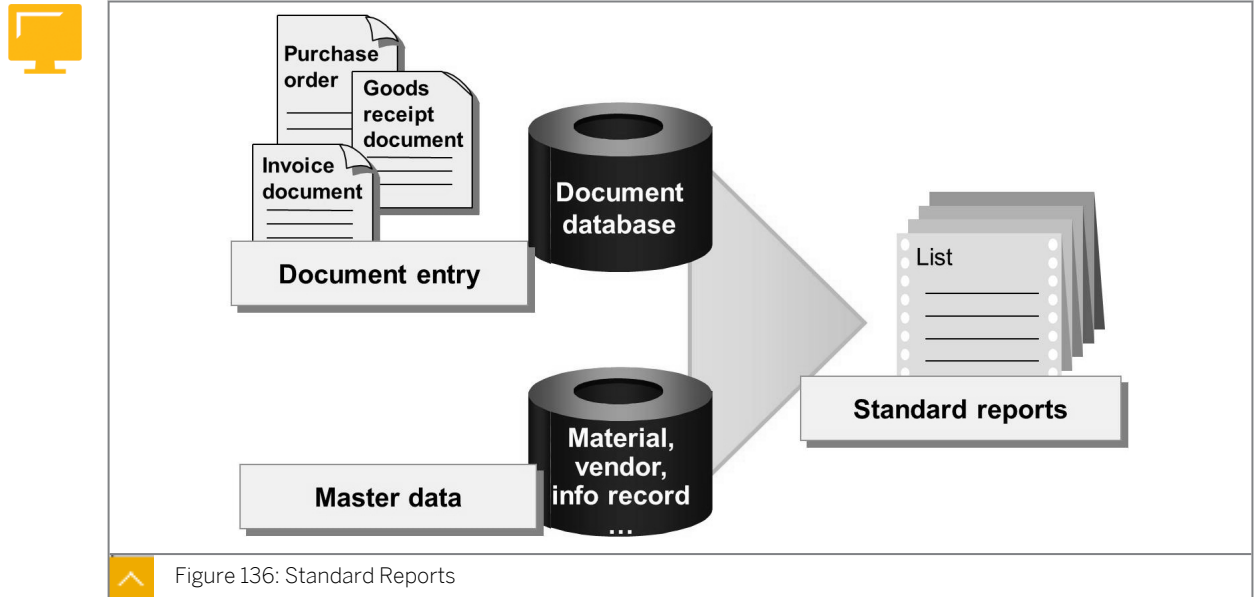
After completing this lesson, you will be able to:

- Explain how to work with lists in SAP ERP
- Use standard reports in Purchasing
- Use standard reports in Inventory Management
- Use standard reports in Logistics Invoice Verification

### Reporting – General Topics



This section reviews material that is already familiar to participants and completes the overall picture of the display tools for lists. Variants and layout have already been discussed within the context of the document overview.



**In a production operation, you generate the following documents:**

- Purchasing documents
- Material documents
- Invoice documents
- Accounting documents

The documents are posted and stored in database tables. Standard reports enable you to furnish reports based on this document information.

In addition to running analyses of documents, you can also run analyses of master data. For example, you can output a list of all purchasing information records for a material or vendor, or obtain an overview of the material master records for a certain material type.

## SAP List Viewer and ALV Grid Control



The screenshot displays two overlapping SAP List Viewer windows. The background window shows a list of material documents with columns for Material, Material description, Plant Name, SLoc, MvT, S, Item, Pstg date, and Quantity in UnE. The foreground window shows a detailed view of the same list, highlighting the ALV Grid Control interface with columns for Material, Plant, SLoc, MvT, S, Material doc., Item, Posting date, Qty in unit of entry, and EUn.

Material	Plant	SLoc	MvT	S	Material doc.	Item	Posting date	Qty in unit of entry	EUn
M-01	1000	0001	101		5000000002		1 18.04.2002	10	PC
	1000	0001	501		4900000070		1 17.04.2002	50	PC
	1000	0001	122		5000000011		1 11.01.2001	1	PC
	1000	0001	101		5000000010		2 11.01.2001	2	PC
	1200	0001	561		4900000073		1 17.04.2002	50	PC
	1200	0001	501		4900000073		2 17.04.2002	100	PC
	1200	0001	562		4900000075		1 17.04.2002	50	PC
								<b>161</b>	<b>PC</b>
M-05	1000	0001	561		4900000074		1 17.04.2002	100	PC
	1000	0001	561		4900000000		1 04.01.2001	1,000	PC
								<b>1,100</b>	<b>PC</b>
M-06	1200	0001	501		4900001944		1 04.12.2000	200	PC
	1200	0001	501		4900001943		1 04.12.2000	100	PC
	1200	0001	601		4900001256		1 28.03.2000	7	PC
	1200	0001	601		4900001253		1 28.03.2000	8	PC
	1200	0001	601		4900001259		1 28.03.2000	7	PC
	1200	0001	601		4900001254		1 28.03.2000	5	PC
	1200	0001	601		4900001258		1 28.03.2000	6	PC



Figure 137: SAP List Viewer and ALV Grid Control

The SAP List Viewer and the Advanced List Viewer (ALV) grid control standardize and simplify the handling of lists in SAP systems. There is a uniform user interface and a list format, which prevents the use of redundant functions. You use the ALV grid control in list displays (for example, the list of material documents) and in other transactions (for example, a purchase requisition).

Notice that not all lists use the full range of *SAP List Viewer* functions. Some lists offer special functions that are beyond the scope of the *SAP List Viewer*. You can change the appearance and content of the lists using the layout (formerly known as display variant).

#### The key elements of the SAP List Viewer and the ALV grid control are as follows:

- Uniform design of all lists and tables
- Cross-application and standardized functions with uniform icons
- Simple creation and changing of layouts (display variants)



#### Note:

For more information on the SAP List Viewer and the ALV grid control, choose *SAP Library* → *Getting Started* → *Using SAP Software* → *Working with Tools and Features* → *Working with Lists*.



## Functions of the SAP List Viewer and ALV Grid Control

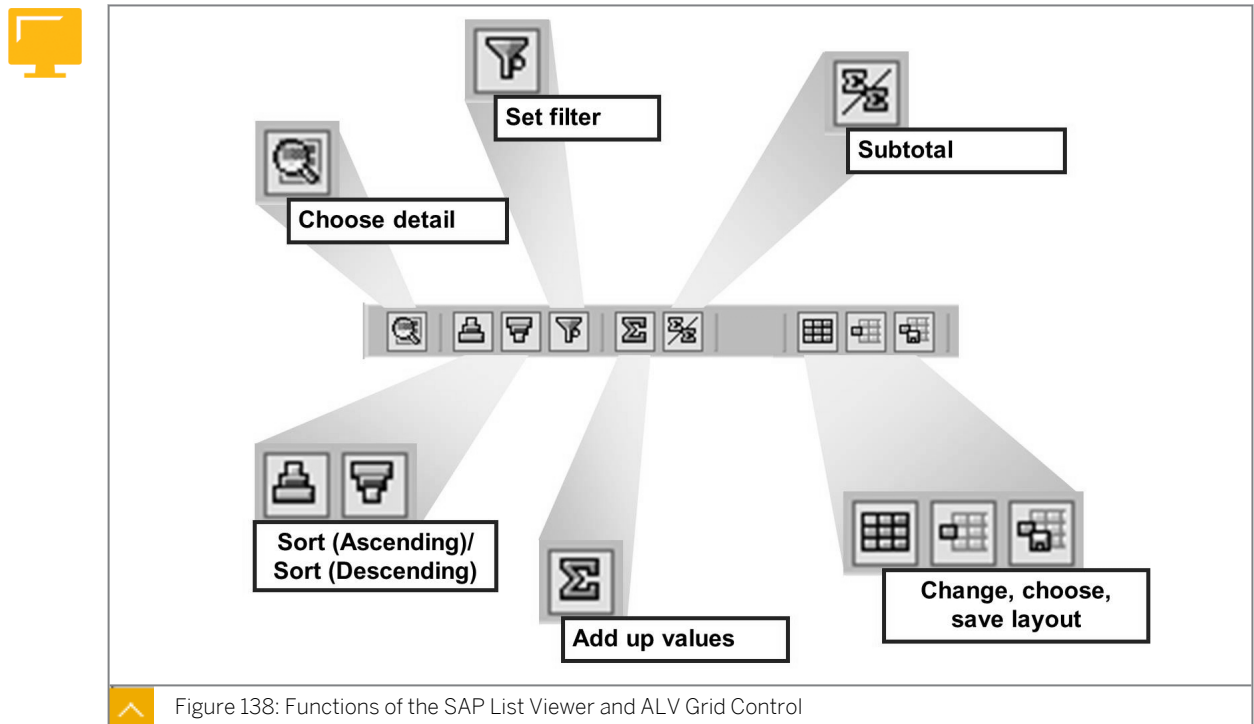





Figure 138: Functions of the SAP List Viewer and ALV Grid Control

### SAP List Viewer and the ALV grid control provide the following functions:

- Choose detail
 

The choose detail function provides additional information about a selected line, including information that is not shown in the list.
- Set filter
 

With the filter function, you can only display those lines that satisfy certain criteria in one or more columns. To set a filter, select one or more columns by clicking on the column header, and choose  (Set filter). In the dialog box, enter the desired restrictions for the chosen columns. To delete the filter criteria, choose *Edit* → *Delete filter*.
- Sort
 

You can sort lists in ascending or descending order. Select the column with the desired sort criterion and choose one of the sort functions  Sort (Ascending) or  Sort (Descending).
- Display total
 

Within a list, you can create totals from the data in one or more selected columns. You can total both value and quantity columns.
- Display subtotals
 

If you have created a total for at least one column within a list, you can create additional subtotals. You can generate subtotals in a list for one or more selected columns without value or quantity columns.
- Layout
 

You can change the appearance of your list with layouts (or display variants).



Note:  
The individual list determines whether you can work with a layout or display variant in the list.

### Layout (Display Variant)

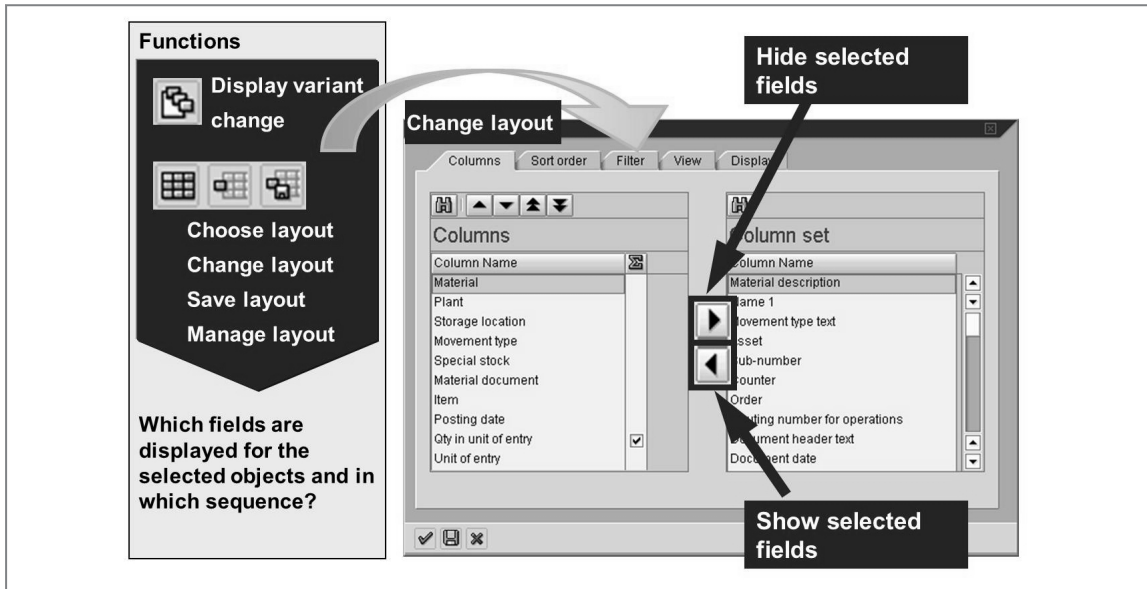


Figure 139: Layout (Display Variant)

**You can perform the following actions with the layout:**

- Change the appearance of many lists, using layout or change variants
- Display additional fields from the column set or hide unwanted fields from the column selection
- Arrange the fields in any order and generate totals
- Adjust the size of the columns

You have the option of saving these changes as your own layout. You can create your own variants on a multi-user or user-specific basis. SAP supplies standard layouts for some lists.




Note:  
The figure shows the *Change Layout* dialog box for the detailed version of the list of material documents (MB51).

### Selection Variants

If you are required to run reports or analyses with the same selection values at regular intervals, you use variants. Using variants saves time and enables you to avoid input errors. You can define your own variants and also make use of existing ones.


**To create a variant for a report, do the following:**

1. Enter the desired selection values on the initial screen for the report.

2. Choose *Goto* → *Variants* → *Save as Variant...* or  (*Save as Variant*).
3. On the next screen, enter a *Variant Name* and a description of the variant, and save your entries.



Note:

If you wish to use a variant when running a report or analysis, choose *Goto* → *Variants* → *Get...* or  (*Get Variant...*) on the initial screen of the report.

## Reporting and Analyses Functions in Purchasing



As an introduction, show that all submenus for documents and master data in the *Purchasing* menu contain the option *List Displays*. Then discuss the scope-of-list parameters and selection parameters in more detail.

As the employee responsible in Purchasing, you wish to obtain an overview of the working routines for your department from time to time.

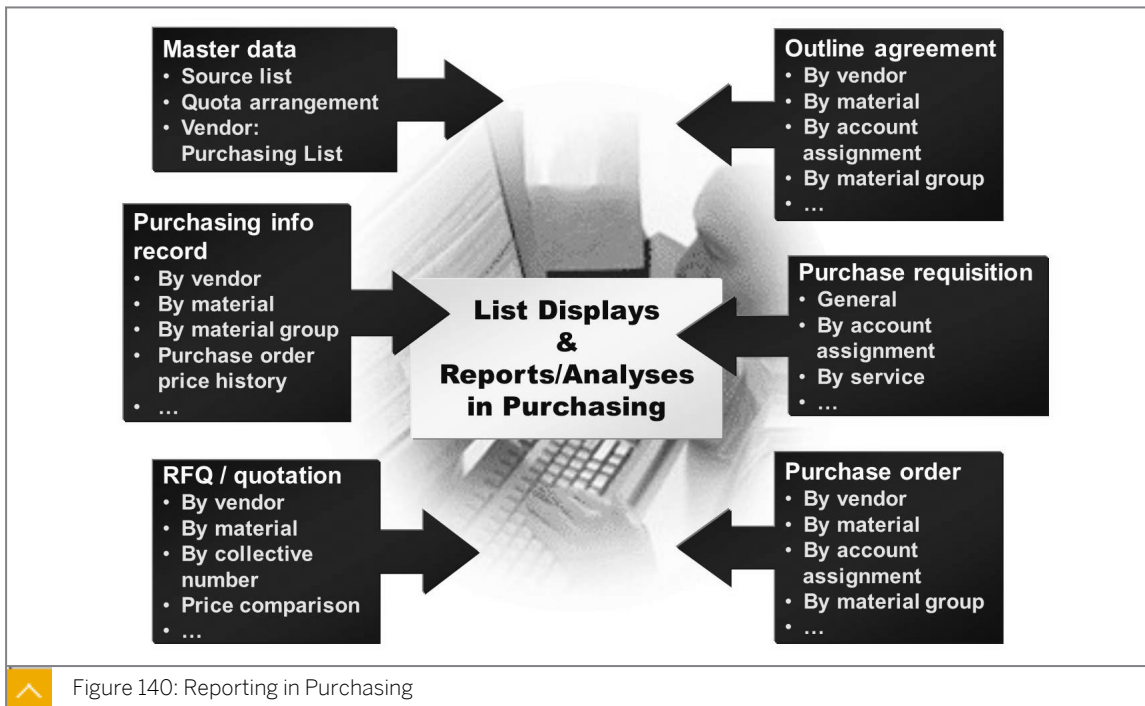
**To obtain the overview, you must have the following information:**

- Which purchase orders were created for a particular vendor over a certain period
- How many purchase orders have resulted in goods delivery? For how many purchase orders were goods receipt posted? How many purchase orders have the relevant goods receipt transactions still pending?
- Do the goods and invoices received agree with the purchase order data?
- Which purchase requisitions were created during the last month for materials of a specific material group?
- Which purchasing information records exist for a material?

The Purchasing menu includes various reporting and analysis functions that can help you to answer these questions. There are reporting and analysis functions for either master data or documents.

In addition to list displays for documents and master data, the Purchasing menu contains general analyses, the purchase order value analysis, and goods receipt forecast.

## Reports in Purchasing



To run reports and analyses for a document category, perform the following activities:

1. Open the *Purchasing* menu.
2. Choose the submenu of the purchasing document that contains the data you must evaluate.

To analyze purchase orders, choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *List Displays* or *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Reporting*.

The above procedure provides you with a variety of reports and analyses to choose from (for example, by vendors, materials, material groups, and so on). The system adjusts the selection options to suit the relevant purchasing document. Therefore, the lists for each document category can vary.

You can find reports and analyses for the master data in purchasing under *Logistics* → *Materials Management* → *Purchasing* → *Master Data*.

When you run a report or analysis, decide which information you need. Use the selection criteria to narrow the focus of your report so that the result is clear and informative. In Purchasing, the selection parameter determines which purchasing documents are analyzed by the report. For example, you can generate reports that select only open purchase orders, or purchase orders for which no invoice has yet been received, or those with expired scheduling agreements.

## Scope-of-List and Selection Parameter

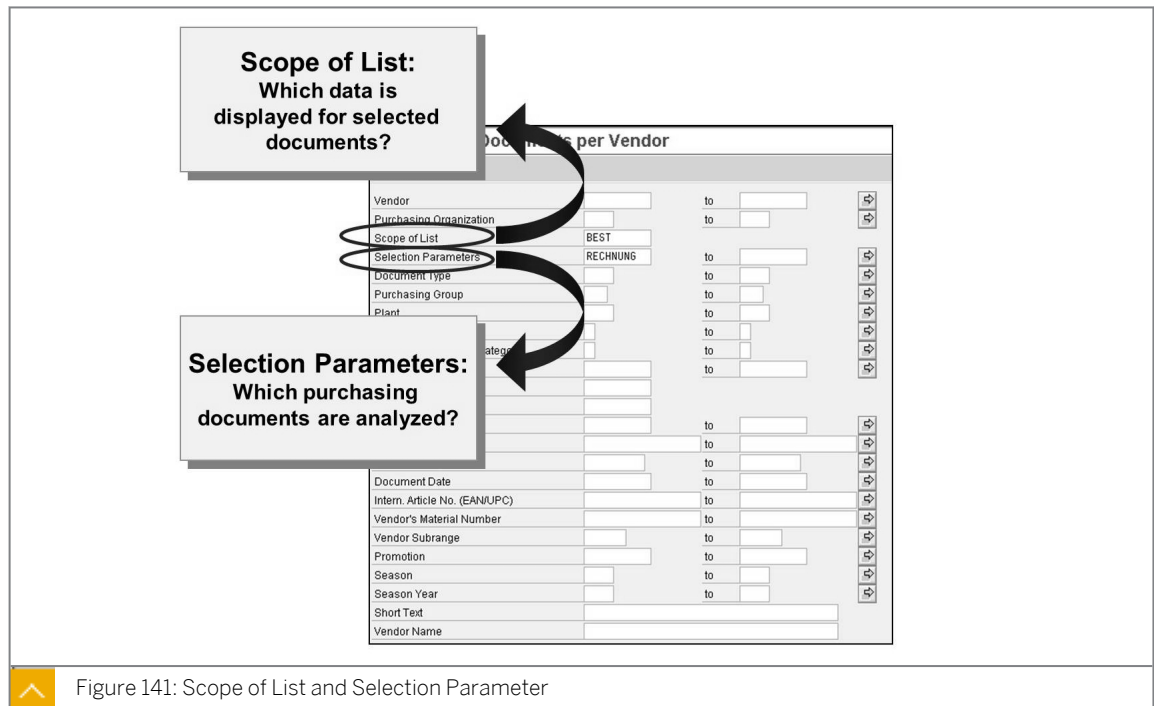


Figure 141: Scope of List and Selection Parameter

The scope-of-list parameter influences how your result list is displayed. The scope-of-list parameter determines which data is displayed for a selected document (for example, which lines appear in your report). You can decide to generate a list in short form or to generate a list that contains more information, for example, lines for the open purchase order quantity and value, or the validity period of outline agreements.

You can also display the purchase order history in additional lines in the list. As of SAP Enterprise, the scope-of-list parameter determines whether the list is output using the ALV grid control.

### In Customizing, you can create your own selection and scope-of-list parameters for Materials Management as follows:

- Choose *Purchasing* → *Reporting* → *Maintain Purchasing Lists* → *Selection Parameters* → *Define Selection Parameters*.
- Choose *Purchasing* → *Reporting* → *Maintain Purchasing Lists* → *Scope of List* → *Define Scope of List*.

In Customizing, you also set the scope-of-list parameter by specifying whether the system uses the ALV grid control to output the list. Depending on the selection parameter, you can decide whether the system also selects documents on hold.



#### Hint:

For purchasing lists that do not use the scope-of-list parameter, you can use the user parameter ME\_USE\_GRID to ensure that system outputs the list using the ALV grid control. To do this, choose *System* → *User profile* → *Own data*. On the *Parameters* tab page, make a new entry with the parameter ID **ME\_USE\_GRID** in the *Set/Get parameter ID* field and **x** in the *Parameter value* field. Save your changes.





### How to Use Lists in Purchasing

Generate purchase order list.




1. Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *List Displays* → *By Vendor* (ME2L).
2. Enter the following data on the initial screen:

Field	Value
<i>Vendor</i>	<No entry>
<i>Purchasing Organization</i>	<b>1000</b>
<i>Scope of List</i>	<b>BEST</b> (purchase orders)
<i>Selection Parameters</i>	<No entry>
<i>Document Type</i>	<b>NB</b> (standard purchase orders)
<i>Purchasing Group</i>	<b>000 to 020</b>
<i>Plant</i>	<b>1000</b>
<i>Document Date</i>	<b>01.01.2000</b> to <today>

- a) Save your selection values as a variant.
- b) Enter **SCM500-##** in the *Variant Name* field and any text in the *Description* field.
- c) Save your entries.
- d) Choose  (*Execute*) to implement the selection. Discuss the data displayed in the list.



Note:  
Do not exit from the list display.

3. Open a second session and choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *List Displays* → *By Vendor* (ME2L).
4. Choose  (*Get Variant...*) and select the variant **SCM500-##**. Enter **ALLES** in the *Scope of List* field.  
  
Choose  (*Execute*) to implement the selection.  
Explain the differences between this list and the list generated using the parameter **BEST** in the *Scope of List* field.
5. Repeat the selection with the variant **SCM500-##**. Enter **BEST\_ALV** in the *Scope of List* field. The list can be output with the ALV grid control.  
  
Choose  (*Execute*) to implement the selection.  
In this list, you can introduce some ALV grid control functions.

6. Repeat the selection with the variant *SCM500-##*. Enter **BEST\_ALV** in the *Scope of List* field and **RECHNUNG** in the *Selection Parameters* field. The system only selects purchase orders for which an invoice is still to be received.
  7. Optional: Show further reports and analyses in purchasing.
-







## Use List Displays for Purchase Orders

### Business Example

To optimize internal processes, you regularly create list displays to inform yourself about the status of your purchase orders, information records, and other documents in the system.

Create list displays for various purchase orders.



The following exercise only applies when the lesson does not form part of the course context. This exercise is designed in such a way that the participants evaluate the data they have generated in the training system during course SCM500. When this lesson is taken out of the context of the course, the available data can fail to satisfy the stipulated selection criteria.

As a buyer in plant 1000, you are checking the purchase orders issued over the past 24 months. You are primarily interested in purchase orders against which no goods receipts have been entered.

#### 1. Open goods receipts.

Display a list of all purchase orders for purchasing organization 1000 and plant 1000 for which no goods have yet been received. Select all purchase orders with a document date within the last 24 months.

Enter the **BEST\_ALV** from the *Scope of List*, so that the system displays the list of selected purchase orders with ALV grid control.

#### 2. Sort list.

The system sorts the list by vendor and purchasing document. However, you require a list sorted by vendor and material. Change the sort order and save this setting as a user-specific layout SCM500-## under the name Layout SCM500-##.

#### 3. Save changes to layout.

The purchasing document number is displayed as the first column in the list. The *Quantity still to be delivered* and *Value still to be delivered* for the individual items are displayed directly after the material group. You also want the list to include the total value of the materials that await delivery.

To change the order of the columns, create the desired total and save these changes to your layout SCM500-##.



## Use List Displays for Purchase Orders

### Business Example

To optimize internal processes, you regularly create list displays to inform yourself about the status of your purchase orders, information records, and other documents in the system.

Create list displays for various purchase orders.



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#### 1. Open goods receipts.

Display a list of all purchase orders for purchasing organization 1000 and plant 1000 for which no goods have yet been received. Select all purchase orders with a document date within the last 24 months.

Enter the **BEST\_ALV** from the *Scope of List*, so that the system displays the list of selected purchase orders with ALV grid control.

a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *List Displays* → *By Vendor* (ME2L).




b) Enter the following data on the initial screen:

Field	Value
<i>Vendor</i>	<No entry>
<i>Purchasing Organization</i>	<b>1000</b>
<i>Scope of List</i>	<b>BEST ALV</b>
<i>Selection Parameters</i>	<b>WE101</b>
<i>Purchasing Group</i>	<No entry>
<i>Plant</i>	<b>1000</b>
<i>Document Date</i>	<today - 24 months> to <today>



c) Choose  (Execute).

#### 2. Sort list.

The system sorts the list by vendor and purchasing document. However, you require a list sorted by vendor and material. Change the sort order and save this setting as a user-specific layout SCM500-## under the name Layout SCM500-##.




- a) Choose *Settings* → *Layout* → *Change....*
- b) Choose the *Sort Order* tab page.
- c) In the *Change Layout* dialog box, position the cursor on *Purchasing Document* in the *Sort criteria/Subtotals* area and choose  (*Remove sort criterion*).
- d) In the *Change Layout* dialog box, position the cursor on *Material* in the *Column Set* area and choose  (*Add sort criterion*).
- e) Choose  (*Save Layout*). Choose the *Save As...* tab page.
- f) Enter the following data on the *Save as...* tab page of the *Save as...* dialog box:



Field	Value
<i>Layout</i>	SCM500-##
<i>Name:</i>	Layout SCM500-##
<i>User-Specific</i>	Select
<i>Default setting</i>	Select

- g) Choose  (*Adopt*) to save the new layout.
  - h) The *Change Layout* dialog box reappears. Choose  (*Transfer*) to display the list with the new layout.
3. Save changes to layout.

The purchasing document number is displayed as the first column in the list. The *Quantity still to be delivered* and *Value still to be delivered* for the individual items are displayed directly after the material group. You also want the list to include the total value of the materials that await delivery.

To change the order of the columns, create the desired total and save these changes to your layout SCM500-##.

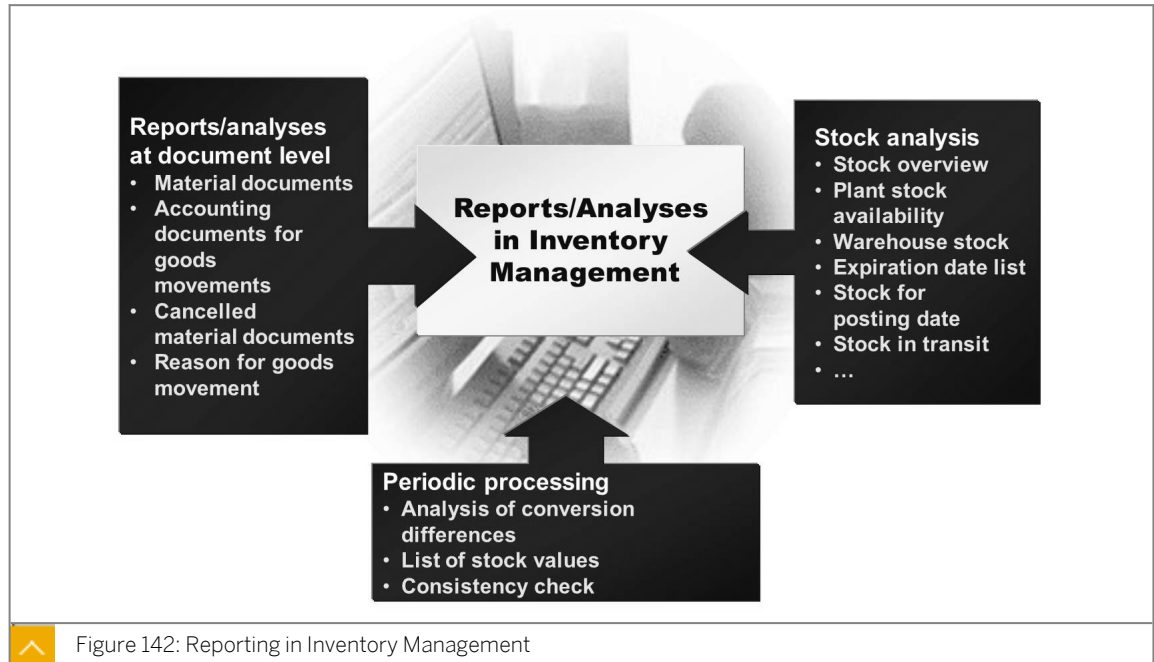
- a) Choose *Settings* → *Layout* → *Change....*
- b) Choose the *Displayed Columns* tab page.
- c) Place the cursor on *Purchasing Document* in the right window area (*Column Set*), select the first entry *Item* in the left window area (*Displayed Columns*), and choose  (*Show selected fields*).
- d) Choose  (*Transfer*).
- e) Select the *Still to be delivered (value)* column and move the column to the right of, and next to the *Matl Group* column.
- f) Repeat the procedure for the *Still to be delivered (value)* column.
- g) Select the *Still to be delivered (value)* column and choose  (*Total*).

- h) Choose  (Save Layout...). Select your *Layout SCM500-##*, and choose  (Adopt) to copy the proposed values to the layout.
- i) In the *Layout SCM500-## Save* dialog box, choose Yes to confirm the message “*Layout already exists!*”.

## Reporting in Inventory Management



Explain and show the grouping of reports and analyses in inventory management. The demonstration for this lesson introduces the list of material documents.



The reports and analyses in inventory management can be divided into the following groups:

- Analyses of stock situation
- Analyses of goods movements
- Analyses that serve to identify inconsistencies in stock data

For an overview of the posted goods movements, choose *Logistics* → *Materials Management* → *Inventory Management* → *Environment* → *List Displays*. A list showing the various types of analyses associated with material and accounting documents relating to goods movement appears on the screen.

The document lists of the reports and analyses includes the following:

- Material Documents (MB51)
- Accounting Document for Material (MR51)
- Cancelled Material Documents (MBSM)
- Reason for Movement (MBGR)

To access the reports and analyses for stocks, choose *Logistics* → *Materials Management* → *Inventory Management* → *Environment* → *Stock*.

The following documents contain the Stock lists:

- Stock Overview (MMBE)
- Stock/Requirements List (MD04)

- Plant Stock Availability (MB53)
- Warehouse Stock (MB52)
- Stock for Posting Date (MB5B)

You can find the analyses for determining inconsistencies in the *Inventory Management* → *Periodic Processing*.




### How to Use Lists in Inventory Management

Use ALV grid control to use lists and show reports and analyses in Inventory Management.

1. Choose *Logistics* → *Materials Management* → *Inventory Management* → *Environment* → *List Displays* → *Material Documents* (MB51).  
Discuss the selection fields in detail.

2. Enter the following data on the initial screen:

Field	Value
<i>Material</i>	<b>M-01 to M-20</b>
<i>Posting Date</i>	<b>01.01.1997 to &lt;today&gt;</b>

3. Choose  (*Execute*) to implement the selection.  
Discuss the data displayed in the list. Explain that the list is sorted by material and plant, and that this sorting cannot be changed. The list is displayed with the *SAP List Viewer*.
4. Choose *Goto* → *Detail List*. The list is now displayed with the *ALV grid control*.
5. Show the functions of the ALV grid control as follows:
  - Generate and display the total amount for a column with numeric values, for example, the *Quantity* and/or *Values* column.
  - Create subtotals by material.
  - Filter out all goods movements with the movement types **101** and **102**.
  - Remove the filter. Choose *Edit* → *Delete Filter*.
  - Build two further columns into the list and save this change as your own layout. Choose *Settings* → *Layout* → *Current...*
6. Optional: Show further reports and analyses in Inventory Management.



## Use the List of Material Documents

### Business Example

In your department, you have the task of monitoring the movements of certain materials. For this purpose, you regularly display the material documents posted for these materials each week.

Display the list of material documents.

**1.** Enter Goods movements.

Generate a list of all material documents for the materials T-M500A##, T-M500B##, T-500C##, and T-M500D## that were posted this week.

**2.** Display the detail list.

To work with a more flexible display, switch from the hierarchical to the non-hierarchical display.

**3.** Release quality inspection stock.

Determine for which materials stock in quality inspection was transferred to the unrestricted-use stock this week. Remember to take into account any possible reversals for goods receipt.



## Use the List of Material Documents



### Business Example

In your department, you have the task of monitoring the movements of certain materials. For this purpose, you regularly display the material documents posted for these materials each week.

Display the list of material documents.

#### 1. Enter Goods movements.

Generate a list of all material documents for the materials T-M500A##, T-M500B##, T-500C##, and T-M500D## that were posted this week.

- a) Choose *Logistics* → *Materials Management* → *Inventory Management* → *Environment* → *List Displays* → *Material Documents* (MB51).
- b) To restrict the selection to these four materials, choose  (*Multiple selection*) on the right next to the material fields. In the *Multiple Selection for Material* dialog box, enter the four materials **T-M500A##**, **T-M500B##**, **T-M500C##**, and **T-M500D##**. Transfer this selection by choosing  (*Copy*).



Hint:

If you want to select all materials with the material number T-M500<any>##, you can also enter T-M500\*## as the selection value for the material on the initial screen.

- c) As a restriction for the *Posting Date*, enter <today - 7 days> to <today>.

- d) Choose  (*Execute*).



#### 2. Display the detail list.

To work with a more flexible display, switch from the hierarchical to the non-hierarchical display.

- a) Choose  (*Detail List*).

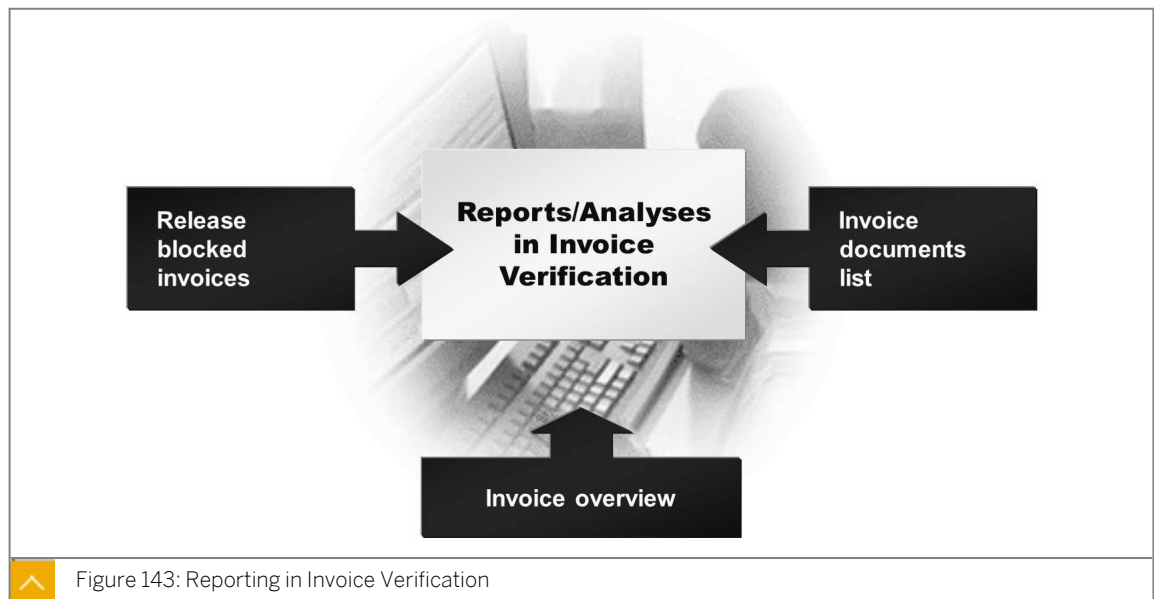
#### 3. Release quality inspection stock.

Determine for which materials stock in quality inspection was transferred to the unrestricted-use stock this week. Remember to take into account any possible reversals for goods receipt.

- a) Select the *Movement type* column and choose  (*Set Filter*).
- b) In the *Determine values for filter criteria* dialog box, enter **321** to **322** in the field *Movement Type* and choose  (*Execute*).  
A transfer posting has occurred for material T-M500B## in plant 1200.



## Reporting in Invoice Verification



In Logistics Invoice Verification, there is a general analysis of invoice documents, the Invoice Overview (MIR6). You can use this function to generate a list of invoices, for example, to check which documents have been entered manually by a certain user or for a certain invoicing party over a specific period. Apart from invoices posted online, you can select invoices generated by a Business Application Programming Interface (BAPI) or by the process of Evaluated Receipt Settlement (ERS). The report also serves to select parked, held, or cancelled documents. From the list, you can branch to the documents and, if possible, process them further.

### The list of invoice documents displays the following information:

- Name of the person who entered the invoice
- Document date
- Posting date
- Invoice document number
- Associated accounting document number
- Status of invoice (for example, posted, parked, and on hold)

Beginning with SAP ERP 5.0, there is another report that you can use to display a list of invoice documents – Display List of Invoice Documents (MIR5). In addition to Invoice Overview, the system provides extended selection criteria and display options.

However, you cannot perform changes to invoice documents in the list. A third analysis in invoice verification facilitates the selection and release of invoices that have been blocked for payment.



### How to Use the Invoice Overview


Use the invoice overview and generate a list of invoices.

1. Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* → *Invoice Overview (MIR6)*.

Discuss the selection fields in detail.

2. Enter **01/01/1997** to <today> in the *Document Date* field on the initial screen.

3. In the *Entry Type* area, select the *Invoice Verified Online* and *Cancellation* checkboxes.

4. Choose  (*Execute*) to implement the selection.

Discuss the data displayed in the list. Discuss the importance of the list being displayed with *Table Control*.

5. Show that you can branch to the invoice document or follow-on documents.

6. Show other analyses in *Logistics Invoice Verification*.
-



### **LESSON SUMMARY**

You should now be able to:

- Explain how to work with lists in SAP ERP
- Use standard reports in Purchasing
- Use standard reports in Inventory Management
- Use standard reports in Logistics Invoice Verification



## Performing Standard Analyses in the Logistics Information System

### LESSON OVERVIEW

This lesson explains the concept of the SAP Logistics Information System (LIS). The lesson introduces the basic structure of the Logistics Information System and explains the information structures involved in the data updating process, and gives you an overview of the analysis tools.



Explain that these analyses are performed on aggregated data, and that selection typically does not extend to document level.

In contrast to the standard reports at document level, this data can be evaluated even if the documents have already been archived.

### Business Example

You are head of the purchasing department and must soon negotiate end-of-period volume rebates. At this point, you want to run an analysis to identify the vendors with whom you achieved the highest business volumes last year. Therefore, you must determine whether the SAP system is capable of quickly providing you with aggregate key figures on relevant business transactions. For this reason, you require the following knowledge:

- An understanding of the basic features of the Logistics Information System
- How to perform standard analyses in the Logistics Information System



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Perform standard analyses in the Logistics Information System

### Basic Structure and Concept of the Logistics Information System



Explain the structure of the LIS. Emphasize that there are separate tables (called Information structures or Information structures in LIS) that are used for each analysis. Also explain that there are different information systems in SAP, depending on the various application components. However, the underlying concept is the same for all information systems in SAP.

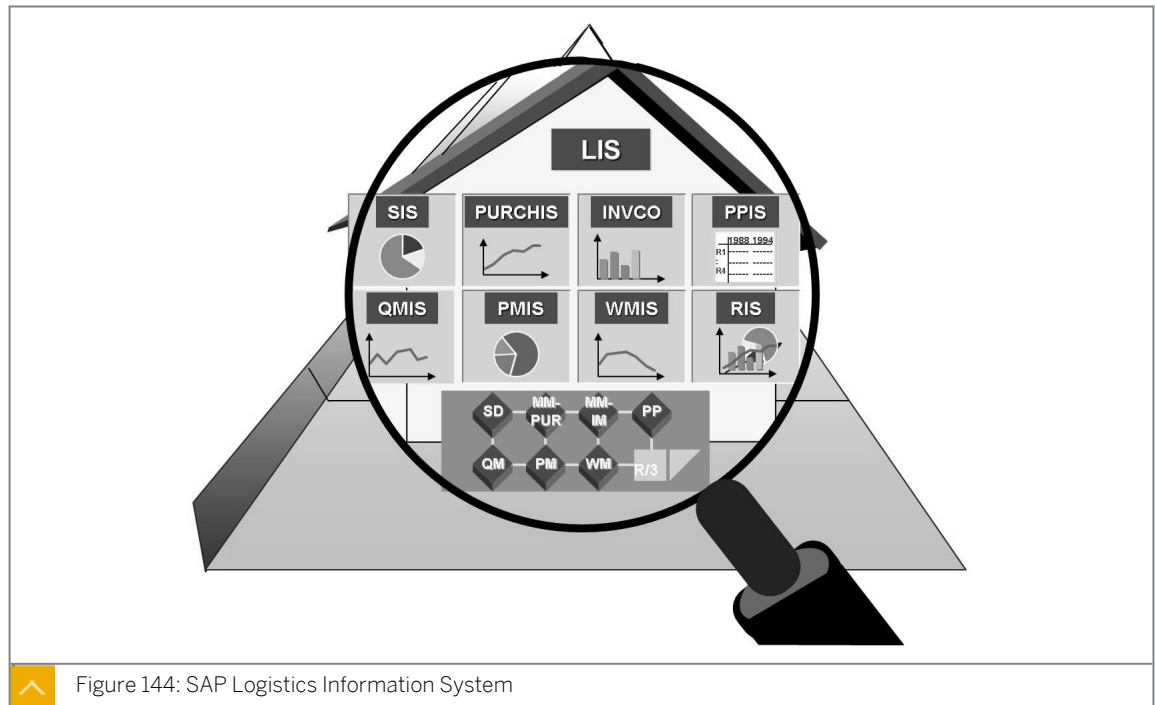


Figure 144: SAP Logistics Information System

SAP Logistics Information System offers a range of application-related (modular) information systems. All systems have a standard interface and provide similar, basic functions. At the same time, the modular structure of the system supports special aspects in each information system.

The type of data retention is identical in all information systems within logistics. A number of special tools and working methods emphasize the typical character of a data warehouse in the Logistics Information System (LIS).

**In the Logistics Information System, you can distinguish between the following information systems:**

- Sales Information System (SIS)
- Purchasing Information System (PURCHIS)
- Inventory Controlling (INVCO)
- Warehouse Management Information System (WMIS)
- Shop Floor Information System (SFIS)
- Quality Management Information System (QMIS)
- Plant Maintenance Information System (PMIS)
- Retail Information System (RIS)
- Production Planning Information System (PPIS)

## Logistics Data Warehouse

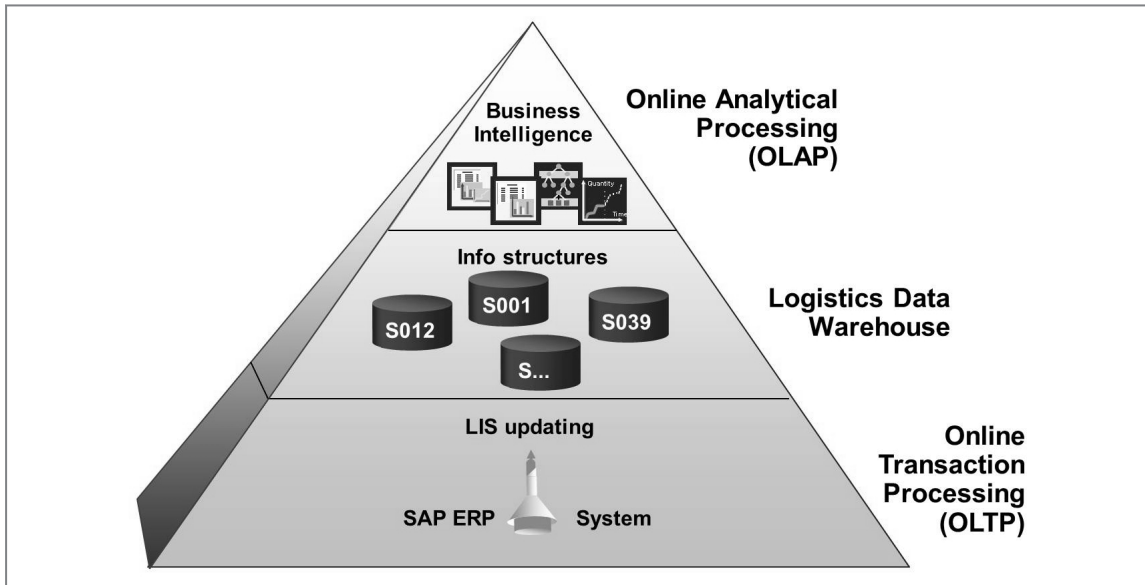


Figure 145: Logistics Data Warehouse

### Logistics Data Warehouse comprises the following levels:

- Online Transaction Processing (OLTP)
 

The operative applications such as Sales and Distribution, Purchasing, Production, Plant Maintenance, and so on continuously supply the information systems of the LIS with data. This level information is also known as OLTP. The data is derived from documents from the SAP ERP system or external or non-SAP systems.
- Logistics Data Warehouse
 

The Logistics Data Warehouse is present above the OLTP level. For each business transaction within the operative application, separate databases of the Logistics Data Warehouse, which is parallel to the OLTP level, store important information in aggregated form. In the process, the system quantitatively reduces the data volume because of the period-wise updating. The system then qualitatively reduces the information to the statistically relevant portions.

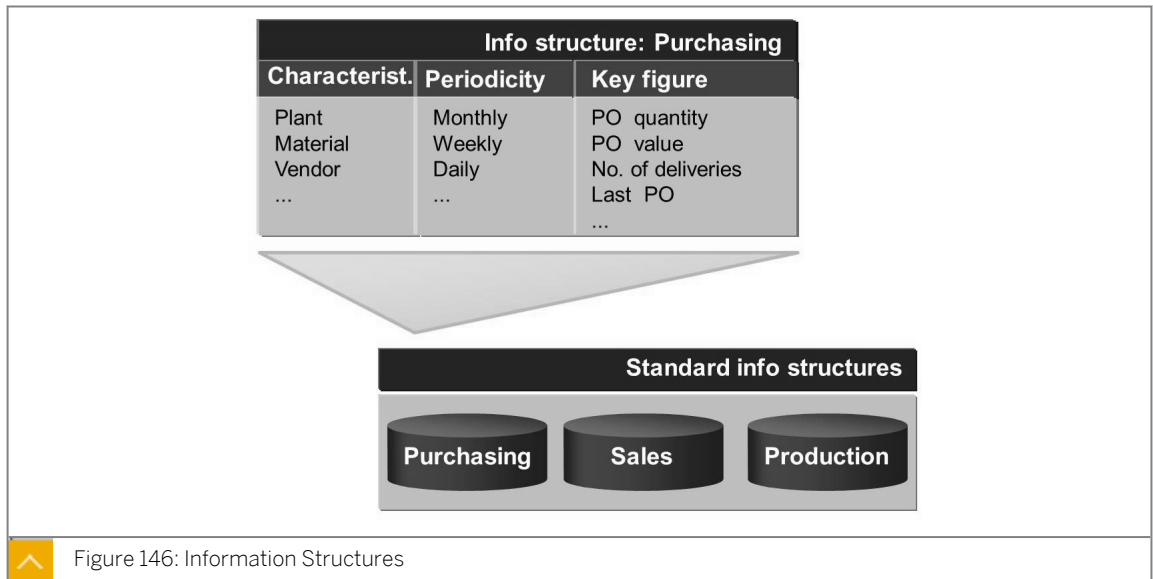
The databases of the Logistics Data Warehouse are known as information structures. Information structures constitute the data basis of the LIS.
- Online Analytical Processing level (OLAP)
 

Data is evaluated at OLAP level. A variety of reporting and analysis tools is available at this level.

### Information Structures



Explain the info structure. Discuss the values characteristics, periodicity, and key figure(s).



The individual physical tables of the Logistics Data Warehouse are termed information structures.

**Information (info) structures have a typical form containing the following three types of information:**

- Characteristics

Characteristics describe information that is suitable for aggregation. The analysis objects of the real business world are therefore included in info structures as classification keys in the form of characteristics. The system updates statistical information on characteristics such as vendor, customer, or material in aggregated form. Organizational elements, such as purchasing group, material group, valuation area, plant, or storage location, are also used as characteristics in info structures. The time base gives another option for aggregation.

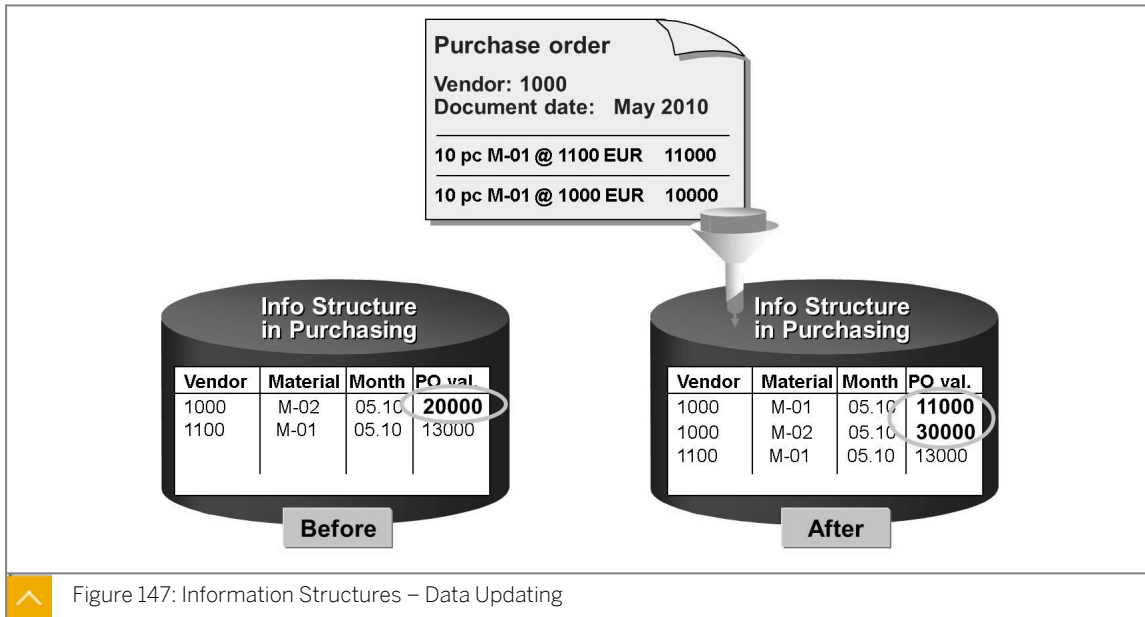
- Periodicity (time base)

The system also cumulates the data per period. Possible periods are day, week, month, and posting period.

- Key figures

The system updates key figures for each characteristic combination and periodicity. Key figures are quantitative values providing information on measurable facts. You can derive key figures for each classification key by cumulation (for example, purchase or production order quantity). However, key figures can also be simple counters, such as the number of deliveries or the number of purchase orders. The standard SAP ERP system contains various information structures for different application areas. Using available tools, you can group characteristics and key figures into individual info structures to meet your own, specific requirements. You can also use separate update programs to supply these info structures with data.

## Information Structures – Data Updating



When you post a document, the system updates key figures of the info structures for the relevant characteristic combinations.

When no data record exists in the information structure for the characteristic combination in the document, the system generates a new data record and the characteristics and key figures are entered. In the figure shown, the generation of new data record is applied to the purchase order item for material M-01.

**In the figure, the concept of the system generating a new data record in the information structure is explained by the following information:**

- Characteristics combination: Vendor 1000, material M-01
- Period: Month 05.2010
- Key figure: Purchase order value 11000

When the characteristic combination already exists in the info structure, the system increases or reduces the key figures in the data line by the relevant values. In the example shown in the figure, the increase or reduction of key figures is applied to the purchase order item for material M-02.

**The system updates the relevant data record with the following information:**

- Characteristics combination: Vendor 1000, material M-02
- Period: Month 05.2010
- Key figure: 20000 (old order value) + 10000 (document order value) = 30000 (new order value)



Explain that when the user runs an analysis over an info structure, a variety of reports and perspectives about the data can become known.



### Information Structures – Evaluation

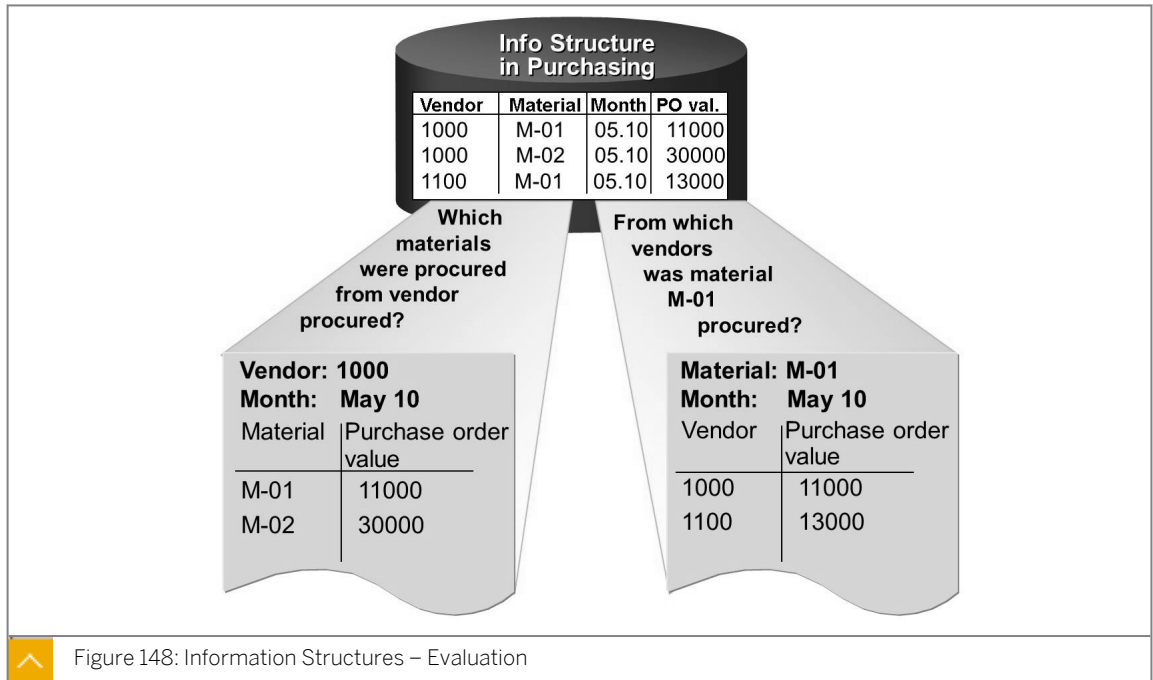


Figure 148: Information Structures – Evaluation

In the various analyses, you can create lists for all possible characteristic combinations based on the data in the info structures.

### Functions of the Logistics Information System – Overview



Give an overview of the functions of the LIS and briefly explain the individual functions.

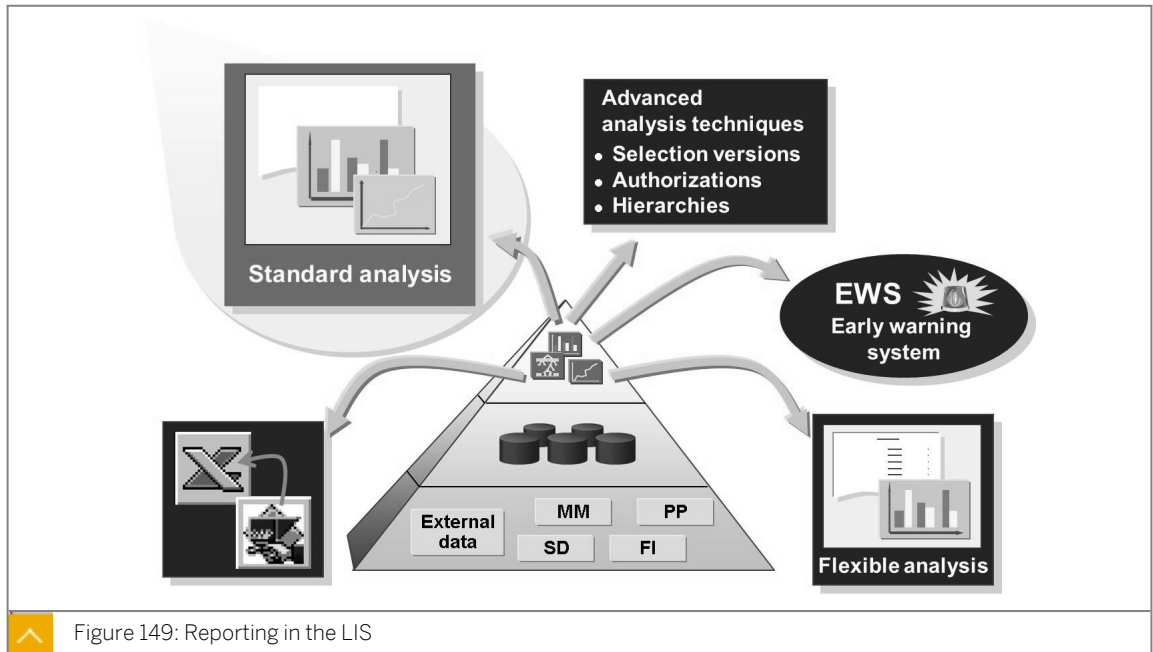


Figure 149: Reporting in the LIS

The following reporting tools and their individual functions are available at the OLAP level of the LIS:

- Standard analyses

The standard analyses in the LIS provide comprehensive data evaluation options based on the data in the standard info structures. Standard analyses provide a multitude of functions to facilitate a detailed and targeted evaluation of the data.

In each standard analysis, you can use various selection options to define the scope of the data to be evaluated. The selection of key figures to be evaluated can be preset or made interactively during the analysis.

- Flexible analyses

The flexible analyses enable you to compile and aggregate key figures on an individual basis, which facilitates the structuring of your report layout.

For reports, you can also define key figures whose content is derived from existing key figures by calculation formulae. For example, you can multiply key figures or calculate the quotient of two key figures. The data in the list can be depicted in the form of a figure.

- Early Warning System (EWS)

The EWS enables you to search for unusual patterns. You can then react to previously defined exception situations in time and correct them.

The Logistics Data Warehouse is open and, therefore, allows you to run analyses using external programs, such as a spreadsheet application.

### **Standard Analyses – Examples of Functions**

The data basis for a standard analysis is established by specifying the object you want to analyze, for example, purchasing group, vendor, or material group, and by selection. You can then display this dataset structured in different ways. You can also store the selected data of a standard analysis for later analyses.

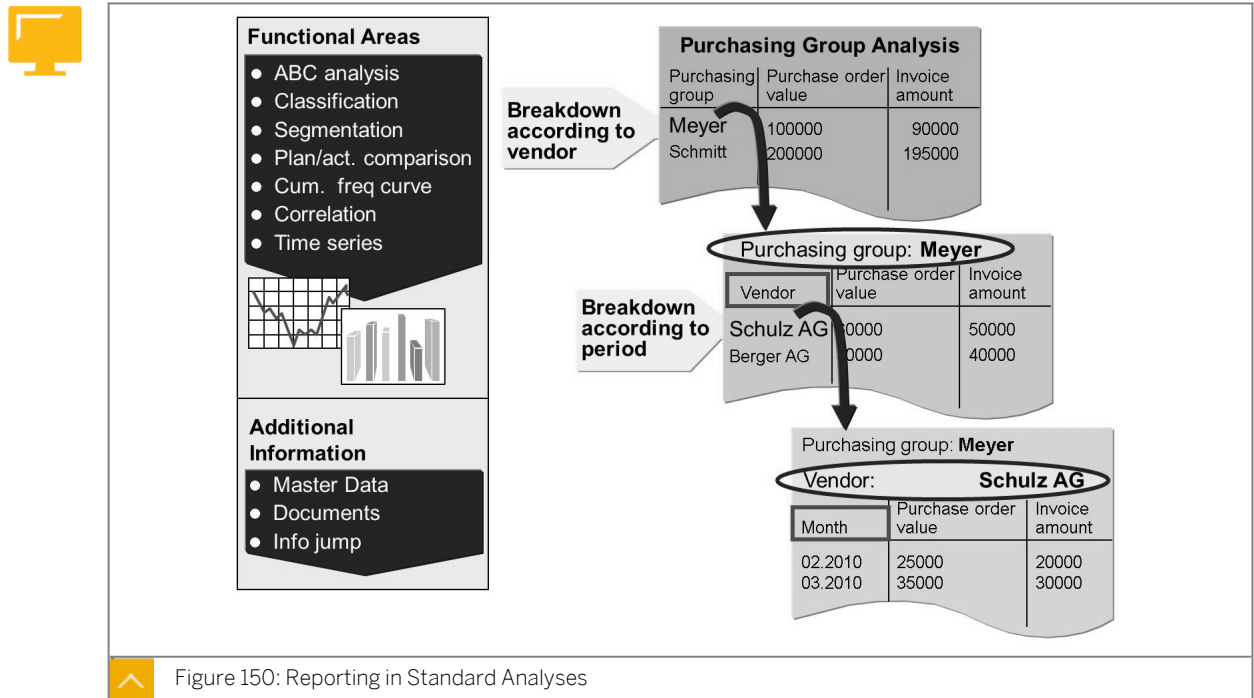
**Some of the functions available when performing standard analyses include the following:**

- Drilldown function
- Choosing key figures and changing their order
- Sorting lists
- Creating a ranking sequence
- ABC analysis

In standard analyses, the system makes a distinction between the basic list and a drilldown list. The basic list provides an overview of the characteristic values of the key figures in accordance with the selection criteria that you chose earlier.

With the aid of the drilldown function, you can vary the depth of information by displaying the data that appears in a list in greater detail, based on certain criteria. You can either determine the order in which the information is broken down or follow a predefined analysis path, which is the standard drilldown.

## Reporting in Standard Analyses



For all list levels, you can perform the following additional functions:

- Cumulative frequency curve
- Correlation
- ABC analysis
- Classification
- Segmentation
- Ranking lists

All results can be presented in the form of figures. You can also display the complete master record and document information using the standard transactions of the application from within the various breakdown levels.



### How to Use the Standard Analysis for Materials

Perform a standard analysis for the materials in the purchasing information system to demonstrate some Logistics Invoice Verification (LIS) functions.

Analyze purchasing values for purchasing groups.


You must use the Purchasing Information System to determine a standard analysis of the procurement volume of several purchasing groups for purchasing organization 1000.

#### 1. Perform standard analysis for purchasing groups

Invoke the standard analysis for purchasing groups T00 to T30 for the procurement transactions of purchasing organization 1000. Limit your analysis period to the current and previous month. Select EUR as the analysis currency.

- a) Choose *Logistics* → *Logistics Controlling* → *Purchasing Information System* → *Standard Analyses* → *Purchasing Group* (MCE1).
- b) Enter the following values on the selection screen:

Field	Value
<i>Purch. Organization</i>	<b>1000</b>
<i>Purchasing Group</i>	<b>T01 to T30</b>
<i>Month</i>	<Last month> to <Current month>

- c) Choose the  (*Execute*) pushbutton.  
The basic list of the purchasing group analysis is displayed according to your selection values.

2. Change the characteristic display.


In addition to the name of the purchasing group, you must show the key for this characteristic. Choose the relevant characteristic display.

- a) Choose *Settings* → *Characteristic display* → *Key and description*.  
If the column is not wide enough, double-click the column header and enter a higher value for the width.

3. Add key figures.

You require information about the number of purchase order items and the number of deliveries. Add these two key figures to the basic list. In the following table, make a note of the total order value, the total number of Purchase Order (PO) items, the number of deliveries, and the amount already invoiced for your purchasing group T##.

Field	Value
<i>PO value</i>	
<i>Invoice Amount</i>	
<i>PO items</i>	
<i>Deliveries</i>	

- a) Choose *Edit* → *Choose key figures...* . The *Choose Key figures* dialog box appears.
- b) In the *Pool* list, select the key figures *PO items* and *Deliveries* and choose the  (*Choose*) pushbutton.  
Confirm your choice.  
The *POs*, *Order items*, and *Deliveries* columns are also displayed on the *Basic List* screen.

4. Perform standard drilldown.

What are the steps in the standard drilldown in the purchasing group analysis?

- a) Choose *Extras* → *Display Standard Drilldown*. The *Display standard drill-down* screen shows the sequence *Purchasing Group – Vendor – Month*.

5. Display vendors for a purchasing group.

To which vendors have you issued purchase orders for your purchasing group T##?

- a) Select the *Purch. Group* field and the value *T## SCM500-##* and choose *View → Drilldown by → Vendor*.

Alternatively, you can double-click the *Purch. Group* field and then follow the standard drilldown.

6. Determine the top five purchasing groups.

Which purchasing groups had the five highest purchase order values over the analysis period?

- a) Choose *View → Basic List* to return to the basic list of the analysis.
- b) Mark the *PO value* column and choose *View → Top N...* . Enter **5** in the *Number* field and confirm your entry.

7. Perform an ABC analysis.

Determine the most important vendors with regard to order value for purchasing organization 1000 and purchasing groups T01 to T18. To do so, perform an ABC analysis for the 'purchase order value' key figure. As the analysis strategy, choose the percentage total of the purchase order value. The size of segment A is 70%, segment B is 20%, and segment C is 10%. The complete list for the ABC analysis of the purchase displays the order value.

Which vendor has achieved the highest purchase order value?

Vendor: \_\_\_\_\_



Hint:

Before you perform the ABC analysis, make sure you are in the basic list. Then, switch from the basic list to the drilldown by vendor.

- a) Choose *View → Basic List* to return to the basic list of the analysis.
- b) Choose *View → Switch Drilldown...* .
- c) Choose the *Vendor* in the *Switch Drilldown* dialog box. The list now displays all the vendors.
- d) Position the cursor on the *PO value* column and choose *Edit → ABC Analysis...* .
- e) In the *ABC analysis: Choose strategy* dialog box, select *Total PO Value (%)* and confirm your choice.
- f) Accept the suggested *Segment sizes*.
- g) In the figure displayed, choose the *Total list* pushbutton to show the complete list of the ABC analysis.

8. Display the selection log.

To understand the result of your analysis, you must know which selection criteria you have used. You should, therefore, take a look at the selection log for the purchasing group analysis. What is the key and description of the information structure for this analysis?

Information structure: \_\_\_\_\_

- a) Exit the function to exit the list for the ABC analysis and to display the original list.
- b) Choose *Extras → Selection Log...* . A dialog box with the selection values appears. The *Info structure* is *S011 – Purchasing groups*.





## Perform Standard Analyses in the Logistics Information System

### Business Example

As head of the purchasing department, you require a basic understanding of the activities of your buyers. In particular, you must determine the total value of the purchase orders issued by the individual buyers.

As an exception, you also require an overview of the stock situation at individual storage locations because there have recently been numerous incorrect postings resulting from incorrect storage location data in purchase orders.

To perform analyses of both requirements, you use standard reports from the Logistics Invoice Verification (LIV), since you do not want to evaluate the data at the document level.



The following exercise only applies when the lesson is outside of the course context.

The exercise is designed in such a way that the participants evaluate the data they have generated in the training system during course SCM500. When this lesson is taken out of the context of the course, data for the stipulated selection can be unavailable. Nevertheless, to carry out the exercise, stipulate the following as alternative selection values:

- Purchasing organization: none
- Purchasing group: 000 to 018
- Period to analyze (month): 01.1997 to 12.2002

Analyze purchasing values for purchasing groups and storage locations.

You must use the Purchasing Information System to determine a standard analysis of the procurement volume of several purchasing groups for purchasing organization 1000.

#### 1. Perform standard analysis for purchasing group

Invoke the standard analysis for purchasing groups T00 to T30 for the procurement transactions of purchasing organization 1000. Limit your analysis period to the current and previous month. Select EUR as the analysis currency.

#### 2. Change the characteristic display.

In addition to the name of the purchasing group, you must show the appropriate characteristic. Choose the relevant characteristic display.

#### 3. Add key figures.

You require information about the number of purchase order items and the number of deliveries. Add these two key figures to the basic list. In the following table, make a note of the total order value, the total number of Purchase Order (PO) items, the number of deliveries, and the amount already invoiced for your purchasing group T##.

Field	Value
<i>PO value</i>	
<i>Invoice Amount</i>	
<i>PO items</i>	
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4. Perform standard drilldown.

What are the steps in the standard drilldown in the purchasing group analysis?

5. Display vendors for a purchasing group.

To which vendors have you issued purchase orders for your purchasing group T##?

6. Determine the top five purchasing groups.

Which purchasing groups had the five highest purchase order values over the analysis period?

7. Perform an ABC analysis.

Determine the most important vendors with regard to order value for purchasing organization 1000 and purchasing groups T01 to T18. To do so, perform an ABC analysis for the 'purchase order value' key figure. As the analysis strategy, choose the percentage total of the purchase order value. The size of segment A is 70%, segment B is 20%, and segment C is 10%. See the complete list for the ABC analysis of the purchase order value.

Which vendor has achieved the highest purchase order value?

Vendor: \_\_\_\_\_



Hint:

Before you perform the ABC analysis, make sure you are in the basic list. Then, switch from the basic list to the drilldown by vendor.

8. Display the selection log.

To understand the result of your analysis, you must know which selection criteria you have used. Look at the selection log for the purchasing group analysis. What is the key and description of the info structure for this analysis?

Info structure: \_\_\_\_\_

Analyze the storage location.

You must use Inventory Controlling to analyze your storage location stocks and transfer any materials that do not belong there to another location. Check which stocks are located in storage location 0001 of plant 1000.

1. Perform standard analysis of storage location.

Call up the standard analysis for storage location 0001 of plant 1000 for the period between the current month and 12 months prior to it.

2. Drilldown by material group.



Choose drilldown by material group. Display the receipt quantity per material group as a figure.

3. Sort the material groups in descending order, according to quantity received.  
Expand the material group with the largest quantity received to show individual months and display the relevant materials for the month in which the largest quantity was received.



Hint:

Close the figure before working on this task.



## Perform Standard Analyses in the Logistics Information System

### Business Example

As head of the purchasing department, you require a basic understanding of the activities of your buyers. In particular, you must determine the total value of the purchase orders issued by the individual buyers.

As an exception, you also require an overview of the stock situation at individual storage locations because there have recently been numerous incorrect postings resulting from incorrect storage location data in purchase orders.

To perform analyses of both requirements, you use standard reports from the Logistics Invoice Verification (LIV), since you do not want to evaluate the data at the document level.



The following exercise only applies when the lesson is outside of the course context.

The exercise is designed in such a way that the participants evaluate the data they have generated in the training system during course SCM500. When this lesson is taken out of the context of the course, data for the stipulated selection can be unavailable. Nevertheless, to carry out the exercise, stipulate the following as alternative selection values:

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- Purchasing group: 000 to 018
- Period to analyze (month): 01.1997 to 12.2002

Analyze purchasing values for purchasing groups and storage locations.

You must use the Purchasing Information System to determine a standard analysis of the procurement volume of several purchasing groups for purchasing organization 1000.

#### 1. Perform standard analysis for purchasing group

Invoke the standard analysis for purchasing groups T00 to T30 for the procurement transactions of purchasing organization 1000. Limit your analysis period to the current and previous month. Select EUR as the analysis currency.

a) Choose *Logistics* → *Logistics Controlling* → *Purchasing Information System* → *Standard Analyses* → *Purchasing Group* (MCE1).

b) Enter the following values on the selection screen:

Field	Value
<i>Purch. Organization</i>	<b>1000</b>
<i>Purchasing Group</i>	<b>T01 to T30</b>

Field	Value
Month	<Last month> to <Current month>

- c) Choose  (Execute).

The basic list of the purchasing group analysis is displayed according to your selection values.

2. Change the characteristic display.

In addition to the name of the purchasing group, you must show the appropriate characteristic. Choose the relevant characteristic display.

- a) Choose *Settings* → *Characteristic display* → *Key and description*.


If the column is not wide enough, you can increase it by double-clicking the column header and entering a higher value for the width.

3. Add key figures.

You require information about the number of purchase order items and the number of deliveries. Add these two key figures to the basic list. In the following table, make a note of the total order value, the total number of Purchase Order (PO) items, the number of deliveries, and the amount already invoiced for your purchasing group T##.

Field	Value
PO value	
Invoice Amount	
PO items	
Deliveries	

- a) Choose *Edit* → *Choose key figures...*. The *Choose Key figures* dialog box appears.

- b) In the *Pool* list, select the key figures *PO items* and *Deliveries* and choose  (*Choose*) pushbutton.

Confirm your choice.

The *POs*, *Order items*, and *Deliveries* columns are also displayed on the *Basic List* screen.

4. Perform standard drilldown.

What are the steps in the standard drilldown in the purchasing group analysis?

- a) Choose *Extras* → *Display Standard Drilldown*. The *Display standard drill-down* screen shows the sequence *Purchasing Group – Vendor – Month*.

5. Display vendors for a purchasing group.

To which vendors have you issued purchase orders for your purchasing group T##?

- a) Select the *Purch. Group* field and the value *T## SCM500-##* and choose *View* → *Drilldown by* → *Vendor*.

Alternatively, you can double-click the *Purch. Group* field and then follow the standard drilldown.

6. Determine the top five purchasing groups.

Which purchasing groups had the five highest purchase order values over the analysis period?

- a) Choose *View* → *Basic List* to return to the basic list of the analysis.
- b) Mark the *PO value* column and choose *View* → *Top N...* . Enter **5** in the *Number* field and confirm your entry.

#### 7. Perform an ABC analysis.

Determine the most important vendors with regard to order value for purchasing organization 1000 and purchasing groups T01 to T18. To do so, perform an ABC analysis for the 'purchase order value' key figure. As the analysis strategy, choose the percentage total of the purchase order value. The size of segment A is 70%, segment B is 20%, and segment C is 10%. See the complete list for the ABC analysis of the purchase order value. Which vendor has achieved the highest purchase order value?

Vendor: \_\_\_\_\_



Hint:

Before you perform the ABC analysis, make sure you are in the basic list. Then, switch from the basic list to the drilldown by vendor.

- a) Choose *View* → *Basic List* to return to the basic list of the analysis.
- b) Choose *View* → *Switch Drilldown...* .
- c) Choose the *Vendor* in the *Switch Drilldown* dialog box. The list now displays all the vendors.
- d) Position the cursor on the *PO value* column and choose *Edit* → *ABC Analysis...* .
- e) In the *ABC analysis: Choose strategy* dialog box, select *Total PO Value (%)* and confirm your choice.
- f) Accept the suggested *Segment sizes*.
- g) In the figure displayed, choose the *Total list* pushbutton to show the complete list of the ABC analysis.

#### 8. Display the selection log.

To understand the result of your analysis, you must know which selection criteria you have used. Look at the selection log for the purchasing group analysis. What is the key and description of the info structure for this analysis?

Info structure: \_\_\_\_\_

- a) Exit the function to exit the list for the ABC analysis and to display the original list.
- b) Choose *Extras* → *Selection Log...* . A dialog box with the selection values appears. The *Info structure* is *S011 – Purchasing groups*.

Analyze the storage location.

You must use Inventory Controlling to analyze your storage location stocks and transfer any materials that do not belong there to another location. Check which stocks are located in storage location 0001 of plant 1000.

1. Perform standard analysis of storage location.

Call up the standard analysis for storage location 0001 of plant 1000 for the period between the current month and 12 months prior to it.

a) Choose *Logistics* → *Logistics Controlling* → *Inventory Controlling* → *Standard Analyses* → *Storage Location* (MCBC).

b) Enter the following values on the selection screen:

Field	Value
<i>Plant</i>	1000
<i>Storage Location</i>	0001
<i>Month</i>	<Current month – 12 months> to <Current month>

c) Choose  (*Execute*).

The basic list of the storage location is displayed according to your selection values.

2. Drilldown by material group.

Choose drilldown by material group. Display the receipt quantity per material group as a figure.

a) Choose *View* → *Switch Drilldown...*

b) Choose the *Material Group* in the *Switch Drilldown* dialog box.

The list now displays the material groups.

c) Choose *Goto* → *Graphics...*

d) In the *Graphic: Choose Key Figures* dialog box and select the key figure *Val. stock receipts*. Confirm your entry.


3. Sort the material groups in descending order, according to quantity received.

Expand the material group with the largest quantity received to show individual months and display the relevant materials for the month in which the largest quantity was received.



Hint:

Close the figure before working on this task.

a) Position the cursor on the *Val. Stk rec qty* column and choose  (*Sort in Descending Order*).

b) Position the cursor on the first entry (the materials group with the largest receipt quantity) and choose *View* → *Breakdown by* → *Month*.

c) Position the cursor on the *Val. Stk rec qty* column and choose  (*Sort in Descending Order*).

d) Position the cursor on the first entry (the month with the largest receipt quantity) and choose *View* → *Breakdown by* → *Material*.



### **LESSON SUMMARY**

You should now be able to:

- Perform standard analyses in the Logistics Information System



## Learning Assessment

1. Which of the following are the names of the two SAP tools for presenting lists?

*Choose the correct answers.*

- A SAP List Viewer
- B ALV grid control
- C SAP ERP
- D Logistics Information System

2. The scope-of-list parameter determines which purchasing documents are analyzed by the report.

*Determine whether this statement is true or false.*

- True
- False

3. Which of the following are the functions of SAP tools for presenting lists?

*Choose the correct answers.*

- A Sorting
- B Totalling
- C Subtotals
- D Filtering
- E Layout
- F Deleting

4. Which of the following are analyses of stocks (inventories) and documents within inventory management?

*Choose the correct answers.*

- A Stock overview
- B Stock or requirements list
- C Storage location stock
- D List of material documents
- E Cancelled material documents
- F Delivery costs

5. Document date, posting date, and invoice document number are displayed in the list of invoice documents.

*Determine whether this statement is true or false.*

- True
- False

6. Which of the following are the types of information that an info structure contains?

*Choose the correct answers.*

- A Characteristics
- B Period
- C Key figures
- D Invoicing date

7. In a standard analysis, you can perform an ABC analysis.

*Determine whether this statement is true or false.*

- True
- False



8. Which of the following reporting tools are available at the OLAP level of the LIS?

*Choose the correct answers.*

- A Standard analyses
- B Flexible analyses
- C Early warning system
- D Drilldown function

9. Which of the following functions are available when performing standard analyses?

*Choose the correct answers.*

- A Drilldown function
- B Choose key figures and change their order
- C Sort list
- D Create ranking sequence
- E ABC analysis
- F Segmentation



## Learning Assessment - Answers

1. Which of the following are the names of the two SAP tools for presenting lists?

*Choose the correct answers.*

- A SAP List Viewer
- B ALV grid control
- C SAP ERP
- D Logistics Information System

2. The scope-of-list parameter determines which purchasing documents are analyzed by the report.

*Determine whether this statement is true or false.*

- True
- False

The selection parameter determines the purchasing documents to be analyzed. The scope-of-list parameter determines which data is output in the list for the selected documents.

3. Which of the following are the functions of SAP tools for presenting lists?

*Choose the correct answers.*

- A Sorting
- B Totalling
- C Subtotals
- D Filtering
- E Layout
- F Deleting

4. Which of the following are analyses of stocks (inventories) and documents within inventory management?

*Choose the correct answers.*

- A Stock overview
- B Stock or requirements list
- C Storage location stock
- D List of material documents
- E Cancelled material documents
- F Delivery costs

5. Document date, posting date, and invoice document number are displayed in the list of invoice documents.

*Determine whether this statement is true or false.*

- True
- False

6. Which of the following are the types of information that an info structure contains?

*Choose the correct answers.*

- A Characteristics
- B Period
- C Key figures
- D Invoicing date

7. In a standard analysis, you can perform an ABC analysis.

*Determine whether this statement is true or false.*

- True
- False

To perform a standard analysis, choose *Edit* → *ABC analysis ...* in the analysis.

8. Which of the following reporting tools are available at the OLAP level of the LIS?

*Choose the correct answers.*

- A Standard analyses
- B Flexible analyses
- C Early warning system
- D Drilldown function

9. Which of the following functions are available when performing standard analyses?

*Choose the correct answers.*

- A Drilldown function
- B Choose key figures and change their order
- C Sort list
- D Create ranking sequence
- E ABC analysis
- F Segmentation

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### UNIT OBJECTIVES

- Describe the basics and prerequisites of MRP
- Outline the different MRP procedures
- Maintain the material master fields for consumption-based planning
- Set up a reorder point plan



## Drafting Material Requirements Planning

### LESSON OVERVIEW

This lesson gives you an overview of material requirements planning (MRP) and the prerequisites for consumption-based planning. You will also learn about the possible planning levels of consumption-based planning in the SAP system.

### Business Example

Your company wants to use MRP to optimize its logistical processes. To perform this optimization, you must first check whether consumption-based planning is to be used and then identify the settings that have to be made. For this reason, you require the following knowledge:

- An understanding of the overall MRP process
- An understanding of the planning levels of consumption-based planning
- An understanding of the prerequisites for executing consumption-based planning



Give the participants a brief overview of the MRP process, explaining the differences between in-house production and external procurement. Outline the separate storage location of MRP and MRP areas. **MRP area can be a plant or a plant with multiple storage locations.** You can provide detailed explanations in the lessons on planning storage location MRP separately and the use of MRP areas in planning. Explain the Customizing settings that are necessary for consumption-based planning and demonstrate these settings in the system. Then explain the plant parameters in detail in the lesson on executing the planning run.

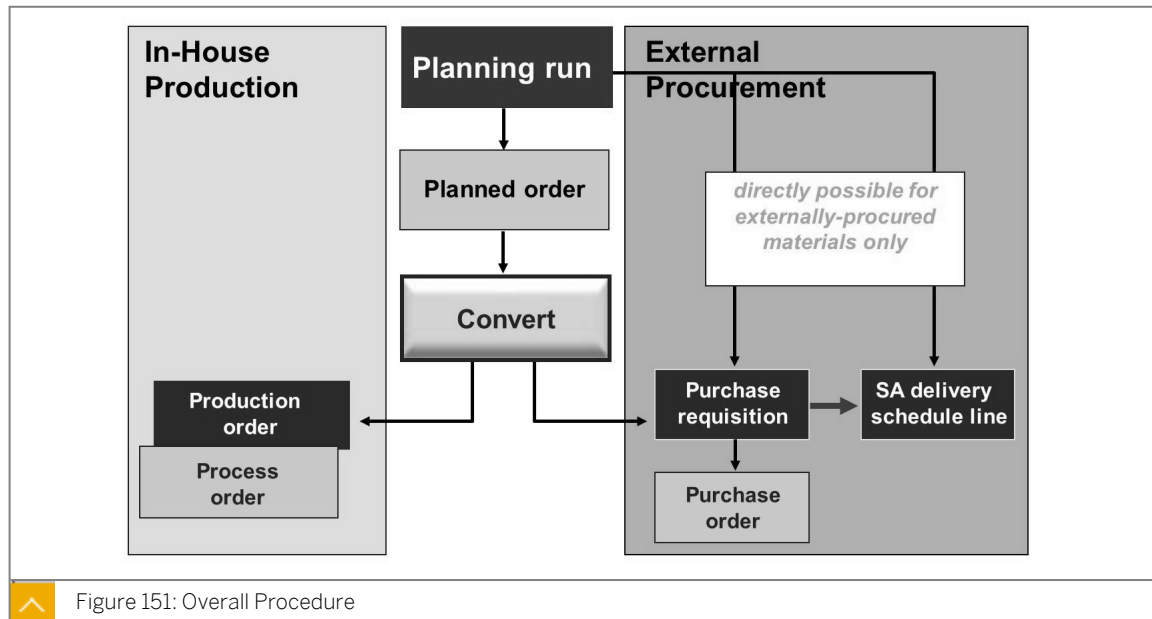


### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Describe the basics and prerequisites of MRP

## Overview of MRP



The main function of MRP is to ensure the availability of material, that is, to procure the required material quantity for in-house production and sale on schedule.

MRP helps monitor the stocks and automatically generates procurement proposals for purchasing and production. This goal is achieved by using different MRP methods that, in turn, include different procedures.

MRP supports and helps the MRP controller in certain task areas. These tasks include determining the type, quantity, and time of the requirement, and scheduling corresponding procurement elements. The automatic planning run for MRP determines shortage situations and generates the corresponding procurement elements.

### Possible procurement elements of MRP include the following:

- Planned orders
- Purchase requisitions
- Scheduling agreement schedule lines

The planned order and the purchase requisition are internal planning elements that can be changed, rescheduled, or deleted any time.

In in-house production, the system creates planned orders for planning production quantities. After planning, the system converts the planned orders into production orders individually, by mass processing, or by scheduling a background job. The system then converts the dependent requirements in the planned order into reservations in the production order.

In external procurement, the system either creates a planned order or a purchase requisition to directly plan for external procurement quantities. To define whether purchase requisitions are created for planning directly or planned orders are created first, you can use the creation indicator for purchase requisitions or MRP groups in the material master record on the initial screen of the planning run. When planning has finished, the planned order must be converted to a purchase requisition, which is subsequently converted to a purchase order.

The advantage of creating a planned order is the additional procurement proposal check that is executed by the MRP controllers. Purchasing can only order the material after the MRP controller has checked and converted the planned order into a purchase requisition. If a purchase requisition is created directly, then the procurement proposal is immediately available for the purchasing department.

If a scheduling agreement exists for a material and it is identified as MRP-relevant in the source list, you can create scheduling agreement schedule lines directly during the requirements planning run. Unlike planned order and purchase requisitions, scheduling agreement schedule lines are fixed mandatory elements which belong to procurement proposals. The creation indicator for scheduling agreement schedule lines in the initial screen of the planning run, or in the plant parameters, or in the MRP groups controls the creation of schedule lines.

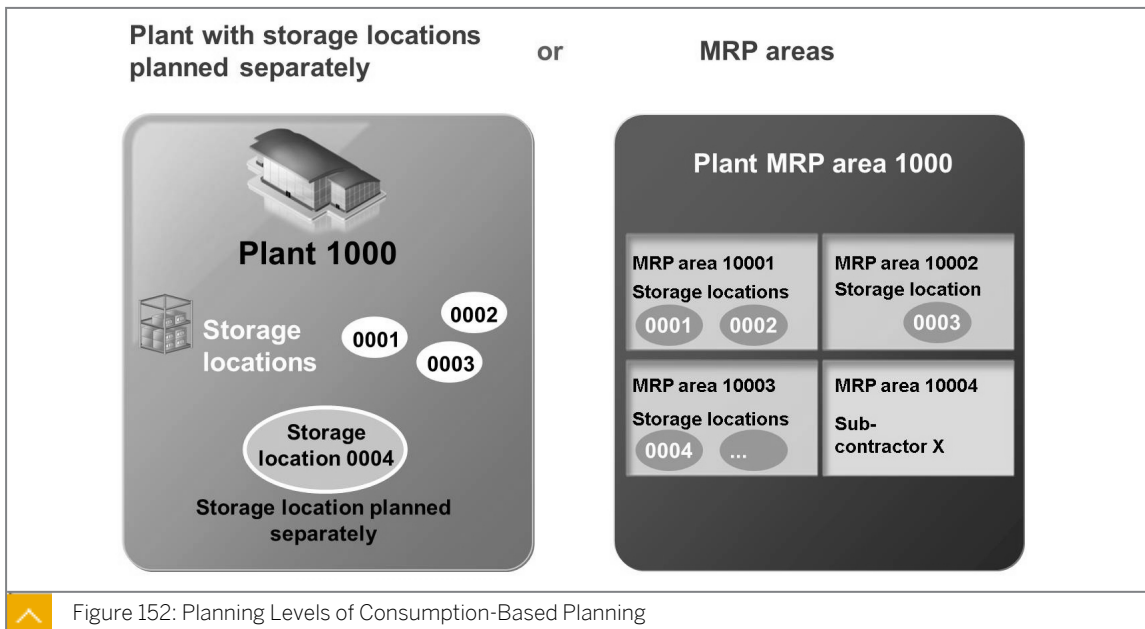


For externally procured material, you can either create a planned order or a direct purchase requisition in requirements planning. Participants should now be aware of the two procurement proposal options and be able to weigh the advantages and disadvantages of each. Scheduling agreement schedule lines are covered in the Exploring Source Determination in Materials Planning lesson.



**Note:**  
The procurement types that are permitted are defined in Customizing for Material Types. You can decide whether in-house production, external procurement, or both are possible.

### Planning Levels of Consumption-Based Planning



Requirements planning takes place at the plant level; that is, the entire stock in the plant is considered during planning. However, stock held at individual storage facilities can be excluded from plant-level MRP or planned independently. Stock that is planned independently is not included in plant-level MRP.



You can also execute requirements planning for individual MRP areas. You can define MRP areas yourself. You can group several storage locations into one MRP area and execute the requirements planning for this area separately from the plant. MRP areas enable a differentiation of material requirements planning within a plant. MRP areas include the function of storage locations that are planned separately for materials requirements. However, MRP areas are optional. You can carry out material requirements planning without using MRP areas.

#### Types of MRP areas:

- Obligatory plant MRP areas

To automatically create obligatory plant MRP areas, activate planning with MRP areas such that the number of the obligatory plant MRP areas matches with the number of plants in the system. If only one MRP area is defined, the MRP area can be a plant or plant with multiple storage locations or it can be a vendor plant.

- Storage location MRP areas

Storage location MRP areas are defined by the storage locations assigned to them.

- Subcontractor MRP areas

Subcontractor MRP areas enable planning for requirements of material provided by a subcontractor and are defined by the subcontractor assignment.



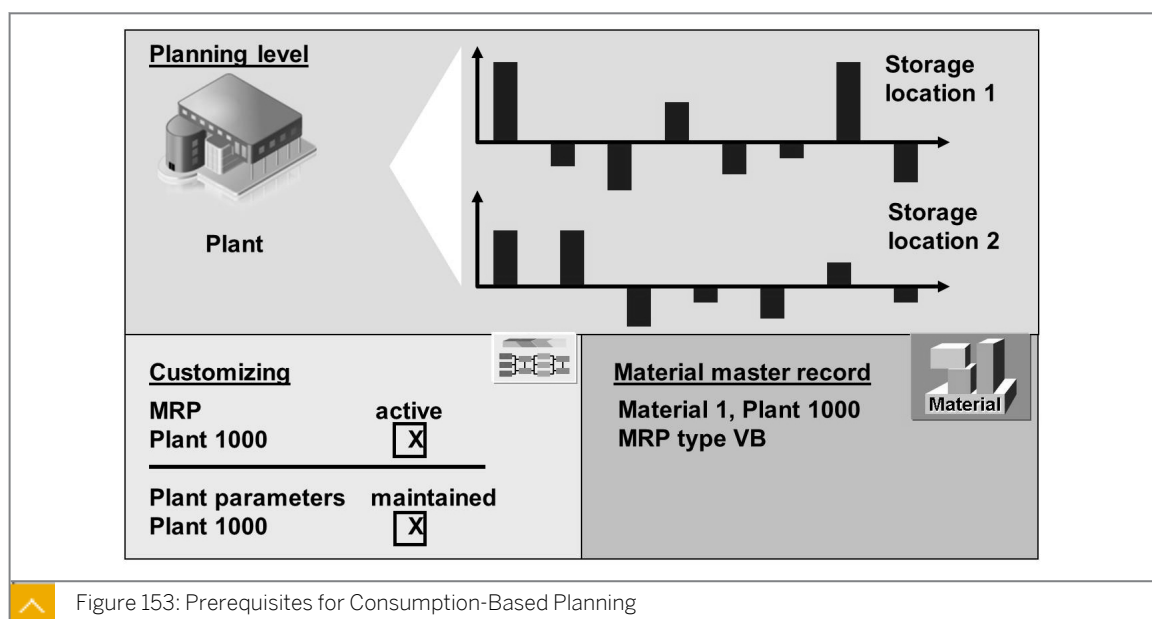
Note:

Many settings for controlling materials planning can be made separately for each plant or for each MRP area. However, the actual planning process is exactly the same.



Tell participants that planning at the plant level will be discussed later in the course. The features of MRP areas are covered in this course in the Using MRP Areas in Planning lesson.

#### Prerequisites for Consumption-Based Planning



You need to make certain settings to use consumption-based planning.

If MRP is carried out at plant level, the system adds all the available stocks from individual storage locations to determine the shortages.

**You must fulfill the following prerequisites before performing requirements planning for a plant:**

- Requirements planning for the corresponding plant must be activated in Customizing by choosing *Materials Management->Consumption-Based Planning → Planning → Activate Material Requirements Planning (OMDU)*.
- The plant parameters for the corresponding plant must be maintained in Customizing by choosing *Materials Management->Consumption-Based Planning → Plant Parameters → Carry Out Overall Maintenance of Plant Parameters (OMI8)*.
- In the material master record, maintain the MRP data for materials that are subject to automatic planning.



Note:

Automatically planned materials are not assigned the material type ND (not planned).



**FACILITATED DISCUSSION**

What are the advantages and disadvantages of a planned order compared with a purchase requisition?




**How to Activate Material Requirements Planning**

Determine the settings that have to be made in Customizing.



Show participants the settings that have to be made in Customizing for using consumption-based planning. Tell participants that the plant parameters will be mentioned briefly and discussed more thoroughly in the Executing the Planning Run lesson.

1. Access Customizing.
  - a) On the *SAP Easy Access* screen, choose *Tools → Customizing → IMG → Project Administration*.
  - b) Choose  (*SAP Reference IMG*) to display the implementation guide.
2. Activate requirements planning.
  - a) To activate requirements planning for each plant, in Customizing choose *Materials Management->Consumption-Based Planning → Planning → Activate Material Requirements Planning (OMDU)*.
3. Set plant parameters.

- a) Set planning-relevant Customizing settings for each plant in Customizing under *Materials Management->Consumption-Based Planning → Plant Parameters → Carry Out Overall Maintenance of Plant Parameters (OMI8)*.
- 



### LESSON SUMMARY

You should now be able to:

- Describe the basics and prerequisites of MRP



## Outlining MRP Procedures

### LESSON OVERVIEW

This lesson identifies important differences between consumption-based planning and material requirements planning (MRP). The lesson also provides a brief description of the different MRP procedures in consumption-based planning.

### Business Example

As a member of the MRP team in your company, you decide which materials use MRP and which materials use consumption-based planning. For consumption-based planning, you decide which MRP procedures to use. For this reason, you require the following knowledge:

- An understanding of the differences between consumption-based planning and MRP
- An understanding of the MRP procedures of consumption-based planning
- How to define MRP types in the system



Explain the differences between consumption-based planning and MRP in detail. Briefly mention the possibility of considering external requirements as exceptions in consumption-based planning during reorder point planning, and tell participants that this is explained in more detail in the Exploring Reorder Point Planning lesson. Outline only the different MRP procedures of consumption-based planning. Detailed information about individual procedures will be discussed in later lessons.



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Outline the different MRP procedures

## MRP Procedures



Value Consumption/ Requirement	High	Medium	Low
Constant			
Slight fluctuation			
Considerable fluctuation			

Figure 154: Selection of Appropriate MRP Procedure

Consumption-based planning procedures are based on previous material consumption. External requirements (such as sales orders, planned independent requirements, and reservations) are not relevant to consumption-based planning. However, to ensure that MRP controllers receive information about current issues at the same time, sales orders, dependent and manual reservations, and so on, are displayed in the current stock/requirements list.

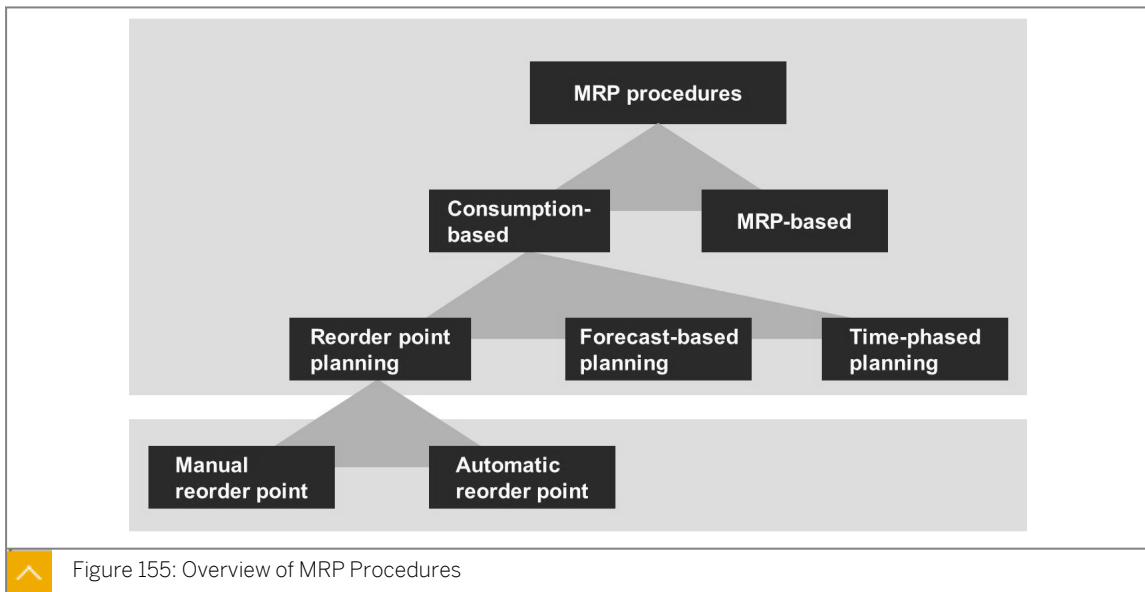
Planning procedures in consumption-based planning are easy-to-use methods of requirements planning that assist in achieving certain goals with little effort. The use of MRP procedures is preferable in areas without in-house production units or in manufacturing plants for B class and C class materials and operating supplies.

Figure 4 gives you a decision guidance for choosing an MRP procedure for a material.

Consumption-based planning is suited for low-value material with constant consumption. MRP is suited for high-value material with highly fluctuating consumption.

External requirements, such as sales orders and planned independent requirements, are planned directly in MRP as requirements. MRP is especially useful for planning finished products as well as important assembly groups and components (A class materials).

## Overview of MRP Procedures



### The following MRP procedures are available in consumption-based planning:

- **Reorder point planning**

In reorder point planning, checks are run to discover whether the planned available stock (total from plant stock and fixed receipts) falls short of the reorder point determined for the material in the master record. If it does, procurement is triggered in the next MRP run. The reorder point should cover the expected average material requirements during the replenishment lead time (RLT). You can differentiate between manual reorder point planning, where the MRP controller determines the reorder point manually, and automatic reorder point planning, where the system calculates the reorder point using the forecast.

- **Forecast-based planning**

In forecast-based planning, historical values in the material forecast are used to estimate future requirements. These requirements are forecast requirements and come into effect immediately in planning. You must execute the forecast calculation at regular intervals.

- **Time-phased planning**

In time-phased planning, historical values in the material forecast are used to estimate future requirements too. However, in this procedure, the planning run is executed according to predefined intervals in a particular rhythm.

It can be useful to plan the material in the same rhythm, shifted according to the delivery time, if a vendor always delivers a material on a particular weekday. The MRP procedure is defined in the material master record for each material and plant (or MRP area). Therefore, the same material can be planned in different plants using different MRP procedures.

## Differences Between MRP and Consumption-Based Planning

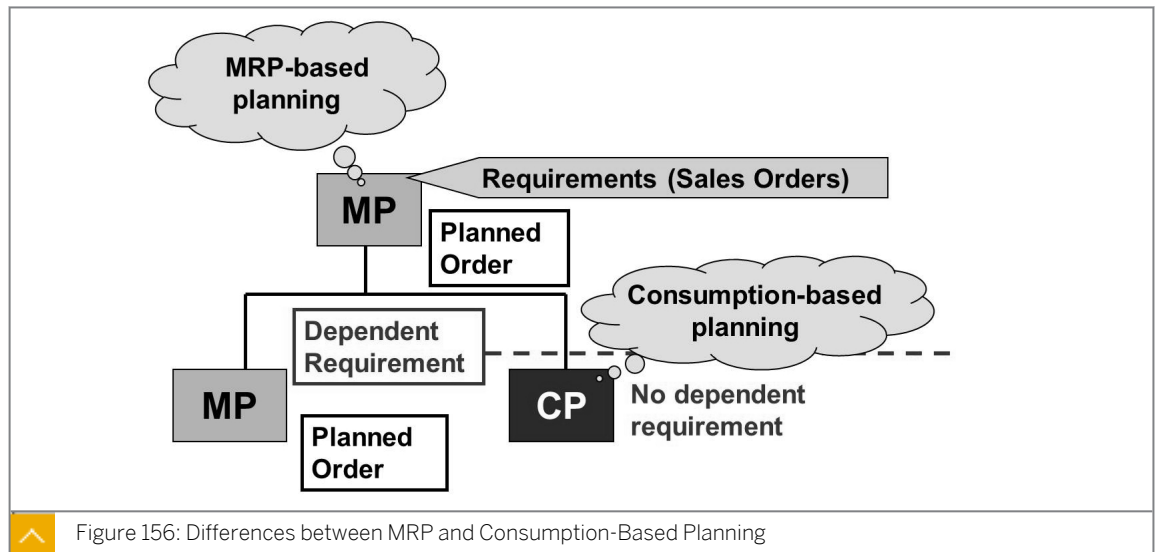


Figure 156: Differences between MRP and Consumption-Based Planning

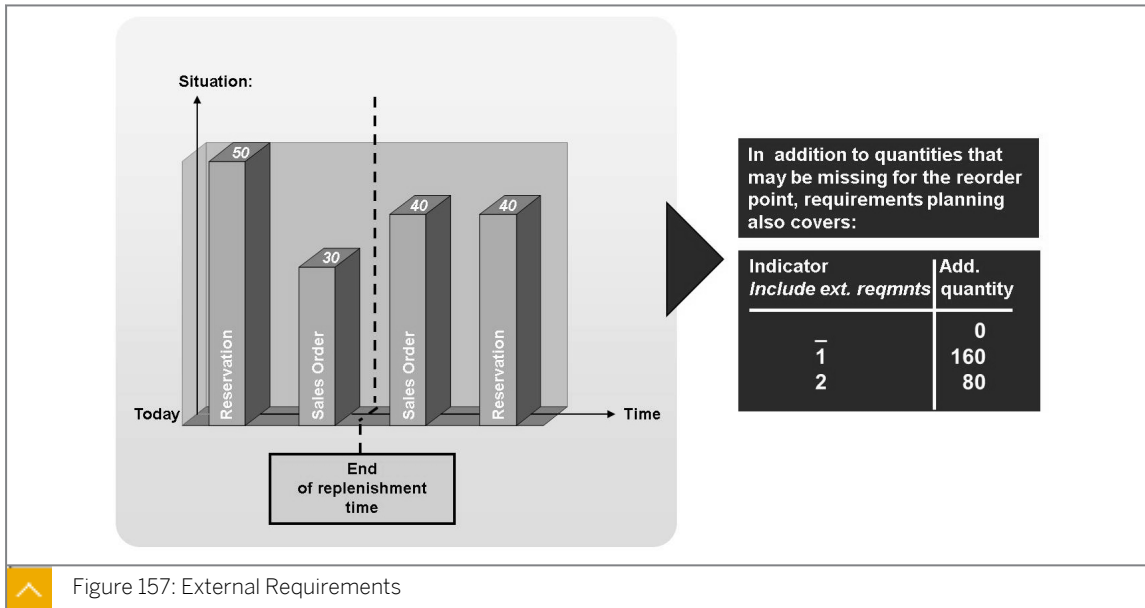
MRP-based planning is based on current and future requirements. Planned requirement quantities trigger requirements calculation. Requirement elements include sales orders, planned independent requirements, material reservations, as well as the dependent requirements and safety stock that a Bill of Material (BOM) explosion generates.

Consumption-based planning is based on historical values. Material forecasts or statistical procedures are used to determine future requirements. Planning procedures do not refer to the production plan. The net requirements calculation is either triggered by the available stock level falling below the reorder point or by forecast requirements calculated from historical data.

### Prerequisites for the introduction of consumption-based planning include the following:

- Efficient and up-to-date inventory management.
- If you are working with forecast requirements, the material should be consumed in accordance with a particular principle and only show low fluctuations.

## External Requirements



Only the shortfall of the reorder point causes a planning file entry during reorder point planning. This entry triggers net requirements calculation. To avoid overplanning, sales orders, dependent requirements, reservations, and so on, are not included in the net requirements calculation because these future requirements have already been covered with the reorder point. However, under certain circumstances, you must consider particular external requirements during reorder point planning in net requirements calculation.

In Customizing, choose *Materials Management*->*Consumption-Based Planning* → *Master Data* → *Check MRP Types (OMDQ)*, and use the *Include ext. reqmnts* indicator for the MRP type in reorder point planning to determine whether external requirements are considered. You can also take other requirements such as order reservations and purchase requisition releases into consideration.

You can decide whether these external requirements are to be included in the complete planning horizon or within the RLT.

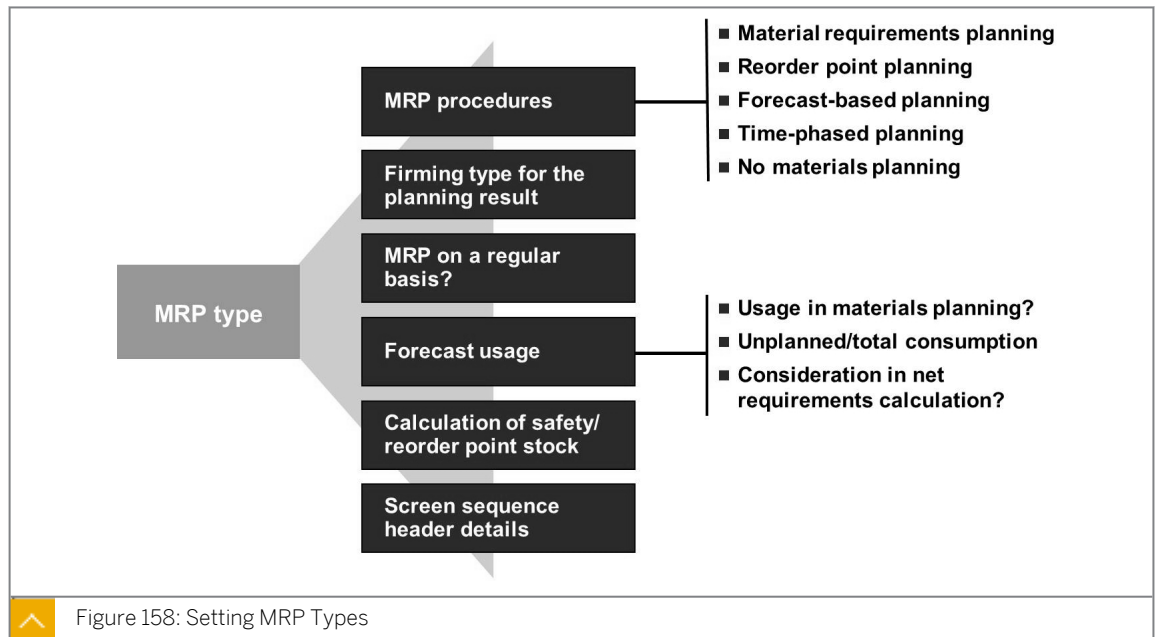


Hint:

This course deals with the procedure without external requirements (MRP type VB). For a procedure that includes external requirements, you can choose MRP type V1 for manual reorder point planning and V2 for automatic reorder point planning.



## Setting MRP Types



You can use the MRP procedure to decide whether you are doing consumption-based planning or MRP, and which MRP type to use for planning. You define MRP types in Customizing under *Materials Management -> Consumption-Based Planning -> Master Data -> Check MRP Types (OMDQ)*.

The MRP type can be used to determine the procedure for planning a material and the MRP parameters that can or must be entered during maintenance of the material master record. The MRP type is part of the plant data (the MRP area data of a material). You enter it in the material master record. You can adjust the parameters for the MRP types delivered in the SAP standard system to meet your requirements. You can also add new MRP types.

For requirements planning, different MRP type parameters are relevant. Use the MRP procedure to control whether consumption-based or material requirements planning is concerned here and which MRP procedures are to be used for planning.

With the forecast indicator, you can determine whether the forecast results are to be used in planning.

The consumption indicator for the forecast determines the historical values that are to be used for the forecast (unplanned consumption or total consumption). The MRP indicator for the forecast determines whether the forecast values in the net requirements calculation are to be considered, and if so, whether as total requirements or as unplanned requirements.

You can also specify whether the reorder point and safety stock level are to be automatically calculated.

Consumption-based planning procedures are normally based only on material consumption.

True

False

In forecast-based planning, you can consider external requirements.

True

False

---



### FACILITATED DISCUSSION

For which of the materials is it better to use consumption-based planning, and for which of the materials MRP?

---

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### Setting Parameters for MRP Types

Determine the important settings for the MRP types in Customizing.



Show the participants which settings have to be made for MRP types in Customizing. Complete the first screen in this demonstration together with the participants. On the top right, enter **Consumption-based** and on the bottom left, enter **MRP-based**. Tell the participants that the user can decide which of these procedures is suitable.

1. Show MRP type **VB (Manual reorder point planning)** and **VM (Automatic reorder point planning)**.
    - a) Define the corresponding parameters for the particular MRP type in Customizing under *Materials Management->Consumption-Based Planning* → *Master Data* → *Check MRP Types (OMDQ)*.
    - b) In the reorder point planning procedure, set the indicator for considering external requirements.
- 



### LESSON SUMMARY

You should now be able to:

- Outline the different MRP procedures



## Maintaining the Material Master

### LESSON OVERVIEW

This lesson provides an overview of the important Material Requirements Planning (MRP) data in the material master record. In addition, this lesson describes the MRP profile that serves as an entry aid for creating and changing the MRP data. This lesson also explains the material status, which allows you to restrict the use of a specific material.

### Business Example

As an MRP controller, you are responsible for maintaining MRP data in the material master records. For this reason, you require the following knowledge:

- An understanding of the important MRP data in the material master records
- An understanding of MRP profile and material status
- How to maintain a material master record



Explain the MRP views in the material master record in detail. Briefly mention other Views, such as the Purchasing or Accounting views. In this context, explain the MRP profile and describe important points to consider when working with an MRP profile. As an additional entry aid for creating and changing material master records, mention the option of mass maintenance.



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Maintain the material master fields for consumption-based planning

### Material Master Record

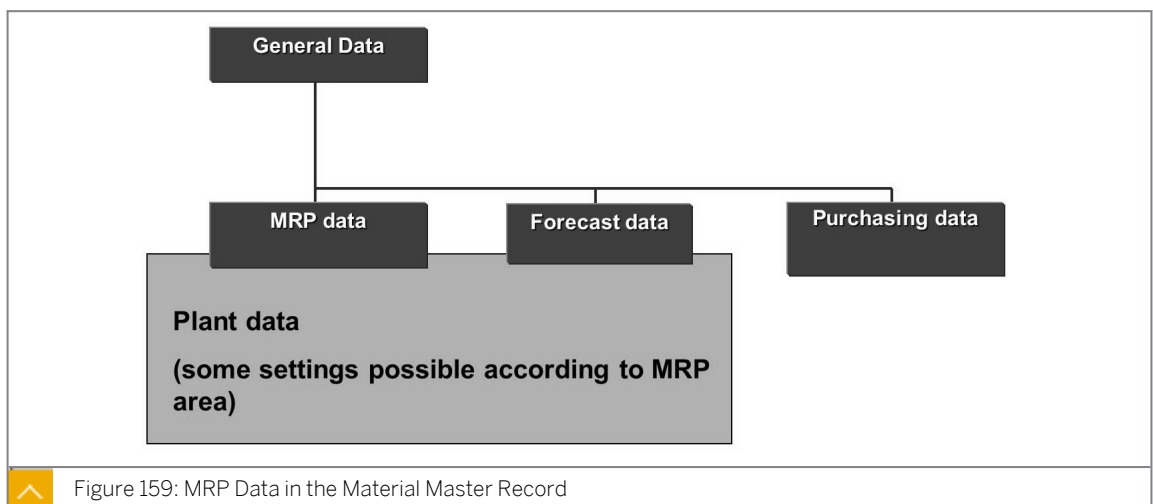


Figure 159: MRP Data in the Material Master Record

The material master contains information about all materials that a company procures, produces, stores, or sells. The material master is the central source for material-specific data, which is stored in individual material master records.

MRP-relevant data is stored at plant level in the material master record. Make the relevant settings for storage location MRP at storage location level in the material master record (MRP 4). The function for separate storage location MRP can be realized more flexibly with MRP areas. Maintain settings for MRP areas in the material master record (MRP 1 view).

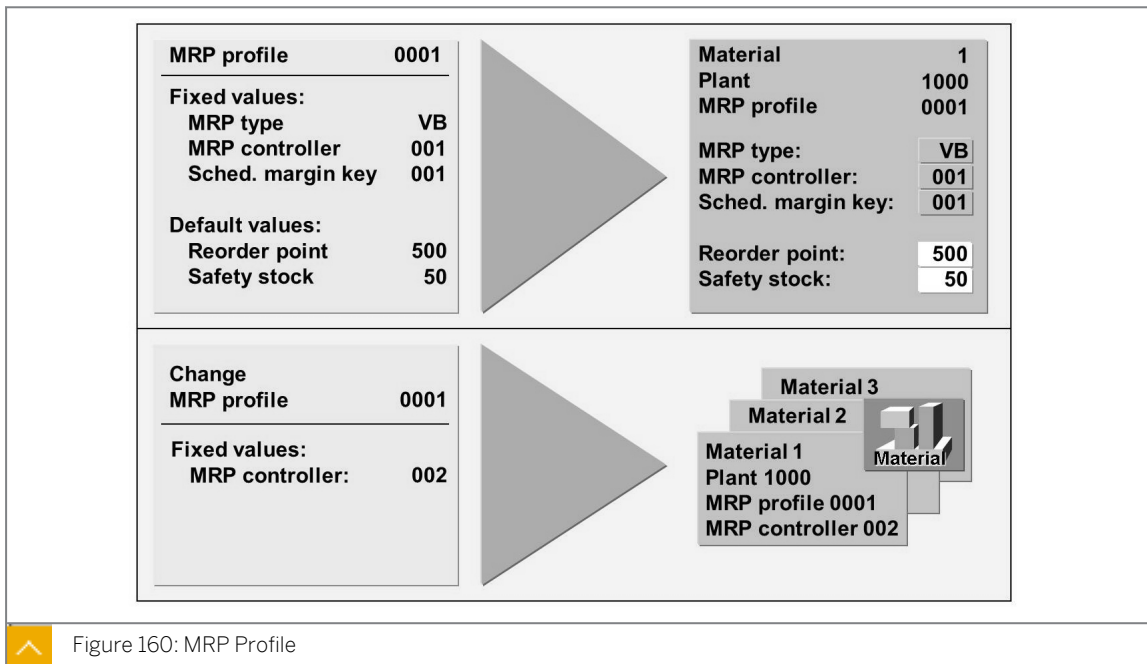
**Categories of MRP Data**

MRP data in the material master record can be subdivided into the following categories:

- General data that you must or can always define for a planning material
- Data dependent on MRP procedure
- Data required for scheduling
- Data required for lot-size calculation

On the SAP Easy Access screen, choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create (General)* → *Immediately* (MM01) to create MRP views in the material master record.

**MRP Profile**



You can maintain MRP parameters with MRP profiles. The MRP profile is a key in which you can store MRP parameters that do not depend on the material master record. A profile is a collection of fields for the configuration of material master records. The information determined in the profile is standard information that is repeatedly required in a similar combination while maintaining different materials. A profile simplifies the maintenance and administration of MRP data.

**You need to specify the following information in an MRP profile:**

- Fields that are created automatically when creating MRP data in the material master record
- Values that are entered in these fields
- Which of those values can be overwritten (default values), and which cannot be overwritten (fixed values)

On the SAP Easy Access screen, choose *Logistics* → *Materials Management* → *Material Master* → *Profile* → *MRP Profile* → *Create* to create an MRP profile.



Hint:

If you subsequently assign a profile to a material master record, only the fixed values are copied from the profile into the master record.

### Working with Profiles

When creating material master records, enter a profile to make an assignment between the material master record and the profile. This assignment means that the fixed values, copied from the profile in the data screen cannot be changed in the material master records. However, you can overwrite the copied proposal values. When you save the material master records, the values are written to the material master record.

When changing a profile, the system creates a background job (PROFILE) that updates all material master records allocated, in addition to updating the changed values in the profile. A change document is automatically created for all materials with changes. The time at which the PROFILE batch job is started is defined by system administration in Customizing under *Logistics - General* → *Material Master* → *Tools* → *Define Start Time of Background Jobs*. You can also start the RMMM0001 program manually from the menu by choosing *System* → *Services* → *Reporting* (SA38).



Hint:

When updating values in the material master record by changing a profile, the system only considers changes that affect the fixed values in the profile.

You can list the material master records that use the same MRP profile. To do this, on the SAP Easy Access screen choose *Logistics* → *Materials Management* → *Material Master* → *Profile* → *MRP Profile* → *Usage* (MMD7).

In addition to using MRP profiles, you can also use forecast profiles to manage forecast data. The processing of forecast profiles follows the same principle as that for MRP profiles.



### How to Maintain the Material Master Record



Explain in detail the creation and maintenance of a material master record. In the demo, a material with MRP type VB for reorder point planning is created. As this MRP procedure is not discussed in detail until later in this course in the lesson on reorder point planning, only briefly mention the important characteristics of a reorder point-planned material. Explain the most important fields on the MRP views. Show the function of the MRP profile and teach the participants about the important points for working with an MRP profile.

## 1. Create a material master record.

- a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create (General)* → *Immediately (MM01)*.
- b) On the *Create Material (Initial Screen)* screen, enter the following data:

Field Name or Data Type	Value
<i>Material</i>	<b>T-SCM525-1</b>
<i>Industry sector</i>	<i>Mechanical Engineering</i>
<i>Material Type</i>	<i>Raw material</i>

- c) Choose *Select View(s)*.
- d) Select *Purchasing*, *MRP 1*, *MRP 2*, and *Accounting 1* and choose *Continue*.
- e) Enter plant **1000** and storage location **0001**.
- f) Enter the following data in the respective tab pages:

**Purchasing tab page**

Field Name or Data Type	Value
Short Text	<b>VB Material</b>
<i>Base Unit of Measure</i>	<b>PC</b>
<i>Purchasing Group</i>	<b>020</b>
<i>Material Group</i>	<b>001</b>

**MRP 1 tab page**


Field Name or Data Type	Value
<i>MRP Type</i>	<b>VB</b>
<i>Reorder Point</i>	<b>50</b>
<i>MRP Controller</i>	<b>025</b>
<i>Lot size</i>	<b>FX</b>
<i>Fixed lot size</i>	<b>200</b>

**MRP 2 tab page**

Field Name or Data Type	Value
<i>Planned Deliv. Time</i>	<b>10</b>
<i>GR Processing Time</i>	<b>1</b>
<i>SchedMargin key</i>	<b>001</b>
<i>Safety Stock</i>	<b>10</b>

**Accounting 1 tab page**

Field Name or Data Type	Value
<i>Valuation Class</i>	<b>3000</b>
<i>Moving price</i>	<b>10</b>

- g) Choose  (*Additional Data*) and select the *Consumption* tab page.
- h) In the *Period Indicator* field, enter **M**. Then enter the following data:

Period	Total Consumption
Previous month	<b>440</b>
Previous month 1	<b>420</b>
Previous month 2	<b>410</b>
Previous month 3	<b>380</b>
Previous month 4	<b>370</b>
Previous month 5	<b>360</b>

- i) Save the material master record.



Explain that to create new views in an existing material master record, you need to execute the transaction again to create a material master record (MM01).

2. Create an MRP profile.

- a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Master* → *Profile* → *MRP Profile* → *Create* (MMD1).
- b) In the *MRP profile* field, enter **525**.
- c) Enter **MRP profile SCM525** as the description.
- d) Select the following as *Fixed val.* (values that cannot be overwritten):
- *MRP Type*
  - *MRP Controller*
  - *Lot size*
- e) Select the following as *Default value* (values that can be overwritten):
- *Planned Delivery Time in Days*
  - *Scheduling Margin Key*
  - *Reorder Point*
  - *Fixed lot size*
- f) Choose *Data screen 1*. Fields in blue are fixed values and fields in black are default values.

Enter the following values:


Field	Value
<i>MRP Type</i>	<b>VB</b>
<i>MRP Controller</i>	<b>025</b>
<i>Planned Deliv. Time</i>	<b>7</b>
<i>Reorder Point</i>	<b>60</b>
<i>SchedMargin key</i>	<b>002</b>
<i>Lot size</i>	<b>FX</b>
<i>Fixed lot size</i>	<b>250</b>

- g) Save the MRP profile.
3. Change the material master record T-SCM525-1.
- On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Change* → *Immediately* (MM02).
  - In the *Material* field, enter **T-SCM525-1**.
  - Select the *MRP 1* view and enter the plant as **1000**.
  - To assign the newly created MRP profile 525 and indicate the values that have changed in the material master record, choose *Edit* → *MRP Profile*.
  - In the *It will now be assigned* field, enter **525**.



Hint:



For the subsequent assignment of an MRP profile, only the values defined in the profile as fixed values will be copied from the profile in the material master record.

- f) Save the material master record.
4. Use an MRP profile.
- On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Master* → *Profile* → *MRP Profile* → *Usage* (MMD7).
  - In the *MRP profile* field, enter **525**, and choose  (*Execute*).
  - Profile 525 was previously assigned to material *T-SCM525-1* in plant *1000*.
5. Change the MRP profile.
- Choose *Change MRP Profile*.
  - Choose *Data screen 1* and change the value of *MRP Controller* from *025* to *020*.
  - Save your entry.
  - Double-click the status bar to display the system message.




When you change an MRP profile, the background job PROFILE is automatically created. When the job is started, all material master records assigned to the MRP profile undergo a change. The system administrator specifies the time for starting the batch job PROFILE in Customizing for *Logistics - General* under *Material Master* → *Tools* → *Define Start Time of Background Jobs*.

Because this time is specified as 23:00 in the training systems, you have to start the job manually for this course. To do this, request an update of the material master records by creating a background job for the RMMM0001 program. Use PROFILE as the job name or job group. A variant is not required.

6. Start the job PROFILE.
  - a) Choose *System* → *Services* → *Reporting*.
  - b) Enter the program name **RMMM0001** and choose  (*Execute*).
  - c) Choose  (*Execute*) again. A message will confirm that your material has been changed.



Show the participants how to view the time at which the job would automatically run. Choose *System* → *Services* → *Jobs* → *Job Overview*. Enter **PROFILE** as the job name and choose  (*Execute*). Double-click the line of the job PROFILE.

7. Display the material master record T-SCM525-1 in plant 1000.
  - a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current* (MM03).
  - b) In the *Material* field, enter **T-SCM525-1**.
  - c) Select *MRP 1* and enter plant **1000**.
  - d) The value for *MRP Controller* changes from 025 to 020.
  - e) Choose *Environment*->*Display Changes*.
  - f) Double-click the first line to display the latest change document.



**Note:**

You can also display the change document by choosing *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display Changes* → *Active Changes*.

## Material Status

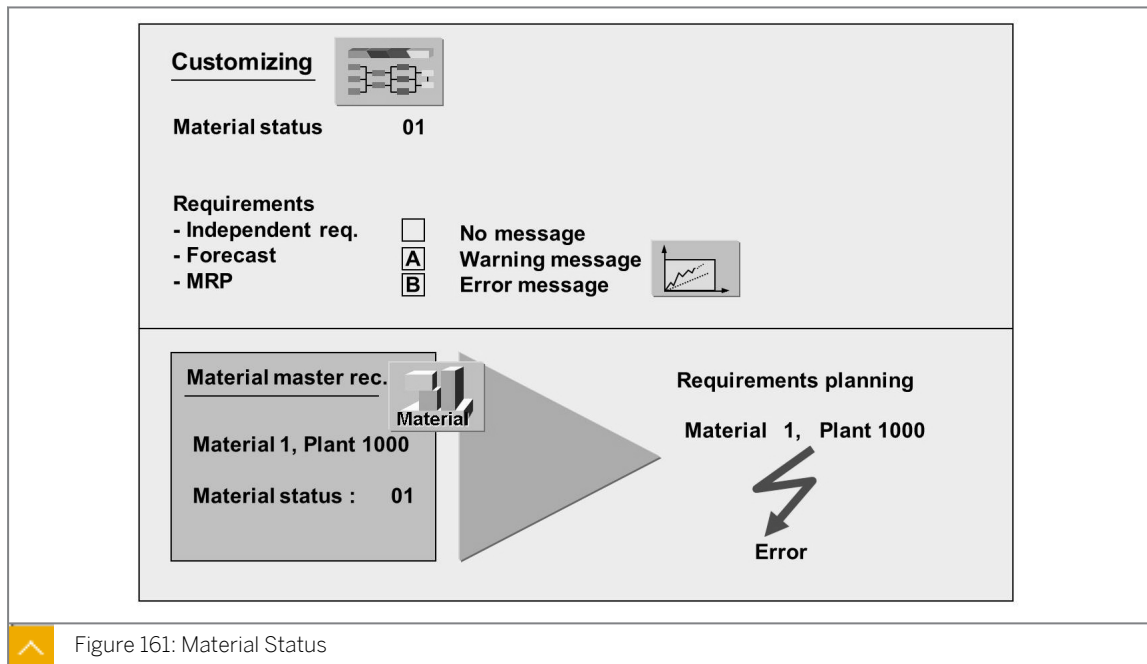


Figure 161: Material Status

The material status limits the use of a material. It determines the functions in materials management and production planning and control for which a warning or error message should be generated.

You can define the business applications of the material by assigning a material status to it. This assignment is frequently done for a limited period of time, for example, in the construction or change phase of a material.

You define the material status and its controlling characteristics in Customizing under *Logistics - General* → *Material Master* → *Settings for Key Fields* → *Define Material Statuses*. You can assign a material status to a material in the material master record either at plant level (*MRP 1* view) or cross-plant (*Basic data 1*) view. It is also possible to assign material status values in advance across the plant in material type.



### How to Interpret the Function of the Material Status

Perform Customizing settings for material status and change the material master record.




The participants should be clear about the function of the material status.

1. Perform Customizing settings for the material status.
  - a) On the *SAP Easy Access* screen, run the transaction code **SPRO**. Choose *SAP Reference IMG*.
  - b) Display a material status in Customizing under *Logistics - General* → *Material Master* → *Settings for Key Fields* → *Define Material Statuses*.
  - c) Select *Material Status 01* and choose *Details* to show the settings for this material status.

- d) In the *Material requirements* area, *B* is already entered in the *Forecasting message* and *MRP message* fields. Use F4 to show that *B* stands for *Error message*. In other words, a material to which this status is assigned cannot be planned.
2. Change the material master record T-SCM525-1.
- a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Change* → *Immediately* (MM02).
- b) In the *Material* field, enter **T-SCM525-1**.
- c) Select *MRP 1* and enter plant **1000**.
- d) In the *Plant-sp.matl status (plant-specific material status)* field, enter **01**.
- e) Save your entry.
3. Plan single-level, single-item.



Show participants that this material cannot be planned with material requirements, after material status *01 (Blocked for Procmnt/Whse)* has been assigned to the material.

- a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single-Item, Single-Level* (MD03).
- b) Enter material **T-SCM525-1** and plant **1000**. Accept the control parameters proposed by the system and choose  (*Enter*).
- c) Double-click the status bar to view the error message.
4. Change the material master record T-SCM525-1.
- a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Change* → *Immediately* (MM02).
- b) In the *Material* field, enter **T-SCM525-1**.
- c) Select the *MRP 1* view and enter plant **1000**.
- d) Delete the value you entered in the *Plant-sp.matl status (plant-specific material status)* field, so that in a later demo, you can execute a planning run for the material.
- e) Save the master record.



# Unit 7

## Exercise 27



## Create a Material Master Record

### Business Example

You want to use a new raw material using consumption-based planning in plant 1000. For this reason, you need to create a material master record.

When creating the material master record, use MRP profile ZVB1 as a template.

1. Create a new material master record with the following data:

Field Name or Data Type	Value
Material	<b>T-M525A##</b> (where ## is your group number)
Industry sector	Mechanical Engineering
Material Type	Raw material
Views	Purchasing, MRP 1, MRP 2, Accounting 1
Plant	1000
Stor. Location	0001
MRP profile	ZVB1

### Purchasing View:

Field Name or Data Type	Value
Short Text	<b>Raw material T-M525A##</b>
Base Unit of Measure	<b>Pc</b>
Purchasing Group	001
Material Group	001

### Accounting View:

Field Name or Data Type	Value
Valuation Class	3000
Moving price	<b>EUR 10.00</b>

Before saving your material, go back to the *MRP 1* view, check the MRP data, and enter the consumption values.

2. Where do the default values for *MRP Type*, *Reorder Point*, and *MRP Controller* fields come from?

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3. Can you change the lot size? Why or why not?

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4. On the *MRP 1* view, change the proposed reorder point to **50**, and on the *MRP 2* view, delete the safety stock.

5. You have been using a similar raw material for a long time, but no material master record exists for this material. To use the forecast at a later time, store the consumption values of this material in the material master record of your newly created raw material.

Enter the following total consumption values:

Period	Total Consumption
<i>Previous month</i>	<b>430</b>
<i>Previous month 1</i>	<b>400</b>
<i>Previous month 2</i>	<b>390</b>
<i>Previous month 3</i>	<b>370</b>
<i>Previous month 4</i>	<b>350</b>
<i>Previous month 5</i>	<b>340</b>
<i>Previous month 6</i>	<b>350</b>
<i>Previous month 7</i>	<b>360</b>
<i>Previous month 8</i>	<b>340</b>
<i>Previous month 9</i>	<b>350</b>
<i>Previous month 10</i>	<b>340</b>



## Create a Material Master Record

### Business Example

You want to use a new raw material using consumption-based planning in plant 1000. For this reason, you need to create a material master record.

When creating the material master record, use MRP profile ZVB1 as a template.

1. Create a new material master record with the following data:

Field Name or Data Type	Value
<i>Material</i>	<b>T-M525A##</b> (where ## is your group number)
<i>Industry sector</i>	<i>Mechanical Engineering</i>
<i>Material Type</i>	<i>Raw material</i>
<i>Views</i>	<i>Purchasing, MRP 1, MRP 2, Accounting 1</i>
<i>Plant</i>	<b>1000</b>
<i>Stor. Location</i>	<b>0001</b>
<i>MRP profile</i>	<b>ZVB1</b>

### Purchasing View:

Field Name or Data Type	Value
Short Text	<b>Raw material T-M525A##</b>
<i>Base Unit of Measure</i>	<b>Pc</b>
<i>Purchasing Group</i>	<b>001</b>
<i>Material Group</i>	<b>001</b>

### Accounting View:

Field Name or Data Type	Value
<i>Valuation Class</i>	<b>3000</b>
<i>Moving price</i>	<b>EUR 10.00</b>

Before saving your material, go back to the *MRP 1* view, check the MRP data, and enter the consumption values.

- a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create (General)* → *Immediately (MM01)*.
- b) On the *Create Material (Initial Screen)* screen, enter the following data:

Field Name or Data Type	Value
<i>Material</i>	<b>T-M525A##</b>
<i>Industry sector</i>	<i>Mechanical Engineering</i>
<i>Material Type</i>	<i>Raw material</i>

- c) Choose *Select View(s)*.
- d) Select the *Purchasing*, *MRP 1*, *MRP 2*, and *Accounting 1* views and choose *Continue*.
- e) Enter plant **1000**, storage location **0001**, and MRP profile **ZVB1**, and choose *Continue*.
- f) Enter the following data in the respective tab pages:

**Purchasing tab page**

Field Name or Data Type	Value
Short Text	<b>Raw material T-M525A##</b>
<i>Base Unit of Measure</i>	<b>Pc</b>
<i>Purchasing Group</i>	<b>001</b>
<i>Material Group</i>	<b>001</b>

**Accounting 1 tab page**

Field Name or Data Type	Value
<i>Valuation Class</i>	<b>3000</b>
<i>Moving price</i>	<b>10</b>

Choose the *MRP 1* tab page. The values for the MRP views automatically fill with the data from MRP profile **ZVB1**.

2. Where do the default values for *MRP Type*, *Reorder Point*, and *MRP Controller* fields come from?

- a) The default values for *MRP Type*, *Reorder Point*, and *MRP Controller* fields come from MRP profile **ZVB1**.


3. Can you change the lot size? Why or why not?



- a) Choose the Org. Levels pushbutton.
  - b) Choose the Continue pushbutton.
  - c) The *Lot size* field cannot be changed because this field is defined in the MRP profile as a fixed value (cannot be overwritten).
4. On the *MRP 1* view, change the proposed reorder point to **50**, and on the *MRP 2* view, delete the safety stock.
- a) Overwrite the *Reorder Point* field with the value 50 and delete the safety stock in the *MRP 2* view.
5. You have been using a similar raw material for a long time, but no material master record exists for this material. To use the forecast at a later time, store the consumption values of this material in the material master record of your newly created raw material.

Enter the following total consumption values:

Period	Total Consumption
<i>Previous month</i>	<b>430</b>
<i>Previous month 1</i>	<b>400</b>
<i>Previous month 2</i>	<b>390</b>
<i>Previous month 3</i>	<b>370</b>
<i>Previous month 4</i>	<b>350</b>
<i>Previous month 5</i>	<b>340</b>
<i>Previous month 6</i>	<b>350</b>
<i>Previous month 7</i>	<b>360</b>
<i>Previous month 8</i>	<b>340</b>
<i>Previous month 9</i>	<b>350</b>
<i>Previous month 10</i>	<b>340</b>

- a) Choose  *Additional Data* and select the *Consumption* tab page.
- b) In the *Period Indicator* field, enter **M**.
- c) Enter the consumption values for the past months in the *Total Consumption* column.
- d) Save the material master record.



# Unit 7

## Exercise 28



### Check the MRP Profiles

#### Business Example

As a member of the MRP team, you are responsible for maintaining MRP data in the material master records. For this reason, you must be able to check MRP profiles.

Check MRP profiles ZVB1 and ZVB2 in plant 1000.

1. Check the use of MRP profile ZVB1 in plant 1000. How many materials is this MRP profile assigned to?

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2. Display MRP profile ZVB2. Which are the fixed and default values in this MRP profile? Complete the following table.

Description	Value	Fixed Value	Default Value
<i>MRP Type</i>			
<i>MRP Controller</i>			
<i>Planned Deliv. Time</i>			
<i>Safety Stock</i>			
<i>Reorder Point</i>			
<i>SchedMargin key</i>			
<i>Lot size</i>			
<i>Fixed lot size</i>			




## Check the MRP Profiles

### Business Example

As a member of the MRP team, you are responsible for maintaining MRP data in the material master records. For this reason, you must be able to check MRP profiles.

Check MRP profiles ZVB1 and ZVB2 in plant 1000.


1. Check the use of MRP profile ZVB1 in plant 1000. How many materials is this MRP profile assigned to?

- a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Master* → *Profile* → *MRP Profile* → *Usage (MMD7)*.
- b) Enter MRP profile **ZVB1** and plant **1000**.
- c) Choose  (*Execute*). The materials that have MRP profile ZVB1 assigned to them will be displayed. (All materials created by you and any previous participants will be displayed.)

2. Display MRP profile ZVB2. Which are the fixed and default values in this MRP profile? Complete the following table.

Description	Value	Fixed Value	Default Value
<i>MRP Type</i>			
<i>MRP Controller</i>			
<i>Planned Deliv. Time</i>			
<i>Safety Stock</i>			
<i>Reorder Point</i>			
<i>SchedMargin key</i>			
<i>Lot size</i>			
<i>Fixed lot size</i>			

- a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Master* → *Profile* → *MRP Profile* → *Display (MMD3)*.

- b) In the *MRP profile* field, enter **ZVB2** and choose  (*Enter*). The screen displays fields with fixed and default values.
- c) Choose *Data screen 1* to display the defined values, as shown in the following table.

Description	Value	Fixed Value	Default Value
<i>MRP Type</i>	VB		X
<i>MRP Controller (Materials Plan)</i>	025	X	
<i>Planned Delivery Time in Days</i>	2	X	
<i>Safety Stock</i>	30,000		X
<i>Reorder Point</i>	80,000		X
<i>Scheduling Margin Key for Floa</i>	001		X
<i>Lot size (materials planning)</i>	FX		X
<i>Fixed lot size</i>	400,000		X



# Unit 7

## Exercise 29



### Assign an MRP Profile

#### Business Example

As a member of the MRP team, you are responsible for maintaining MRP data in the material master records. For this reason, you must be able to assign an MRP profile.

You have discovered that the settings of MRP profile ZVB2 are more appropriate for material T-M525A## (where ## is your group number) than the values of the profile you have allocated to it. You therefore need to assign the new MRP profile.

1. Change the material master record and assign MRP profile ZVB2. The change will take effect immediately. (Note: In one of the MRP views, choose from the menu bar *Edit* → *MRP profile*.)
2. After assigning MRP profile ZVB2, what is the value in the *Lot size* field? What is the characteristic (ready for input or not ready for input) of this field?

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3. After assigning MRP profile ZVB2, what is the value in the *Planned Deliv. Time* field? What is the characteristic (ready for input or not ready for input) of this field?

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4. Has the safety stock from profile ZVB2 been transferred to the material master?

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5. Save your change.
6. Display the change document.




## Assign an MRP Profile

### Business Example

As a member of the MRP team, you are responsible for maintaining MRP data in the material master records. For this reason, you must be able to assign an MRP profile.

You have discovered that the settings of MRP profile ZVB2 are more appropriate for material T-M525A## (where ## is your group number) than the values of the profile you have allocated to it. You therefore need to assign the new MRP profile.

1. Change the material master record and assign MRP profile ZVB2. The change will take effect immediately. (Note: In one of the MRP views, choose from the menu bar *Edit* → *MRP profile*.)
  - a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Change* → *Immediately* (MM02).
  - b) In the *Material* field, enter **T-M525A##** and choose  (*Enter*).
  - c) Select the *MRP 1* view and choose *Continue*.
  - d) Enter plant **1000** and confirm your entry.
  - e) Choose *Edit* → *MRP Profile* and overwrite the current assigned MRP profile ZVB1 with profile **ZVB2**.
  - f) Choose the *Continue* button to confirm your entry.
2. After assigning MRP profile ZVB2, what is the value in the *Lot size* field? What is the characteristic (ready for input or not ready for input) of this field?

- 
- a) The *Lot size* field still has value *FX* after the assignment of profile ZVB2, and it is now ready for input.
3. After assigning MRP profile ZVB2, what is the value in the *Planned Deliv. Time* field? What is the characteristic (ready for input or not ready for input) of this field?

- 
- a) Choose the *MRP 2* tab page. The *Planned Deliv. Time* field has the value *2* after the assignment of profile ZVB2, and is not ready for input.



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4. Has the safety stock from profile ZVB2 been transferred to the material master?

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a) The safety stock has not been copied because it was only defined as a default value in the subsequently assigned MRP profile.

5. Save your change.

6. Display the change document.

a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display Changes* → *Active Changes* (MM04).

b) In the *Material* field, enter **T-M525A##**.

c) In the *Plant* field, enter **1000**.

d) Choose  *Execute*.

e) Double-click the first line to display the latest change document.



Note:

You can also display change documents for a material directly from the display of the material master record. From the menu bar, choose *Environment* → *Display Changes*.



# Unit 7

## Exercise 30



### Create an MRP Profile

#### Business Example

As a member of the MRP team, you are responsible for maintaining MRP data in the material master records. For this reason, you must be able to create a new MRP profile.

Create a new MRP profile ZV## (where ## is your group number). To do this, use MRP profile ZVB1 as a template.

1. In the new MRP profile, define the reorder point as a fixed value. In addition, include the Fields *Goods Receipt Processing Time* with value 2 and *Purchasing Group* with value T## (as the default value in each case) in the profile.




## Create an MRP Profile

### Business Example

As a member of the MRP team, you are responsible for maintaining MRP data in the material master records. For this reason, you must be able to create a new MRP profile.

Create a new MRP profile ZV## (where ## is your group number). To do this, use MRP profile ZVB1 as a template.

1. In the new MRP profile, define the reorder point as a fixed value. In addition, include the Fields *Goods Receipt Processing Time* with value 2 and *Purchasing Group* with value T## (as the default value in each case) in the profile.
  - a) On the SAP Easy Access screen, choose *Logistics* → *Materials Management* → *Material Master* → *Profile* → *MRP Profile* → *Create* (MMD1).
  - b) In the *MRP profile* field, enter zv## and zvb1 as the template and choose  Enter.
  - c) Enter MRP Profile zv## as your profile name.
  - d) Change the indicator for the *Reorder Point* field from *Default value* to *Fixed val.*
  - e) Select *Default value* for the *Goods Receipt Processing Time* and *Purchasing Group* fields.
  - f) Choose *Data screen1*.
  - g) In the *Purchasing Group* field, enter T## and in the *GR Processing Time* field, enter 2. Leave the other values unchanged.
  - h) Save the new profile.



### **LESSON SUMMARY**

You should now be able to:

- Maintain the material master fields for consumption-based planning



## Exploring Reorder Point Planning

### LESSON OVERVIEW

This lesson provides detailed information about reorder point planning. The lesson also explains the general principle of reorder point planning, net requirements calculation, and scheduling during reorder point planning.

### Business Example

Your company procures particular materials using safety stock and reorder points. For each material, you must enter the corresponding MRP data and check whether it is better to define the reorder point and safety stock manually or let the system do it automatically. For this reason, you require the following knowledge:

- An understanding of the principle of reorder point planning and its process
- An understanding of the meaning of the reorder point and safety stock
- How to perform the net requirements calculation for materials planned with reorder point planning
- How materials planned with reorder point planning are scheduled



In this lesson, discuss the principle of reorder point planning in detail and in this context explain the meaning and determination of reorder point and safety stock. Also discuss the net requirements calculation executed by the system during the planning run and scheduling for a material planned with reorder point planning.

Tell the participants that the possibility of considering external requirements for a material planned with reorder point planning was already mentioned in the Outlining MRP Procedures lesson but will be described in detail in this lesson.

Ensure that participants have completed the previous exercise of this course before doing the exercises at the end of this lesson.

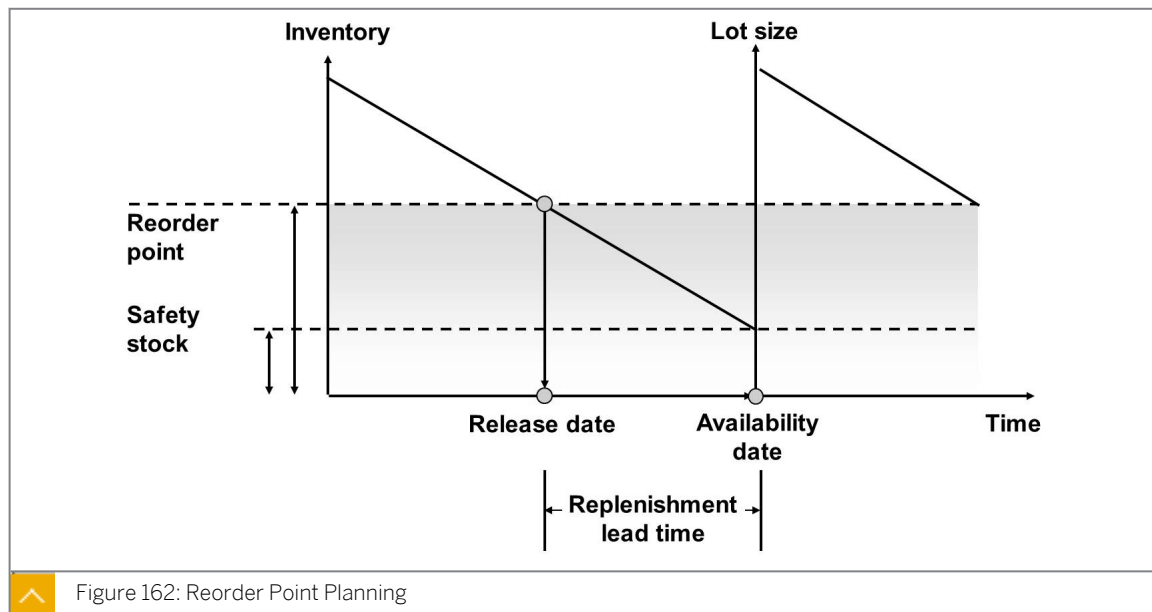


### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Set up a reorder point plan

## Principle of Reorder Point Planning



The basis of reorder point planning is the comparison of the available MRP stock (total from plant stock and the fixed receipts) with the reorder point. If the available stock is less than the reorder point, then procurement is triggered.

The reorder point should cover the expected average material requirements during the replenishment lead time (RLT).

The safety stock should cover any excess material consumption that may occur during the RLT as well as the normal requirements when deliveries are delayed. The safety stock is, therefore, part of the reorder point.

The reorder point is composed of the expected material requirements during the RLT and the safety stock.

### You must consider the following points when defining the reorder point:

- Safety stock
- Previous consumption or future requirements
- RLT

During automatic reorder point planning, you can use the integrated forecast program to determine the reorder point and the safety stock in the material master.

**Reorder point = Safety stock + Daily requirement \* Replenishment lead time**

### Monitoring Plant Stock

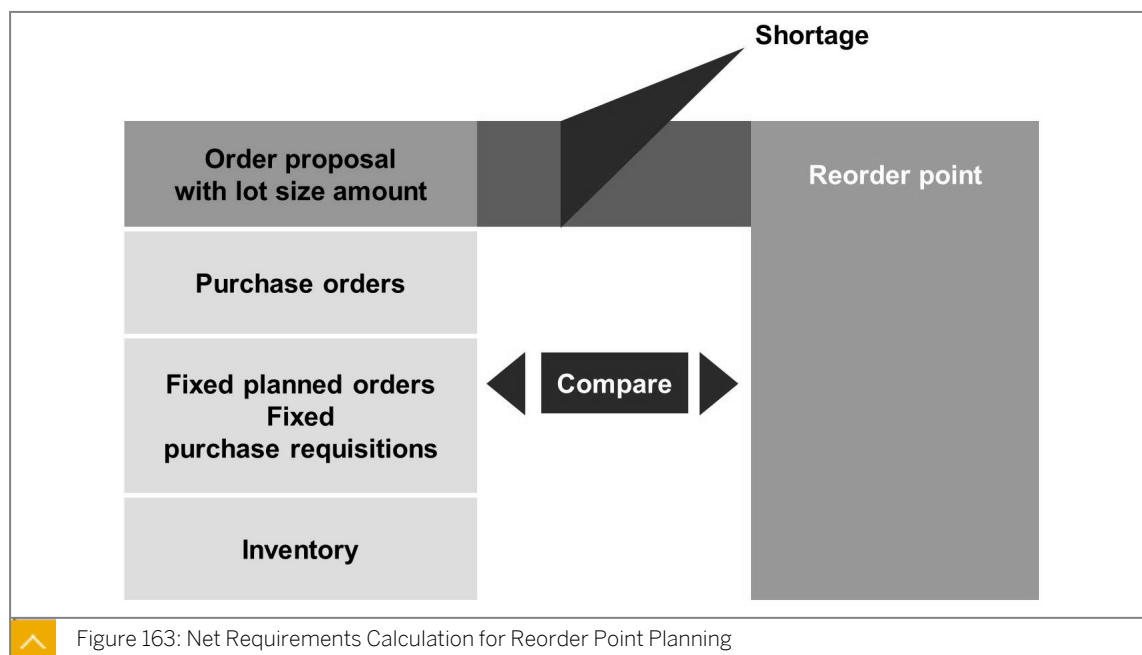
Inventory management continuously monitors plant stock during reorder point planning.

After each material withdrawal, the system checks whether the material stock falls short of the reorder point. If it does, an entry is created in the planning file for the next planning run.

During a material return, the system checks whether the plant stock no longer falls short of the reorder point. If it does no longer fall short, a planning flag is created so that the planning

run can delete needless procurement proposals. If return deliveries make fixed scheduled receipts unnecessary, the planning run proposes that these receipts are deleted.

### Net Requirements Calculation for Reorder Point Planning



The system calculates net requirements during the planning run.

Available MRP warehouse stock = Warehouse stock + On-order stock

The on-order stock is composed of fixed receipt elements and firm receipt elements, such as purchase orders, firm planned orders, and firm purchase requisitions. The plant stock also includes the safety stock.



Hint:

Receipt elements are not included if their receipt due date lies outside the planning horizon.

If the available warehouse stock level is lower than the reorder point, there will be a material shortage.

The shortage quantity is the difference between the reorder point and the available warehouse stock.

The purchase order quantity is created from the lot-sizing procedure in the material master record.

After the net requirements calculation and the lot-sizing calculation, the system schedules the procurement proposal during the planning run. It calculates the date on which the purchase order has to be sent and the date on which the vendor must deliver the corresponding quantity.



## Forward Scheduling for External Procurement

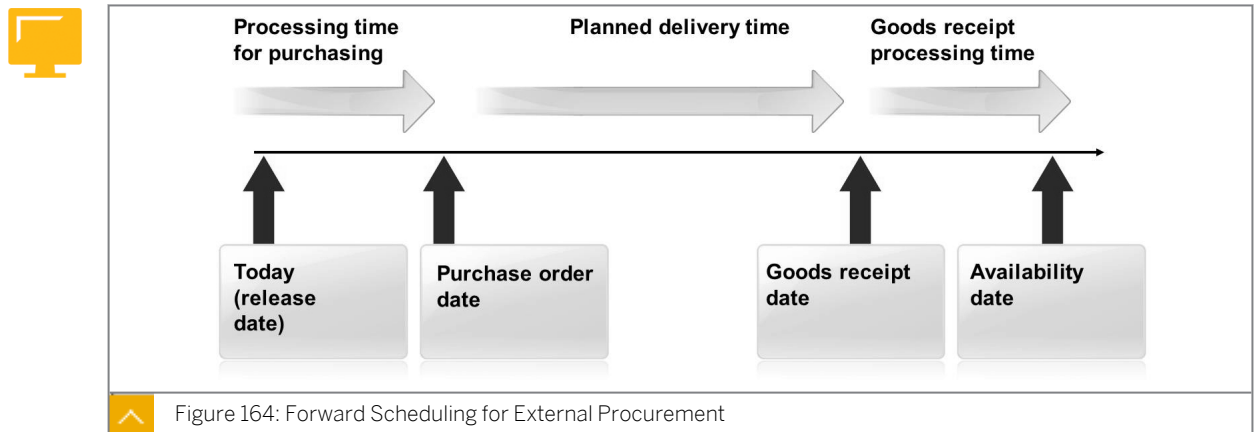


Figure 164: Forward Scheduling for External Procurement

The shortage quantity date for materials planned using reorder points is the date of the planning run. If the quantity has fallen short of the reorder point, then procurement is carried out immediately. During scheduling, the system defines the date on which the material will be available, starting from the date of the planning run. This procedure is called forward scheduling.

Forward scheduling starts on the MRP date.

The MRP date specifies the order start date for planned orders and the release date for purchase requisitions. Release in this context means the release of the purchase requisition for conversion into a purchase order as a result of purchasing.

The purchasing department processing time is calculated in workdays and the planned delivery time in calendar days.

The delivery date is, therefore, calculated and is known (firm). For planned orders, this date is the order finish date.

The processing time of the goods receipt is calculated in workdays with the delivery date, and thus the availability date is known.

### Time Frames Fields in Forward Scheduling

The purchasing department processing time is the time available in working days for a buyer to convert a purchase requisition into a purchase order. You determine this processing time in Customizing under *Materials Management -> Consumption-Based Planning -> Plant Parameters -> Carry Out Overall Maintenance of Plant Parameters (OMI8)*.

The planned delivery time is the number of calendar days required to procure the material through external procurement. The planned delivery time is stored in the material master record. You can also store the planned delivery time in the outline agreement or purchasing info record by the vendor.

The goods receipt processing time is the timeframe in working days between receiving the material and the receipt in the warehouse. It is required for unpacking, checking, and storing material, for example. The goods receipt processing time is stored in the material master record or in the outline agreement.



Hint:

The planning only determines the planned delivery time and goods receipt processing time from the purchasing info record or the outline agreement, if these are entered in the source list as relevant for MRP only.



## How to Run Reorder Point Planning



The following demo uses material T-SCM525-1 that you would have created in the lesson on maintaining the material master. If you have not yet created this material, use another material of MRP type VB or create a new material with the MRP type VB.

Show the Customizing settings for MRP type VB (manual reorder point planning). Explain the principle of reorder point planning in detail and describe which data must be maintained in the master record for a material planned with reorder point planning. Also discuss the scheduling process for materials planned with reorder point planning.



1. Perform Customizing settings for the MRP type VB (manual reorder point planning).
  - a) Define the corresponding parameters for the MRP type VB in Customizing under *Materials Management->Consumption-Based Planning → Master Data → Check MRP Types (OMDQ)*.
  - b) Show the following settings for the MRP type VB:
    - The *Include ext. reqmts* indicator should be empty.
    - No check boxes should be selected in the *Additional External Requirements in Reorder Point Planning* area.
    - *MRP Ind. Forecast* should be empty.
    - The safety stock is not calculated by the system.
    - The reorder point is not calculated by the system.



Note:

The selection *Additional External Requirements in Reorder Point Planning* is effective only in connection with the *Include ext. reqmts* indicator.

2. Show material master record T-SCM525-1.
  - a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Material → Display → Display Current (MM03)*.
  - b) Show the *MRP 1* and *MRP 2* views in plant 1000 and storage location 0001.
    - MRP type VB is defined. This means that when you create a material, you have to enter a reorder point.

- Safety stock can be maintained at *MRP 2*. It is 10. The safety stock is part of the reorder point.
  - Planned delivery time is 10 days.
  - GR processing time is 1 day.
3. Show plant parameter for plant 1000.
- a) Make planning-relevant settings in Customizing under *Materials Management* > *Consumption-Based Planning* → *Plant Parameters* → *Carry Out Overall Maintenance of Plant Parameters* (OMI8).
  - b) Choose  (*Maintain*). In the *Plant* field, enter **1000** and choose  (*Maintain*).
  - c) Choose *External Procurement*. A purchasing department processing time of one day is maintained.



Ask the participants this question: If you were to start a planning run now, which availability date would be determined for the procurement proposal?

Provide the participants with this answer: Starting at the date of the planning run, the system would add the purchasing department processing time (1 day for plant 1000), the planned delivery time (10 days for material T-SCM525-1), and the GR processing time (1 day for material T-SCM525-1).



# Unit 7

## Exercise 31



### Review the Material Master Settings



This exercise and the subsequent exercises in this course assume that the participants have completed the exercises from the Maintaining the Material Master lesson in the SCM525 course. If this lesson is used on its own, you must have created material T-M525A## in preparation for the corresponding number of participant groups.

#### Business Example

In your company, some materials are planned with reorder point planning. For this reason, you need to check the settings in the material master record for one of these materials.

1. Display the material master record for material T-M525A## in plant 1000.

What MRP type is used to plan the material?

---

---

---

What is the planned delivery time maintained for the material in the master record?

---

---

---

What is the GR processing time maintained for the material in the master record?

---

---

---



## Review the Material Master Settings



This exercise and the subsequent exercises in this course assume that the participants have completed the exercises from the Maintaining the Material Master lesson in the SCM525 course. If this lesson is used on its own, you must have created material T-M525A## in preparation for the corresponding number of participant groups.

### Business Example

In your company, some materials are planned with reorder point planning. For this reason, you need to check the settings in the material master record for one of these materials.

1. Display the material master record for material T-M525A## in plant 1000.

What MRP type is used to plan the material?

---

What is the planned delivery time maintained for the material in the master record?

---

What is the GR processing time maintained for the material in the master record?

---

- a) Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current* (MM03).
- b) Choose *Select Views(s)* and select the *MRP 1* and *MRP 2* views. Choose *Continue*.
- c) Enter plant **1000** and choose *Continue*.
- d) On the *MRP 1* tab page, note that the value of the *MRP Type* field is *VB*.
- e) On the *MRP 2* tab page, note the following values:

Field Name	Value
<i>Planned Deliv. Time</i>	<b>2</b>
<i>GR Processing Time</i>	<b>0</b>

# Unit 7

## Exercise 32



### Determine the Availability Date

#### Business Example

In your company, some materials are planned with reorder point planning. For this reason, you need to calculate the availability date of the material if you were to start a planning run today.

1. Calculate the availability date for material T-M525A## in plant 1000.

What is the purchasing processing time entered for plant 1000 in Customizing?

---

---

---

Is the purchasing processing time determined on a workday basis or on a calendar day basis?

---

---

---

What are the times considered when determining the availability date? Based on today's date, determine the availability date for material T-M525A##.

---

---

---

- The purchasing processing time is determined in workdays. Starting with today's date, the availability date is calculated as follows: **Availability Date = Purchasing processing time + Planned delivery time + GR processing time**
- 



Hint:

The calculation is done separately for each of the three time segments, and the results are added. If a date falls on a day that is not defined as a working day in the factory calendar, then the calculation proceeds from the next working day. This also applies to planned delivery time.



## Determine the Availability Date

### Business Example

In your company, some materials are planned with reorder point planning. For this reason, you need to calculate the availability date of the material if you were to start a planning run today.

1. Calculate the availability date for material T-M525A## in plant 1000.

What is the purchasing processing time entered for plant 1000 in Customizing?



---

Is the purchasing processing time determined on a workday basis or on a calendar day basis?

---

What are the times considered when determining the availability date? Based on today's date, determine the availability date for material T-M525A##.

---

- a) On the *SAP Easy Access* screen, choose *Tools* → *Customizing* → *IMG* → *Execute Project*.
- b) Choose *SAP Reference IMG*.
- c) On Display IMG screen, choose *Materials Management->Consumption-Based Planning* → *Plant Parameters* → *Carry Out Overall Maintenance of Plant Parameters (OMI8)*.
- d) Choose  *Maintain* and enter plant **1000**. Confirm your entries and choose  (*Maintain*) again.
- e) Choose *External Procurement* to display the purchasing department processing time for plant 1000.
- f) For plant 1000, the *Purch. Process. Time* field is set to 1.

•



The purchasing processing time is determined in workdays.

Starting with today's date, the availability date is calculated as follows: Availability Date = Purchasing processing time + Planned delivery time + GR processing time

•



Hint:

The calculation is done separately for each of the three time segments, and the results are added. If a date falls on a day that is not defined as a working day in the factory calendar, then the calculation proceeds from the next working day. This also applies to planned delivery time.



# Unit 7

## Exercise 33



### Check the MRP Types (Optional Exercise)

#### Business Example

In your company, some materials are planned with reorder point planning. For this reason, you need to check MRP types.

Check MRP types

1. In Customizing, determine the MRP types that include external requirements. To do this, check all MRP types that begin with V.

MRP types:

---

---

---



## Check the MRP Types (Optional Exercise)

### Business Example



In your company, some materials are planned with reorder point planning. For this reason, you need to check MRP types.

Check MRP types

1. In Customizing, determine the MRP types that include external requirements. To do this, check all MRP types that begin with V.

MRP types:

---

- a) In Customizing, determine the MRP types under *Materials Management* -> *Consumption-Based Planning* → *Master Data* → *Check MRP Types* (OMDQ).
- b) Select all the MRP types that begin with V and choose  (*Details*). Choose  (*Next Entry*) to go to the next entry. External requirements are included with MRP types V1 and V2.



### **LESSON SUMMARY**

You should now be able to:

- Set up a reorder point plan





## Learning Assessment

1. Which of the following MRP elements can be created for a material procured externally by a requirements planning run?

*Choose the correct answers.*

- A Production order
- B Planned order
- C Sales order
- D Purchase requisition
- E Purchase order
- F Outline agreement

2. Name the possible planning levels of consumption-based planning.

---

---

---

3. The stocks of individual storage locations can be excluded from MRP or planned independently.

*Determine whether this statement is true or false.*

- True
- False

4. In MRP, planned requirement quantities trigger requirements calculation.

*Determine whether this statement is true or false.*

- True
- False

5. Consumption-based planning procedures are normally based only on material consumption.

*Determine whether this statement is true or false.*

True

False

6. In forecast-based planning, you can consider external requirements.

*Determine whether this statement is true or false.*

True

False

7. Outline the principle of reorder point planning.

---

---

---

8. During net requirements calculation of a material planned with reorder point planning, the warehouse stock available for MRP includes the plant stock and the on-order stock. Which of the following documents belong to on-order stock?

*Choose the correct answers.*

A Purchase requisitions

B Purchase orders

C Sales orders

D Firm planned orders

E Fixed purchase requisitions

F Planned orders

9. How do you schedule a material planned with reorder point planning?

---

---

---





## Learning Assessment - Answers

1. Which of the following MRP elements can be created for a material procured externally by a requirements planning run?

*Choose the correct answers.*

- A Production order
- B Planned order
- C Sales order
- D Purchase requisition
- E Purchase order
- F Outline agreement

**Explanation:** For a material with procurement type *F* for external procurement, a planned order or purchase requisition can be created during a planning run as a procurement proposal. It is, therefore, also possible to create direct scheduling agreement schedule lines. Unlike the planned order and purchase requisition, scheduling agreement schedule lines are fixed, mandatory elements. The purchase requisition is actually a purchasing document, but cannot be created directly by a planning run. You must convert the created purchase requisition into a purchase order in a second step.

2. Name the possible planning levels of consumption-based planning.

The levels of consumption-based planning are plant, separately planned storage location, and MRP areas.

3. The stocks of individual storage locations can be excluded from MRP or planned independently.

*Determine whether this statement is true or false.*

- True
- False

4. In MRP, planned requirement quantities trigger requirements calculation.

*Determine whether this statement is true or false.*

True

False

**Explanation:** In MRP, planning is based on current and future requirements. The requirement elements include sales orders, planned independent requirements, material reservations, as well as dependent requirements and safety stock that BOM explosion generates.

5. Consumption-based planning procedures are normally based only on material consumption.

*Determine whether this statement is true or false.*

True

False

**Explanation:** As opposed to MRP, consumption-based planning procedures are based only on material consumption. External requirements, such as sales orders, planned independent requirements, and reservations, are generally not relevant to planning.

6. In forecast-based planning, you can consider external requirements.

*Determine whether this statement is true or false.*

True

False

**Explanation:** In consumption-based planning, you can only consider external requirements during reorder point and time-phased planning.

7. Outline the principle of reorder point planning.

**Answer:** In the reorder point planning MRP procedure, procurement is always triggered when the sum of plant stock and fixed receipts falls short of the reorder point. The reorder point should include the expected average material requirements during the replenishment lead time.

---

8. During net requirements calculation of a material planned with reorder point planning, the warehouse stock available for MRP includes the plant stock and the on-order stock. Which of the following documents belong to on-order stock?

Choose the correct answers.

- A Purchase requisitions
- B Purchase orders
- C Sales orders
- D Firm planned orders
- E Fixed purchase requisitions
- F Planned orders

**Explanation:** During reorder point planning, the available stock at plant level (including the safety stock) with the scheduled fixed and firm receipts is compared with the reorder point. The fixed and firm receipt elements are also called on-order stock. Procurement is always triggered when the sum of plant stock and fixed receipts falls short of the reorder point.

9. How do you schedule a material planned with reorder point planning?

**Answer:** Use forward scheduling. During scheduling, the system defines the date on which the material will be available, starting from the date of the planning run. Starting with today's date, the availability date is calculated as follows:  $\text{Availability Date} = \text{Purchasing processing time (in working days)} + \text{Planned delivery time (in calendar days)} + \text{GR processing time (in working days)}$ .



# UNIT 8

# Planning Run

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### UNIT OBJECTIVES

- Describe planning run options and their characteristics

- Parameterize a planning run
- Verify and convert planning results
- Use the most common planning evaluation tools
- Use the collective access to lists
- Use the material tree
- Use the navigation profile
- Explore exception messages
- Explore the lot-sizing settings



## Drafting a Planning Run

### LESSON OVERVIEW

This lesson describes different ways of performing a planning run in the SAP system. In addition, this lesson provides an overview of the different subprocesses that the system runs during a planning run.

### Business Example

Your company executes a planning run regularly for an entire plant and separately for individual materials in exceptional cases. You must decide whether total planning is executed in the background or online. For this reason, you require the following knowledge:

- An understanding of the planning file and its functions
- An understanding of the different options for a planning run
- An understanding of how to choose planning run options and evaluate the planning file



Explain the individual subprocesses in a planning run (checking the planning file entry, net requirements calculation, lot-size calculation, scheduling, and type of procurement proposal) and go into particular detail for the planning file and the *NETCH* and *NETPL* change indicators.

The source determination option in consumption-based planning is mentioned in this lesson but discussed in detail in the lesson *Source Determination in MRP*.

Describe the different possibilities for executing a planning run (single-item planning, total planning online, and total planning in the background). Briefly mention the function of planning scope.

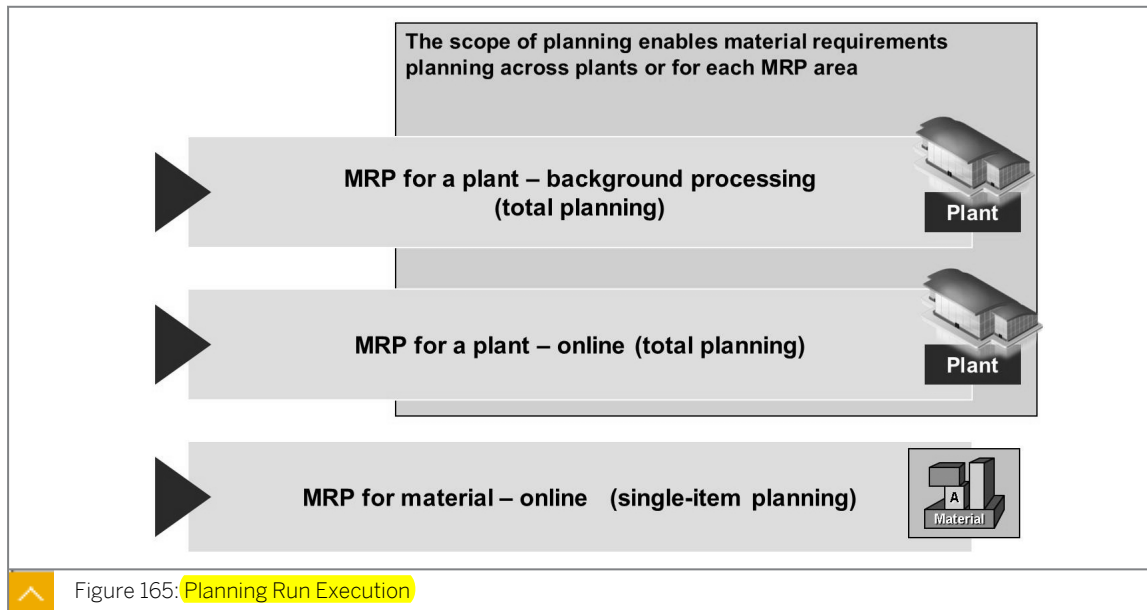


### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Describe planning run options and their characteristics

## Planning Run Execution



To determine situations in which there can be shortages of individual materials, start a planning run in the SAP system.

### A planning run can be carried out in the following ways:

- Total planning
- Single-item planning

### Total Planning

You can carry out a planning run as a total planning run for one specific plant or MRP area. This procedure involves the planning of all the materials that are relevant for planning within a particular plant and includes an explosion of bill of material (BOM) materials.

On the SAP Easy Access screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Total Planning (MD01)* to execute total planning.

You can carry out a total planning run either online or in background processing mode. You can schedule a total planning run either once on a particular date by selecting the *Schedule once* checkbox or at regular intervals by selecting the *Schedule periodically* checkbox.

On completion of the planning run, you receive statistics with information about the scope of planning, exceptional situations, and terminations.

### You can perform the following tasks after a planning run:

- Checking the time needed for the planning run in total and for planning the individual materials
- Printing the log and the results if you allow the total planning run to run in the background
- Defining the scope of the planning function for several plants and MRP areas, one after another



You can define as many scopes of planning as you like in Customizing under *Materials Management* → *Consumption-Based Planning* → *Planning* → *Define Scope of Planning for Total Planning*. For each planning scope, enter a counter to specify the sequence of individual MRP levels (plants or MRP areas). This counter determines the sequence for planning. In a planning scope, you can indicate the plants or one or more MRP areas and thus restrict the overall planning run to these levels.



**Note:**

Planning by using a scope of planning requires parallel processing. For more information, see the documentation in Customizing under *Materials Management* → *Consumption-Based Planning* → *Define Parallel Processing in MRP*.

### Single-Item Planning

You can carry out a requirements planning run as a single-item planning run for an individual material.

Either a single-level or multilevel planning run is carried out for one particular material. In single-level, single-item planning, the system only plans the BOM level for the selected material. In multilevel, single-item planning, the system plans the level of the selected material plus all the lower BOM levels.

On the SAP Easy Access screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single-Item, Single-Level (MD03)* to perform single-item, single-level planning.

You can also use interactive single-item planning. Interactive planning, a single-level simulative planning, allows you to check the planning results in great detail. Therefore, this planning is suitable for materials that urgently require a check, especially master schedule items. Interactive planning enables the careful check of the planning results and incorporates fine adjustments.

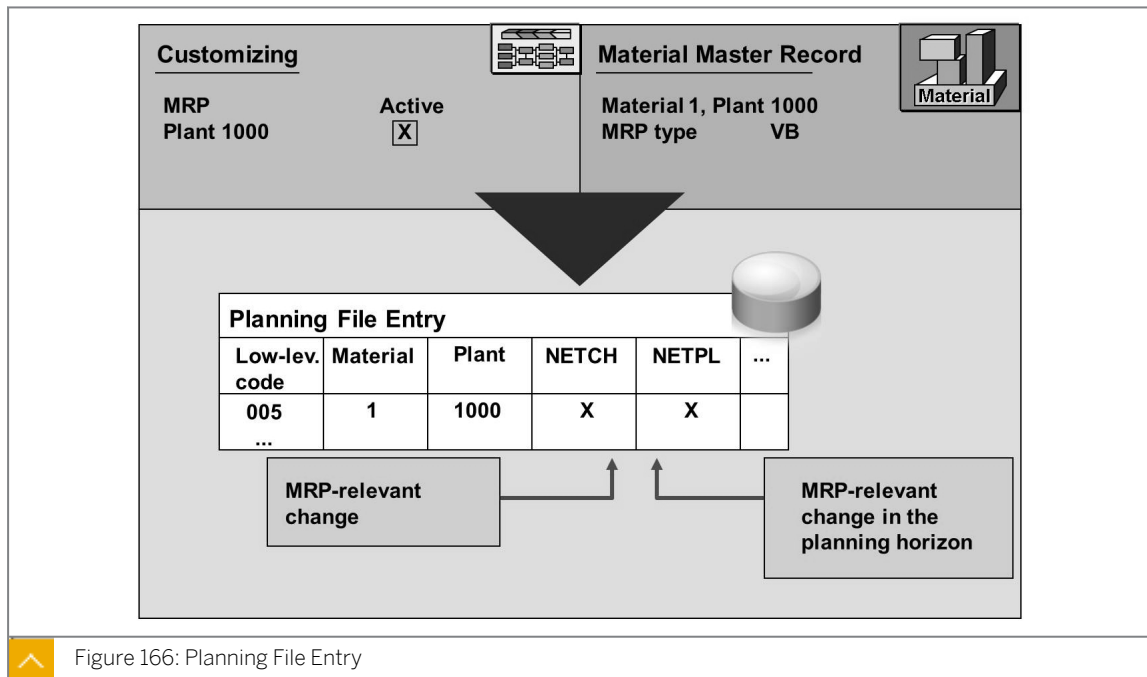
During interactive planning, the system initially displays the current stock/requirements list but no planning directly occurs. You can use this stock/requirements list to manually trigger the planning and simulation functions. On the SAP Easy Access screen, choose *Logistics* → *Production* → *MRP* → *Planning* → *Single-Item Planning, Interactive (MD43)* to execute interactive planning.



**Hint:**

As of ERP 6.0 and enhancement package 4, you can perform a planning run for each vendor as well. On the SAP Easy Access screen, call the area menu for MRP by running transaction code `WDIS` to perform a planning run.

## Planning File Entry



The system executes different subprocesses during a planning run. **The planning file entry check is the first subprocess that runs in an MRP.**

The planning file contains all relevant materials for a planning run. As soon as you create a material master with MRP views and valid MRP types (everything except *ND* for *No MRP*), this material is automatically included in the planning file as long as MRP has been activated for the plant in Customizing.

The planning file controls the planning run and scope of planning, that is, the planning file determines the materials that are to be taken into account in the different types of planning runs.

The system automatically indicates materials that have undergone an MRP-relevant change, such as the creation of a purchase order, with a corresponding planning file entry (NETCH indicator). If changes relevant to planning become effective within the planning horizon, another indicator is set (NETPL indicator).

During a planning run, the system checks whether the particular material is marked for planning, that is, whether the material number exists in the planning file and whether the **NETCH indicator (net change planning) or the NETPL indicator (net change planning in the planning horizon)** is set. Only materials that have been changed are considered in a planning run.

### Changes relevant to Planning

**Changes relevant to planning can be as follows:**

- Changes in stocks if they alter the stock/requirements situation of a material
- The creation of receipt or issue elements, such as purchase requisitions, purchase orders, planned orders, sales requirements, forecast requirements, dependent requirements, and reservations

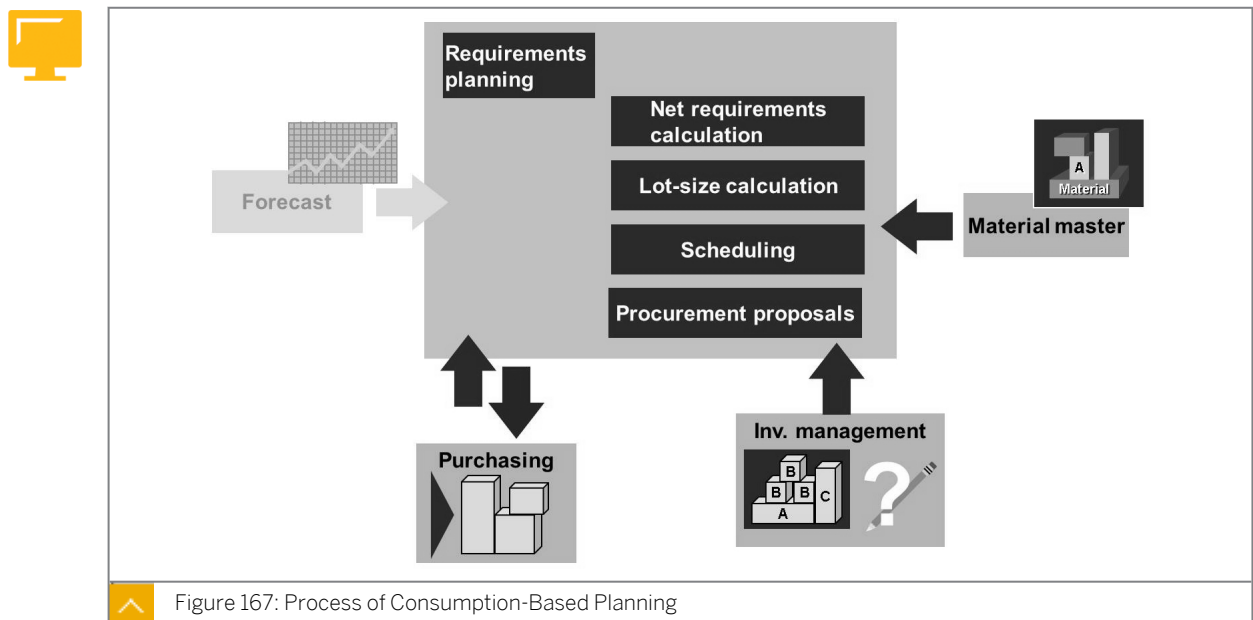
- Changes to those elements or to the materials master records, if they are relevant for planning
- The deletion of those elements

The planning horizon is defined in Customizing under *Materials Management->Consumption-Based Planning* either in the *Overall Maintenance of Plant Parameters (OMI8)* for each plant or in the *Overall Maintenance of MRP Groups (OPPZ)* for each MRP group.

If materials are created before MRP is activated for a plant, you must generate an entry in the planning file for all MRP-relevant materials in this plant. You set up the planning file either in Customizing under *Materials Management->Consumption-Based Planning* → *Planning* → *Activate Material Requirements Planning (OMDU)* or from the *SAP Easy Access* screen by choosing *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Planning File Entry* → *Set Up in Background (MDAB)*.

The entries in the planning file are permanent; therefore, you must regularly check their MRP relevance. For example, if a plant is subsequently excluded from MRP, the materials in this plant are still included in the planning file. Materials that are subsequently assigned MRP type *ND (No MRP)* and, therefore, excluded completely from MRP are also still included in the planning file. In these cases, you must delete the entries in the planning file. Therefore, you must perform a consistency check at regular intervals in Customizing under *Materials Management->Consumption-Based Planning* → *Planning* → *Activate Material Requirements Planning (OMDU)*. Alternatively, on the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Planning File Entry* → *Consistency Check (MDRE)*.

## Process of Consumption-Based Planning



An automatic planning run for MRP determines shortage situations and generates the corresponding procurement elements.

### A planning run consists of the following subprocesses:

1. The system checks the planning file entries to see whether a material has been changed in some way relevant to MRP and must, therefore, be included in the planning run.

2. The system carries out a net requirements calculation for every material. The system checks whether a requirement quantity is covered by available warehouse stock and fixed receipts from purchasing or production. If a requirement quantity is not covered, the system creates a procurement proposal.
3. The system subsequently carries out a lot-size calculation. The calculation considers lot-sizing procedures and any further restrictions, such as rounding, defined in the material master records.
4. The system calculates the release and delivery dates for purchase requisitions and the start and end dates for planned orders. When scheduling externally acquired materials, replenishment lead time (RLT) is used as a basis to determine dates for delivery/replenishments. During forecast-based planning, the delivery/replenishments dates are determined using backward scheduling, and during reorder point planning, the delivery/replenishments dates are determined using forward scheduling.
5. The system determines the types of the procurement proposals. A procurement type is checked in the material master record, that is, the system checks whether the receipt is to take place as a result of in-house production or external procurement. If the procurement type is in-house production, the system creates planned orders. In the case of external procurement, the system creates planned orders, purchase requisitions, or schedule lines according to the settings. When using a source list or quota arrangement, the system attempts to determine a source of supply and allocate this source to the procurement proposal.

After a planning run, the MRP controllers can check and edit the new procurement elements.



The evaluations available are discussed in the Planning Result and Planning Evaluation lessons.

### Planning Sequence

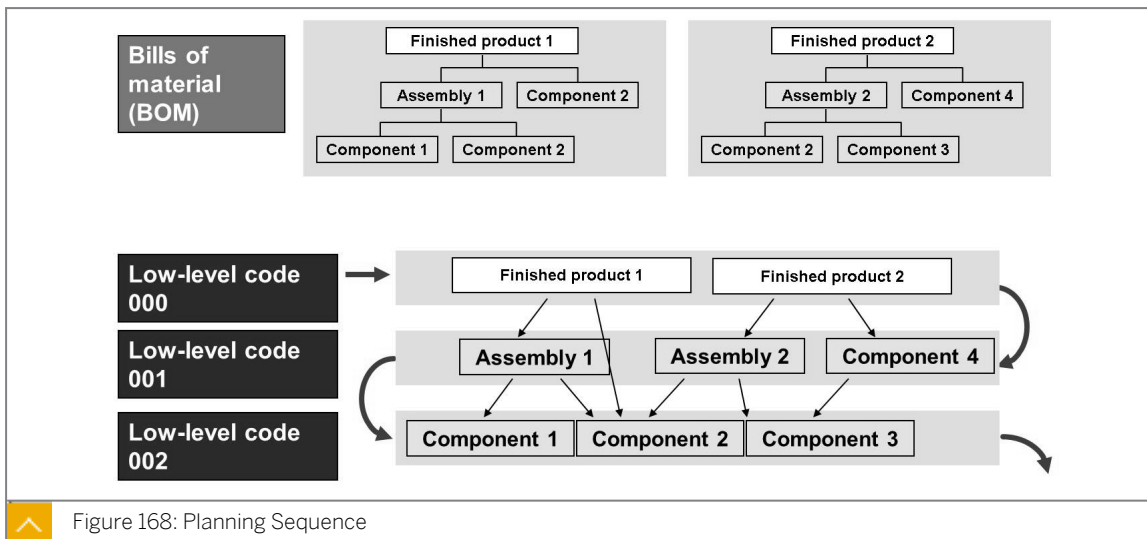


Figure 168: Planning Sequence

BOMs are created for the materials that are to be produced and planned. A material can appear in several products and on several manufacturing levels of a product. The low-level code is the lowest level at which a material appears in any BOM.

The low-level code determines the sequence in which materials are planned. The system first plans all materials with level 0, then materials with level 1, and so on.

During BOM maintenance, the low-level code is automatically defined in the material master record and entered in the planning file.



Note:

If a material is not included in a BOM, the highest level (999 or blank) is set automatically.



### FACILITATED DISCUSSION

What are the advantages and disadvantages of total planning in comparison to single-item planning? What are the advantages and disadvantages of total planning in background processing in comparison to online processing?



### How to Choose Different Planning Run Options

You can perform a planning run in the system in the following ways:

- Single-item, single-level planning  
On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single-Item, Single-Level (MD03)*.
- Total planning online  
On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Total Planning* → *Online (MD01)*.
- Total planning in background processing  
On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Total Planning* → *As Background Job (MDBT)*.




### How to Evaluate a Planning File



As a prerequisite, you must have created the material for this demo from the Maintaining the Material Master lesson. If you have not, you must either create a new material or use another material. In this demo, explain the planning file and its functions to the participants.

1. Show the planning file for material T-SCM525-1.
  - a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Planning File Entry* → *Display (MD21)* to view the planning file entry.
  - b) On the *Display planning file entries* screen, enter the following data:

Field Name or Data Type	Value
<i>Material</i>	<b>T-SCM525-1</b>
<i>Plant</i>	<b>1000</b>

- c) Choose  (*Execute*).
- d) Explain the individual entries in the planning file. In particular, explain the two planning flags *NETPL* and *NETCH*. Also show which low-level code the material is assigned to.



### LESSON SUMMARY

You should now be able to:

- Describe planning run options and their characteristics



## Executing a Planning Run

### LESSON OVERVIEW

This lesson describes the control parameters that are available for requirements planning and different planning process types. This lesson also covers plant parameters and material requirements planning (MRP) groups.

### Business Example

While executing a requirements planning run, you must compare the types of planning runs available and the procurement elements that can be created. You have to define the corresponding creation indicator in Customizing. For this reason, you require the following knowledge:

- An understanding of planning runs
- An understanding of the various control parameters
- An understanding of the various planning process types



Briefly mention the *NETCH* and *NETPL* change indicators in the planning file before discussing in detail the planning process types in a planning run.

Mention the advantages of planning in the planning horizon. Explain the risk of planning cases and how to avoid them. In addition, discuss in detail other control parameters for a planning run, the plant parameters, and MRP groups.

The exercise at the end of this lesson can be carried out only if the participants have completed the previous exercises of this course.



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Parameterize a planning run

## Planning Run Types



NEUPL – Regenerative Planning					
Planning File Entry					
Low-level code	Material	Plant	...		
005	1	1000			
...					
NETCH – Net Change Planning in the Total Horizon					
Planning File Entry					
Low-level code	Material	Plant	NETCH	...	
005	1	1000	X		
...					
NETPL – Net Change Planning in the Planning Horizon					
Planning File Entry					
Low-level code	Material	Plant	NETCH	NETPL	...
005	1	1000	X	X	
...					

Figure 169: Planning Run Types

The planning run type defines the scope of the materials to be planned and which materials must be taken into account during a planning run. You define the planning run type using the *Processing key* field on the initial screen.

The following are types of planning runs:

Planning Run Type	Processing Key
Regenerative planning	NEUPL
Net change planning in the total horizon	NETCH
Net change planning in the planning horizon	NETPL

### Regenerative Planning

The *NEUPL* processing key is used for regenerative planning. With this processing key, the system plans all materials included in the planning file, irrespective of the indicators.

If you change settings in Customizing for requirements planning, such as the settings for an MRP type, a lot-sizing procedure, or the purchasing processing time, none of the materials in the planning file have an indicator. After such changes, if you start a planning run with the *NEUPL* processing key, the changes made in Customizing take effect in requirements planning.

In regenerative planning, the *NETCH* and *NETPL* change indicators are deleted in the planning file.

Regenerative planning is a high burden on the system because all materials are planned, including those that are not changed as a result of regenerative planning.

### Net Change Planning in the Total Horizon



With the **NETCH** processing key, only those materials for which the **NETCH** indicator has been set in the planning file are planned.

#### The following changes lead to an entry in the planning file:

- Changes to stock, provided these changes modify the stock/requirements situation for a material (for consumption-based materials, only if the stock level falls short of or exceeds the reorder point)
- Additions, changes, and deletions of purchase requisitions, purchase orders, planned orders, sales requirements, forecast requirements, dependent requirements, or reservations of material
- Changes to MRP-relevant fields of the material master record

In net change planning in the total horizon, the **NETCH** and **NETPL** indicators are deleted in the planning file.

#### Net Change Planning in the Planning Horizon

During net change planning in the planning horizon with the **NETPL** processing key, only materials for which the **NETPL** indicator has been set in the planning file are planned. The scope of planning and thus the number of materials to be planned is restricted even further, reducing the runtime of a planning run.

During net change planning in the planning horizon, only the **NETPL** indicator is deleted in the planning file.

The planning horizon is defined in Customizing under *Materials Management* -> *Consumption-Based Planning* either in *Overall Maintenance of Plant Parameters* (OMI8) for the plant or in *Overall Maintenance of MRP Groups* (OPMZ) for each MRP group.



#### Note:

In single-item planning, you can choose between net change planning in the total horizon (**NETCH**) and net change planning in the planning horizon (**NETPL**). Regenerative planning (**NEUPL**) is not useful because the material is already assigned and does not have to be determined first when evaluating the planning file.

#### Planning in the Planning Horizon

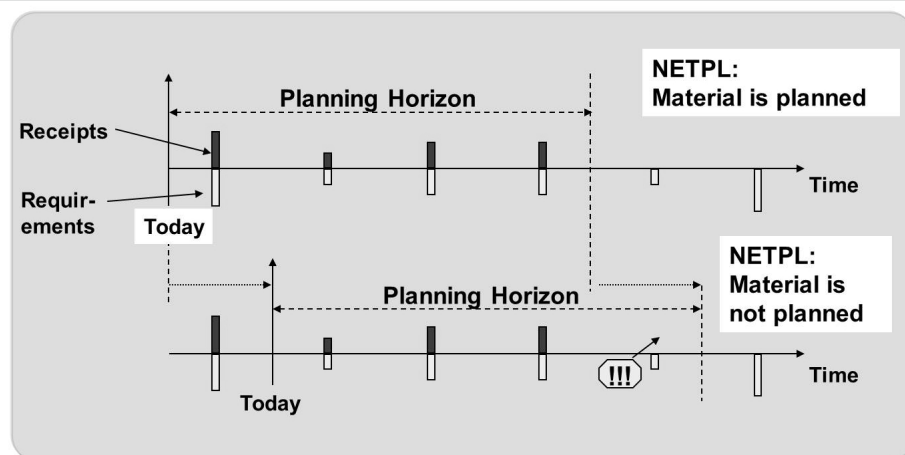


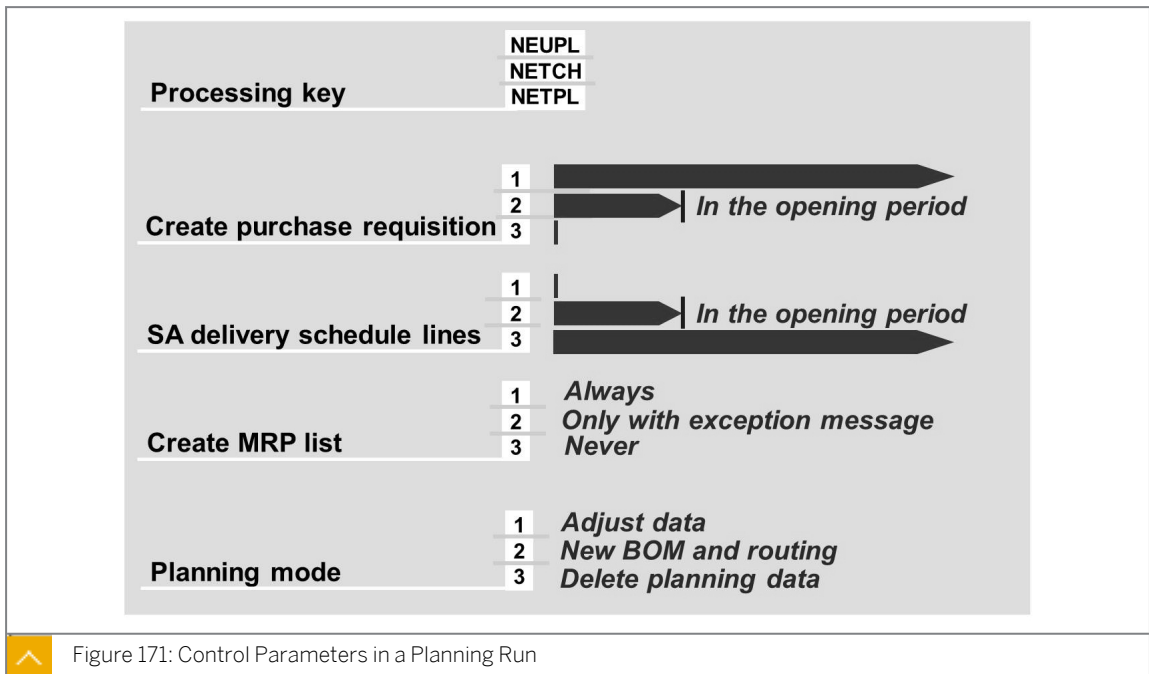
Figure 170: Planning in the Planning Horizon

To speed up requirements planning, it can be limited to a certain planning horizon using the *NETPL* processing key. Only those requirements that are within the planning horizon are then covered by receipt elements.

With time, requirements fall within the planning horizon even though they have not yet been covered by receipt elements. If no other changes relevant to planning occur, these requirements will be covered only during the next planning run over the entire time frame (with the *NETCH* or *NEUPL* processing key). For this, you should execute a planning run with *NETCH* processing key regularly..

It is also possible to set the *Plan Regularly* indicator in Customizing for corresponding MRP types. This indicator ensures that the materials for which it is set are also planned at regular intervals even when no changes relevant to planning have been made. The maximum number of days after which the material must be planned is defined in Customizing for each MRP group.

### Control Parameters



For requirements planning, you can set control parameters on the initial screen of the planning run. You can use these parameters to determine how the planning run is executed and what the results are.

As well as the processing key (planning process type), the control parameters include a creation indicator for procurement proposals for externally procured materials, a creation indicator for MRP lists, the planning mode, and the scheduling.

#### Available Control Parameters

The following control parameters are available:

Parameter	Description
Processing key	This indicator gives the planning type as regenerative planning (NEUPL), net change planning in the total horizon (NETCH), or net change planning in the planning horizon (NETPL).
Creation indicator for purchase requisitions	This indicator controls whether purchase requisitions are created directly or planned orders are created initially for externally procured materials.
Creation indicator for scheduling agreement schedule lines	<p>This indicator determines whether scheduling agreement schedule lines are created directly for externally procured materials.</p> <p>For requirements planning to automatically create scheduling agreement schedule lines, you need to create a scheduling agreement for the material and mark this in the source list as MRP relevant.</p>
Creation indicator for MRP lists	<p>This indicator determines whether the planning run creates MRP lists.</p> <p>It also determines the possible creation of MRP lists that depend on the appearance of certain exception messages.</p> <p>The exception messages that lead to the creation of a MRP list can be defined in Customizing under <i>Materials Management - &gt;Consumption-Based Planning -&gt; Evaluation -&gt; Exception Messages -&gt; Define and Group Exception Messages (OMD3)</i>.</p>
Planning mode	<p>This indicator specifies how nonfixed procurement proposals from the last planning run are handled in the next planning run. Fixed procurement proposals remain the same.</p> <p><b>The following options are available:</b></p> <ul style="list-style-type: none"> <li>• Adjust existing planning data (planning mode 1).</li> <li>• Trigger BOMs again after BOM changes (planning mode 2).</li> <li>• Delete all planning data and re-create procurement proposals (planning mode 3).</li> </ul>



Note:

Even if you do not save MRP lists, the procurement proposals created by the system are stored in the database. You carry out postprocessing with the current stock/requirements list, not with the MRP list.

### Planning Mode

The planning mode can be specified for each planning run on the initial planning screen. The planning mode is also set automatically in the planning file. When planning a material without specifying a planning mode, the planning mode with the highest numerical value has priority.

**The priority of the planning mode is as follows:**

- Planning mode 2, which triggers BOMs, overrides planning mode 1, which adjusts planning data.
- Planning mode 3, which deletes and re-creates planning data, overrides planning mode 1, which adjusts planning data, and planning mode 2, which triggers BOMs.

It is usually sufficient to set planning mode 1 on the initial screen of a planning run. If a material has to be planned with another planning mode, a corresponding planning file entry is automatically set in the planning file and evaluated in the planning run.

You can also define the creation indicator for scheduling agreement schedule lines in Customizing in the plant parameters. The creation indicators for purchase requisitions, schedule lines, and MRP lists can also be set in Customizing in the MRP group. The materials assigned to this MRP group are planned accordingly in the total planning run.



Hint:

You can save the parameters in the planning run in transactions MD01 and MD03.

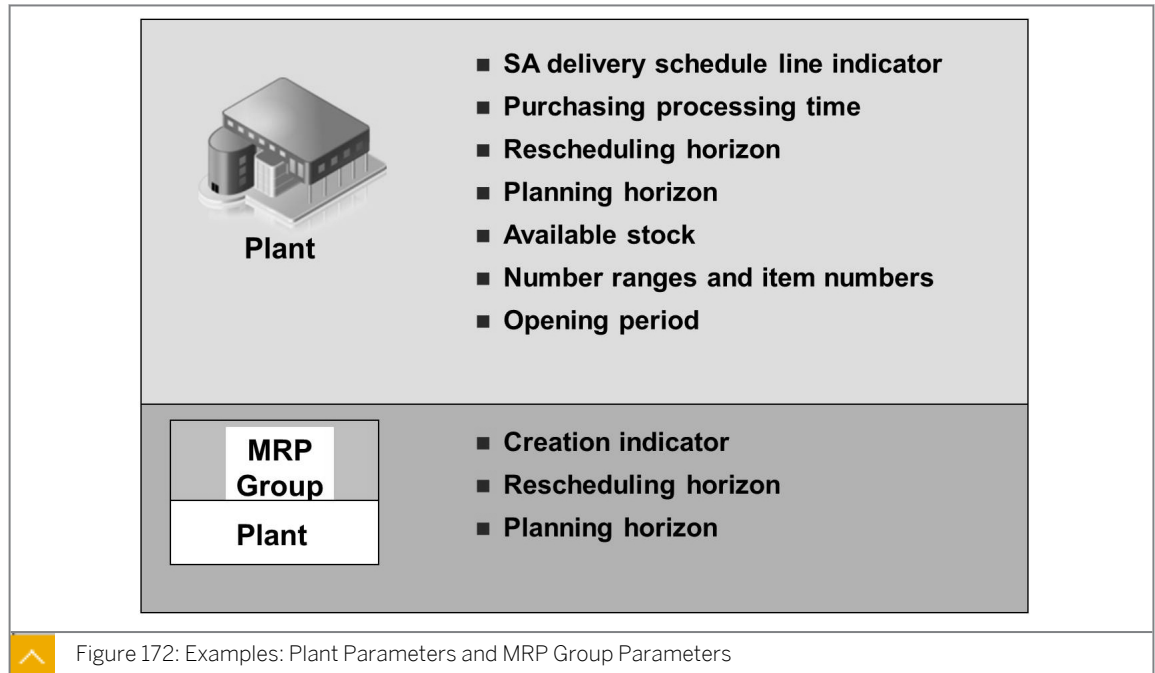
To save the parameters, from the menu bar, choose *Settings* → *Save*.

### Plant Parameters and MRP Groups

Plant parameters are control parameters for requirements planning. You can maintain plant parameters for each plant in Customizing under *Materials Management ->Consumption-Based Planning* → *Plant Parameters* → *Plant Parameters* → *Carry out Overall Maintenance of Plant Parameters* (OMI8).

The MRP group is an organizational object used to allocate certain control parameters for MRP to a group of materials. You can maintain MRP groups and the corresponding parameters in Customizing under *Materials Management ->Consumption-Based Planning* → *MRP Groups* → *Carry Out Overall Maintenance of MRP Groups* (OPPZ) if you need more control over planning for each plant and want to assign control parameters that are different from the plant definition to particular material groups.

## Examples: Plant Parameters and MRP Group Parameters



You can maintain various plant parameters such as the creation indicator for scheduling agreement schedule lines, the purchasing processing time, and the planning horizon.

In the MRP groups, you can maintain parameters such as the creation indicator for purchase requisitions, schedule lines and MRP lists, the maximum MRP interval, and the planning horizon.

When creating or changing a material master record, you can assign the MRP group by material.

In material master records, an MRP group can be defaulted depending on the setting in Customizing under *Materials Management* -> *Consumption-Based Planning* → *MRP Groups* → *Define MRP Group for Each Material Type* (OMIG)

In total planning, the system checks each material to determine whether the material has been allocated an MRP group. If no MRP group is allocated for the material, the material is planned using plant parameters.

In single-item planning, parameters entered on the initial screen are always used for planning.

### Settings in Materials Planning

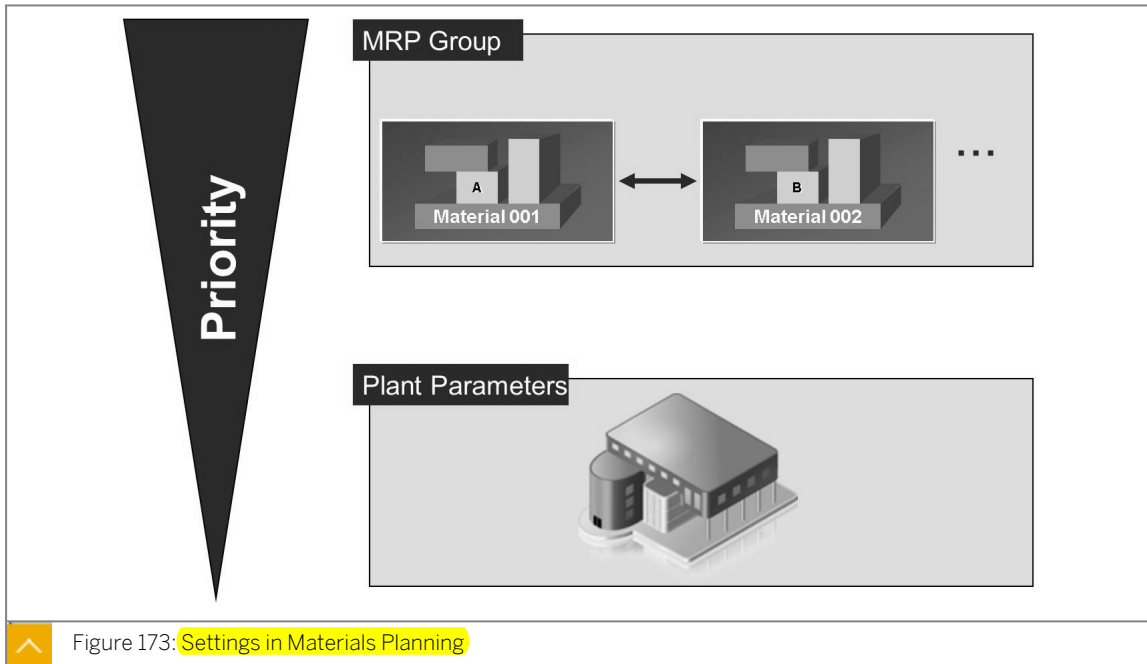


Figure 173: Settings in Materials Planning

If setting is possible on several levels, the setting of the MRP group that is assigned to a material has priority over the setting of the plant parameters.



### How to Set up a Planning Run





The following demo assumes that you have created a material for the demo from the lesson *Maintaining the Material Master*. If this is not the case, you must either create a new material or use another material for this demo.

Start a single-item planning run and explain the different control parameters of a planning run. Show and describe the settings for the plant parameters and MRP groups in Customizing.

1. Execute a single-item planning run for material T-SCM525-1 in plant 1000.
  - a) On the SAP Easy Access screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single-Item, Single-Level (MD03)*.
  - b) On the *Single-Item, Single-Level* screen, enter the following data:

Field Name or Data Type	Value
<i>Processing Key</i>	<b>NETPL</b>
<i>Create Purchase Requisition</i>	<b>3</b> (planned orders)
<i>Create MRP List</i>	<b>1</b>
<i>Planning mode</i>	<b>1</b> (adapt planning data)

- c) Select the *Display results before they are saved* indicator.
- d) Choose  *Enter*.
- e) Confirm the warning message and choose  *Enter*.
- f) Explain the result and save it.
- g) Due to the creation indicator for purchase requisitions, a planned order is created. The quantity to procure is 200 because a fixed lot size of 200 pieces is entered in the material master record.
2. Show the MRP list for material T-SCM525-1 in plant 1000.
- a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *MRP List - Material (MD05)* to show the result of the last planning run.
- b) Briefly explain the structure of the MRP list.
3. Show the planning file for material T-SCM525-1 in plant 1000.
- a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Planning File Entry* → *Display (MD21)*.
- b) On the *Display planning file entries* screen, enter the following data:

Field Name or Data Type	Value
<i>Material</i>	<b>T-SCM525-1</b>
<i>Plant</i>	<b>1000</b>

- c) Choose *Enter*.
- d) The *NETPL* indicator is no longer set.
4. Execute single-item planning for material T-SCM525-1 in plant 1000.
- a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single-Item, Single-Level (MD03)*.
- b) On the *Single-Item, Single-Level* screen, enter the following data:

Field Name or Data Type	Value
<i>Processing Key</i>	<b>NETCH</b>
<i>Create Purchase Requisition</i>	<b>3</b> (planned orders)
<i>Create MRP List</i>	<b>1</b>
<i>Planning mode</i>	<b>1</b> (adapt planning data)

- c) Select the *Display results before they are saved* indicator.
- d) Choose *Enter*. Confirm the warning message.




**Hint:**  
For the planned order, a new document number is assigned. As in the planning field, the *Reset procurement proposals* indicator is set, indicating planning mode 3.

- e) Explain and save the result.
5. Show the planning file for material T-SCM525-1.
- a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Planning File Entry* → *Display (MD21)*.

b) On the *Display planning file entries* screen, enter the following data:

Field Name or Data Type	Value
<i>Material</i>	<b>T-SCM525-1</b>
<i>Plant</i>	<b>1000</b>

- c) Choose  (*Execute*).
  - d) The *NETCH* planning indicator and the *Reset procurement proposals* planning indicator are no longer set.
6. Show the material master record for T-SCM525-1.
- a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current (MM03)*.
  - b) Branch to the *MRP 1* view in plant 1000.
  - c) MRP group 0000 is automatically assigned to the material.



**Note:**  
The material has the *ROH* material type for raw materials. The assignment of the MRP groups can be linked to the material type.

7. Show the assignment of the MRP group to the material type.
- a) In *Customizing*, go to *Materials Management->Consumption-Based Planning* → *MRP Groups* → *Define MRP Group for Each Material Type (OMIG)*.
  - b) On the *Change View "Define MRP Group per Material Type": Overview* screen, show that the *ROH* material type in plant 1000 was assigned to MRP group 0000.



# Unit 8

## Exercise 34



### Display a Planning Run



The subsequent exercise assumes participants have completed the exercise from the lesson *Maintaining the Material Master* in this course. If the current lesson is used in isolation, you must create material T-M525A## during preparation for the appropriate number of participant groups. You can use the data from the lesson *Maintaining the Material Master* for the material master records.

#### Business Example

You are responsible for carrying out a requirements planning run. Therefore, you must understand how a planning run is executed.

Display the planning file entry for your material **T-M525A##** (where ## is your group number) in plant 1000.

1. What low-level code is your material allocated to?

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2. Which flags (change indicators) are set for your material in the planning file?

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# Unit 8

## Solution 34



### Display a Planning Run



The subsequent exercise assumes participants have completed the exercise from the lesson *Maintaining the Material Master* in this course. If the current lesson is used in isolation, you must create material T-M525A## during preparation for the appropriate number of participant groups. You can use the data from the lesson *Maintaining the Material Master* for the material master records.

#### Business Example

You are responsible for carrying out a requirements planning run. Therefore, you must understand how a planning run is executed.

Display the planning file entry for your material **T-M525A##** (where ## is your group number) in plant 1000.

1. What low-level code is your material allocated to?

---

a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Planning File Entry* → *Display* (MD21).

b) On the *Display planning file entries* screen, enter the following data:

Field Name or Data Type	Value
<i>Material</i>	<b>T-M525A##</b>
<i>Plnt</i>	<b>1000</b>

c) Choose  (*Execute*).

d) Your material is assigned to low-level code 999.

2. Which flags (change indicators) are set for your material in the planning file?

---

a) The *NETCH* and *NETPL* indicators are set for the material.



Hint:

The *Reset procurement proposals* indicator corresponds to planning mode 3 on the initial screen of the planning run.



# Unit 8

## Exercise 35



### Carry Out a Planning Run

#### Business Example

You are responsible for executing a requirements planning run. Therefore, you must carry out single-level, single-item planning. You must also create a planned order and check the planning result.

Carry out single-level, single-item planning for your material T-M525A## (where ## is your group number) in plant 1000.

1. Choose the planning process type for net change planning for a total horizon. What processing key do you use?

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2. Make sure that the requirements planning run creates planned orders. What creation indicator do you use for purchase requisitions?

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3. Display the results before saving them.

4. Check the planning result. Did the system create a planned order for your material?

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How do you explain the receipt quantity of the planned order?

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## Carry Out a Planning Run

### Business Example

You are responsible for executing a requirements planning run. Therefore, you must carry out single-level, single-item planning. You must also create a planned order and check the planning result.

Carry out single-level, single-item planning for your material T-M525A## (where ## is your group number) in plant 1000.

1. Choose the planning process type for net change planning for a total horizon. What processing key do you use?

---

a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single-Item, Single-Level (MD03)*.

b) For net change planning for a total horizon, use the *NETCH* processing key.

2. Make sure that the requirements planning run creates planned orders. What creation indicator do you use for purchase requisitions?

---

a) On the *Single-Item, Single-Level* screen in the *Create Purchase Req.* field, enter **3** so that planned orders are created.

3. Display the results before saving them.

a) Select the *Display results before they are saved* checkbox.

b) Choose *Enter* to start the planning run.

c) Confirm the warning message and choose *Enter*.

d) Save the planning result.

4. Check the planning result. Did the system create a planned order for your material?
-

How do you explain the receipt quantity of the planned order?

---

- a) A planned order amounting to 500 pieces was created because a fixed lot size of 500 pieces was entered in the material master.





# Unit 8

## Exercise 36



### Display a Planning File Again

#### Business Example

You are responsible for carrying out a requirements planning run. Therefore, you must evaluate the planning indicators for your material.

Display the planning file entry again for your material T-M525A## in plant 1000.

1. Which planning indicators (change indicators) are set for your material?

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## Display a Planning File Again

### Business Example

You are responsible for carrying out a requirements planning run. Therefore, you must evaluate the planning indicators for your material.

Display the planning file entry again for your material T-M525A## in plant 1000.

1. Which planning indicators (change indicators) are set for your material?

- 
- a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Planning File Entry* → *Display* (MD21).
  - b) On the *Display planning file entries* screen, enter material **T-M525A##** and plant **1000**.
  - c) Choose  (*Execute*).
  - d) No indicators are set for the material.

# Unit 8

## Exercise 37



### Verify the Material Master Settings

#### Business Example

You are responsible for carrying out a requirements planning run. Therefore, you must be able to verify the origin of the MRP group settings.

Display the MRP data for your material T-M525A## (where ## is your group number) in the material master record.

1. What MRP group is assigned to your material?

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2. Where does this assignment originate?

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## Verify the Material Master Settings

### Business Example

You are responsible for carrying out a requirements planning run. Therefore, you must be able to verify the origin of the MRP group settings.

Display the MRP data for your material T-M525A## (where ## is your group number) in the material master record.

1. What MRP group is assigned to your material?

- 
- On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current* (MM03).
  - On the *Display Material (Initial Screen)* screen, enter material number **T-M525A##**.
  - Choose *Select View(s)*.
  - Select the *MRP 1* view.
  - Choose *Continue*.
  - Enter plant **1000**.
  - Choose *Continue*.
  - The *MRP group* field is under the *General Data* area. MRP group 0000 is assigned to the material.

2. Where does this assignment originate?

- 
- This assignment comes from the *ROH* (raw material) material type that is assigned to the material.
  - The assignment of the MRP group for each material type is made in *Customizing* under *Materials Management*->*Consumption-Based Planning* → *MRP Groups* → *Define MRP Group for Each Material Type* (OMIG).
  - On the *Change View "Default MRP Group per Material type": Overview* screen, select the line with material type *ROH* and plant *1000* to find the assigned MRP group 0000.



## Check the MRP Group Parameters

### Business Example

You are responsible for carrying out a requirements planning run. Therefore, you must consider how the control parameters for the MRP group are maintained.

Display the control parameters for MRP group 0000.

1. Display the control parameters for the MRP group of your material in plant 1000. In Customizing, choose *Carry Out Overall Maintenance of MRP Groups*. What planning horizon is specified for the MRP group of your material in plant 1000?

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## Check the MRP Group Parameters

### Business Example

You are responsible for carrying out a requirements planning run. Therefore, you must consider how the control parameters for the MRP group are maintained.

Display the control parameters for MRP group 0000.

1. Display the control parameters for the MRP group of your material in plant 1000. In Customizing, choose *Carry Out Overall Maintenance of MRP Groups*. What planning horizon is specified for the MRP group of your material in plant 1000?

- 
- a) In Customizing, go to *Materials Management->Consumption-Based Planning → MRP Groups → Carry Out Overall Maintenance of MRP Groups (OPPZ)*.
  - b) On the *Material Requirements Planning (MRP) Group* screen, enter plant **1000**.
  - c) Choose  (*Maintain*).
  - d) On the *Maintain MRP Group* dialog box, enter MRP group **0000**.
  - e) Choose  (*Maintain*) again.
  - f) Choose *Planning Horizon*. No planning horizon is defined for MRP group 0000.



## Check the Plant Parameters

### Business Example

You are responsible for carrying out a requirements planning run. Therefore, you must check the plant parameters for your plant.

Display the control parameters for plant 1000.

1. What planning horizon is defined for plant 1000?

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2. What planning horizon is relevant for planning material T-M525A## (where ## is your group number) and why?

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## Check the Plant Parameters



### Business Example

You are responsible for carrying out a requirements planning run. Therefore, you must check the plant parameters for your plant.

Display the control parameters for plant 1000.

1. What planning horizon is defined for plant 1000?

---

  - a) In Customizing, go to *Materials Management->Consumption-Based Planning → Plant Parameters → Carry Out Overall Maintenance of Plant Parameters (OMI8)*.
  - b) On the *Plant Parameters for Material Requirements Planning* screen, choose  (*Maintain*).
  - c) On the *Maintain Plant Parameters* dialog box, enter plant **1000**.
  - d) Choose  (*Maintain*) again.
  - e) Choose the *Planning Horizon* pushbutton.
  - f) The planning horizon for plant 1000 is defined as 100 days (workdays).
2. What planning horizon is relevant for planning material T-M525A## (where ## is your group number) and why?

---

  - a) The MRP group assigned to the material has a higher priority than that of the plant parameter. However, because no horizon has been defined in the MRP group, the planning horizon defined at plant level is valid.





### **LESSON SUMMARY**

You should now be able to:

- Parameterize a planning run



## Converting Planning Results

### LESSON OVERVIEW

This lesson describes different ways of converting a planned order to a purchase requisition. This lesson also covers planning run results.

### Business Example

After requirements planning has been performed, you are responsible for converting planned orders created by the system for externally acquired materials into a purchase requisition. You first display the created procurement proposals in the MRP list. Therefore, you require the following knowledge:

- An understanding of planning runs
- An understanding of various control parameters
- An understanding of the different types of planning processes



In this lesson, briefly explain about the planning file and bring out the point that because of the types of planning processes, the system determines the materials that need to be planned from the planning field. The corresponding change indicators (NETCH and NETPL) are deleted from the planning file after a planning run. Depending on the creation indicator, the corresponding procurement proposals and MRP lists are results of the planning run, and you need to explain these results.

The exercises at the end of this lesson can be carried out only if the participants have completed the previous exercises of this course.

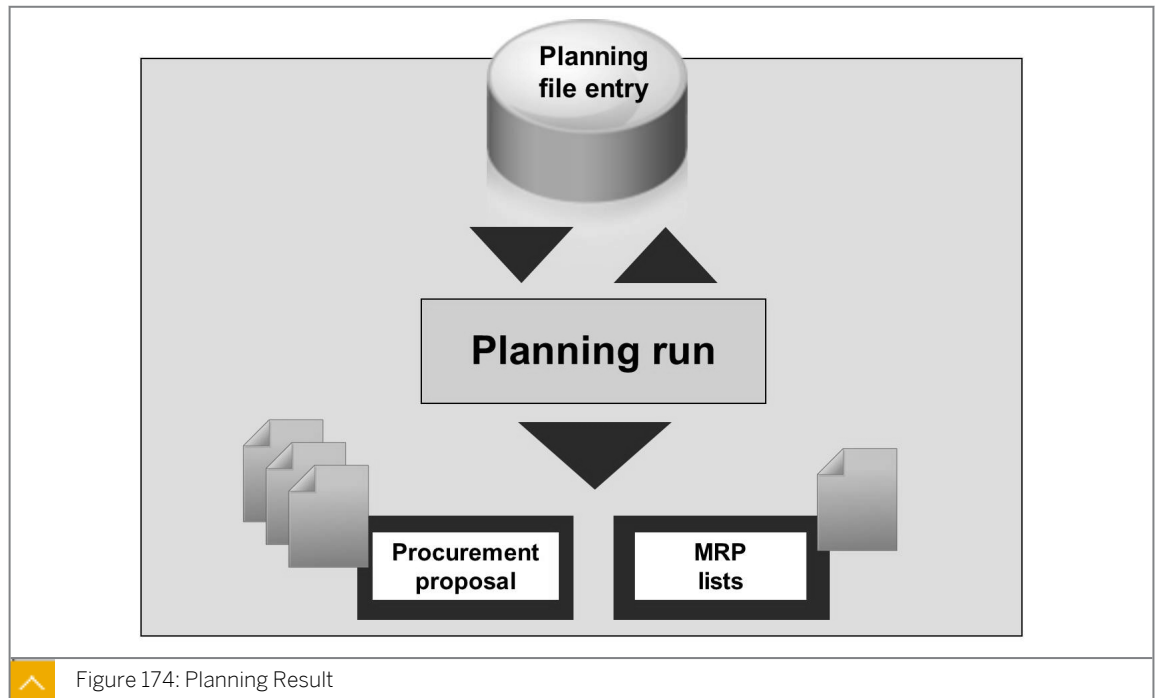


### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Verify and convert planning results

## Planning Result



You can execute requirements planning as individual or overall planning. The type of planning run determines the scope of the materials to be planned. You can specify the type of planning run in the *Processing Key* field on the initial screen. Depending on the selected processing key, the system determines the materials to be planned from the planning file and deletes the corresponding indicator (*NETCH* or *NETPL*).

The results of the planning run are both procurement elements (planned orders, purchase requisitions, and schedule lines) and optional MRP lists.

### MRP Lists

An MRP list is static and contains the planning results for a material. The MRP list always displays the stock/requirements status at the time of the last planning run and provides a work basis for the MRP controller. Any changes made after the planning date are not considered.

The MRP list is stored in the system until it is either manually deleted or replaced by a new list from a subsequent planning run.

**Each MRP list is divided into the following sections:**

Section	Description
Header	Contains the recorded material data. For example, the material number, plant, and MRP parameters.
Items	Contains information on the individual MRP elements. For example, planned orders, purchase orders, reservations, and sales orders.

Section	Description
Material tree	Contains information about materials, orders or product groups you are using in your session.



Hint:

You can change the names of the MRP elements in Customizing under *Materials Management->Consumption-Based Planning → Evaluation → Check Texts for the MRP Elements*.

### Planned Order Conversion

A planned order is an internal document used by the MRP controller that specifies how much of a material is needed and when. A planned order is used only within a company, and it is not binding. Planned orders can be created manually but are usually generated automatically with a requirements planning run.

#### A planned order has the following characteristics:

- A planned order is a procurement proposal in material requirements planning (MRP) for requirement coverage. **As it is an internal planning element** that helps with planning, a planned order is not binding and, therefore, does not trigger procurement directly.
- **A planned order can be changed or deleted at any time.**
- A planned order doesn't indicate whether the material is later procured via in-house production or external procurement.
- For materials produced in-house, a planned order is the requirements object for a secondary requirement. A planned order can be used in capacity calculation.
- For materials produced in-house, a planned order determines the basic dates for production.

## Planned Order

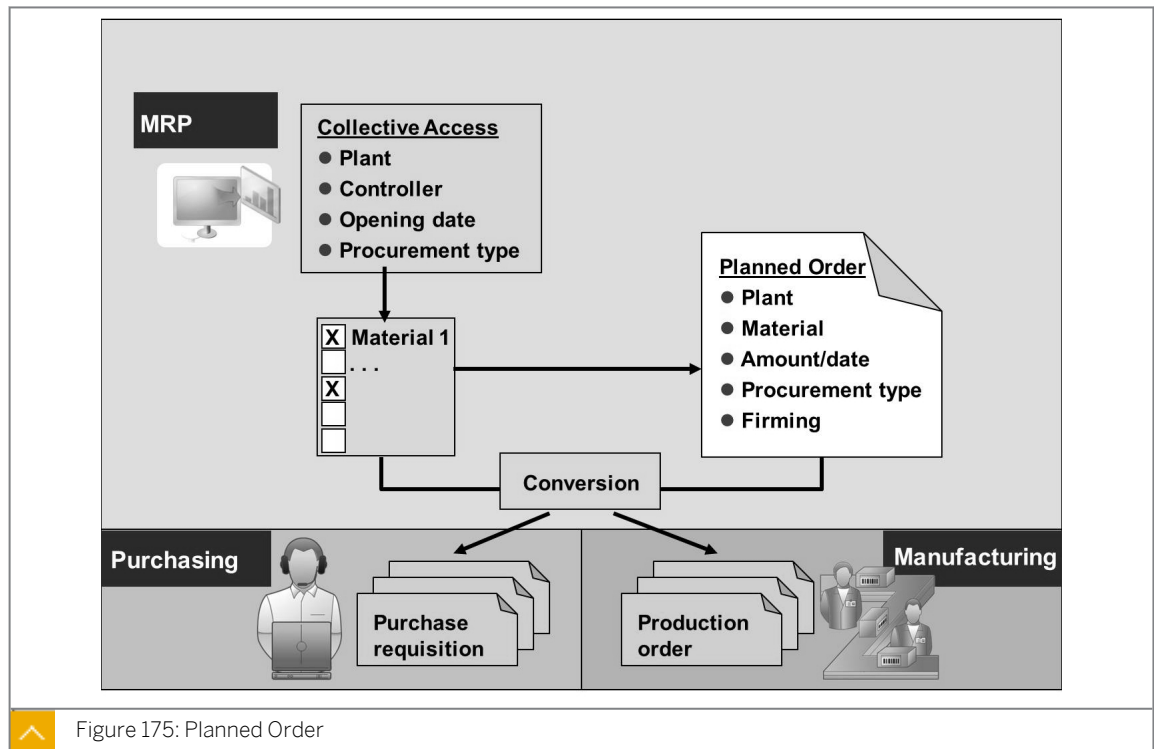


Figure 175: Planned Order

For in-house production, a planned order can be converted into a production order. For external procurement, a planned order can be converted into a purchase requisition.

All purchase requisitions that were created by converting a planned order are fixed automatically. They are not changed by planning runs that occur later.

### Conversion of Planned Order into Purchase Requisition

You can convert a planned order into a purchase requisition using Individual Conversion or Collective Conversion.

#### Individual Conversion

You can convert the planned order quantity in total or in part. Partial conversion is advantageous when a demand situation changes or when you want to use in-house production for part of the planned order.

On the SAP Easy Access screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning* → *MRP* → *Planned Order* → *Convert to Pur. Req.* → *Individual Conversion (MD14)* to convert a planned order individually.

You can also convert a planned order directly from the MRP list or current stock/requirements list.

#### Collective Conversion

You can select specific planned orders that have start dates within the opening horizon. The opening horizon is the time available for the MRP controller to convert a planned order into a purchase requisition or a production order. The horizon key in the material master record controls the opening horizon.

You can select specific planned orders that have start dates within the opening horizon. The opening horizon is the time available for the MRP controller to convert a planned order into a

purchase requisition or a production order. The horizon key in the material master record controls the opening horizon.

On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning* → *MRP* → *Planned Order* → *Convert to Pur. Req.* → *Collective Conversion* (MD15) to convert planned orders into purchase requisitions collectively.

Collective conversion is also possible in the background.



## How to Use Collective Lists



This demo assumes that you have completed the demo in the lesson *Executing a Planning Run*.

Show how to gain collective access to the MRP list and explain the processing indicator in the MRP list.

1. Show collective access to the MRP list.
  - a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *MRP List - Coll. Displ* (MD06).
  - b) On the *MRP List: Initial* screen, enter MRP controller **020**.
  - c) Choose *Enter* to call the list.
  - d) On the *MRP List: Material List* screen, choose material *T-SCM525-1*.
  - e) Choose (*Selected MRP Lists*).
  - f) Choose *MRP List* → *Exit*.
2. Show the MRP list for material T-SCM525-1.
  - a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *MRP List - Material* (MD05).
  - b) On the *MRP List: Initial* screen, enter the following data:

Field Name or Data Type	Value
<i>Material</i>	<b>T-SCM525-1</b>
<i>Plant</i>	<b>1000</b>

- c) Choose *Enter* to call the MRP list.
- d) Briefly explain the structure of the list (header data, data of the MRP elements, and material tree).



## Verify the Planning Results

### Business Example

After executing a planning run, the planning results have to be evaluated and revised. Therefore, you need to display and verify the planning results.

Display the results of the last planning run. To display the results, go to the requirements planning evaluations and choose *MRP List - Collective Display*.

1. Select all MRP lists for plant 1000, MRP controller 025, procurement type *F*, and MRP type *VB*. Is there an MRP list for material T-M525A## (where ## is your group number)?

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2. Go to the individual display of the MRP list for material T-M525A##. Is the processing indicator set for this MRP list?

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3. Change the planned order by calling the order from the list. Increase the quantity of the planned order by 100 pieces.



## Verify the Planning Results

### Business Example

After executing a planning run, the planning results have to be evaluated and revised. Therefore, you need to display and verify the planning results.

Display the results of the last planning run. To display the results, go to the requirements planning evaluations and choose *MRP List - Collective Display*.

1. Select all MRP lists for plant 1000, MRP controller 025, procurement type F, and MRP type VB. Is there an MRP list for material T-M525A## (where ## is your group number)?

- a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *MRP List - Coll. Displ. (MD06)* to call the MRP list with collective access.

- b) On the *MRP List: Initial* screen, enter the following data:



Field Name or Data Type	Value
<i>Plant</i>	1000
<i>MRP controller</i>	025

- c) On the *Material Data* tab page, enter the following data:

Field Name or Data Type	Value
<i>Procurement type</i>	F
<i>MRP Type</i>	VB

- d) Choose *Enter*.
  - e) On the *MRP List: Material List* screen, all materials that were selected with your criteria and that have an MRP list are displayed in the collective display. There is a list for material T-M525A##.
2. Go to the individual display of the MRP list for material T-M525A##. Is the processing indicator set for this MRP list?



- 
- a) To branch to the individual display of the MRP lists, select the corresponding lines.
  - b) Choose the *Selected MRP Lists* pushbutton.
  - c) On the *MRP List* screen, choose the *Expand header details* pushbutton.
  - d) On the *Special MRP list data* tab page, you can see if the processing indicator is set in the header of the MRP list.
  - e) The MRP controller has to set the processing indicator manually as soon as the processing of the MRP list has been completed. At the moment, the processing indicator is, therefore, not set.
  - f) Exit the individual display and the collective display of the MRP lists. To do so, go back twice.
  - g) In the *Exit Material List* dialog box, click *Yes* to confirm the message.
3. Change the planned order by calling the order from the list. Increase the quantity of the planned order by 100 pieces.
- a) To change the planned order, first branch to the detail screen of the planned order. Choose  (*Details of Element*).
  - b) In the *Additional Data for MRP Element* dialog box, choose  (*Change Element*) to branch to the planned order.
  - c) On the *Change Planned Order: Standard purchase order* screen, increase the order quantity by 100.
  - d) Save your data.
  - e) Leave the MRP list open for the next task.



# Unit 8

## Exercise 41



### Convert a Planned Order

#### Business Example

The system creates planned orders during a planning run. However, these orders have to be converted into purchase requisitions or production orders.

Convert your changed planned order from the list into a purchase requisition.

1. View the MRP list. Why can you not see the quantity change you made to the planned order in this list?

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2. Convert your changed planned order from the list into a purchase requisition. Ensure that the changed quantity in the planned order is copied into the purchase requisition and save the purchase requisition. Set the processing indicator for material T-M525A## in the MRP list.





## Convert a Planned Order

### Business Example

The system creates planned orders during a planning run. However, these orders have to be converted into purchase requisitions or production orders.

Convert your changed planned order from the list into a purchase requisition.

1. View the MRP list. Why can you not see the quantity change you made to the planned order in this list?

- 
- a) You cannot see the quantity change in the MRP list because the list is static. It only shows the results of the last planning run and is updated with the next planning run.
2. Convert your changed planned order from the list into a purchase requisition. Ensure that the changed quantity in the planned order is copied into the purchase requisition and save the purchase requisition. Set the processing indicator for material T-M525A## in the MRP list.
    - a) To convert the planned order into a purchase requisition, first branch to the detail screen of the planned order. To do so, choose  (*Details of Element*).
    - b) In the *Additional Data for MRP Element* dialog box, choose the *Pur. Req.* pushbutton.
    - c) On the *Convert Planned Order into Purch. Req.: Details* screen, check the quantity in the *Converted Quantity* field. The purchase requisition is created with the changed quantity.
    - d) Save your data.
    - e) In the *MRP List* screen, set the processing indicator in the list header. To do so, choose  (*Processing indicator on*).

# Unit 8

## Exercise 42



### Evaluate the MRP Lists

#### Business Example

In a planning run, planned orders are converted into purchase requisitions or production orders. At the end of planning, check whether the MRP list for your material is processed.

Call the collective display for MRP lists again.

1. Select all unprocessed MRP lists for plant 1000, MRP controller 025, procurement type *F*, and MRP type *VB*. Is there an entry for material T-M525A## (where ## is your group number)?

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## Evaluate the MRP Lists

### Business Example

In a planning run, planned orders are converted into purchase requisitions or production orders. At the end of planning, check whether the MRP list for your material is processed.

Call the collective display for MRP lists again.

1. Select all unprocessed MRP lists for plant 1000, MRP controller 025, procurement type *F*, and MRP type *VB*. Is there an entry for material T-M525A## (where ## is your group number)?

- a) To call the MRP list with collective access, on the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *MRP List - Coll. Displ.* (MD06).

- b) On the *MRP List: Initial* screen, enter the following data:

Field Name or Data Type	Value
<i>Plant</i>	1000
<i>MRP controller</i>	025

- c) On the *Processing Indicator* tab, select the *Only unprocessed MRP lists* radio button. You can maintain procurement type *F* and MRP type *VB* on the *Material Data* tab page.
- d) Choose *Continue*.
- e) On the *MRP List: Material List* screen, there is no entry in the collective display for material T-M525A## because you set the processing indicator in the individual list and selected *Only unprocessed MRP lists* as a selection criterion in collective access.
- f) Choose *MRP List* → *Exit*.
- g) In the *Exit Material List* dialog box, choose the *Yes* pushbutton to confirm the message.



### **LESSON SUMMARY**

You should now be able to:

- Verify and convert planning results



## Evaluating the Planning Results

### LESSON OVERVIEW

This lesson explains the material requirements planning (MRP) list and the current stock/requirements list in detail. This lesson also covers the most important Customizing settings for evaluation options and the exception messages that are created during a planning run.



In this lesson, clarify the differences between the MRP list and the current stock/requirements list. Explain in detail the individual functions of the two lists. Discuss the possible Customizing settings for the evaluations and explain exception messages.

Introduce the navigation profile and the possibility of using user-specific favorites in the MRP list and current stock/requirements list. Emphasize that a navigation profile simplifies the work for the user.

The exercises at the end of this lesson can be carried out only if the participants have completed the previous exercises of this course.

### Business Example

After converting the planned order that was generated in the planning run to a purchase requisition, you want to check the result in the current stock/requirements list again. If an exception situation exists for your material, this exception is displayed in the form of an exception message. You want to gain an overview of this exception message in Customizing. For this reason, you require the following knowledge:

- An understanding of the differences between the MRP list and current stock/requirements list
- An understanding of the differences between individual and collective lists
- An understanding of the various functions for evaluating a planning result
- An understanding of the important Customizing settings for evaluations



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Use the most common planning evaluation tools
- Use the collective access to lists
- Use the material tree
- Use the navigation profile
- Explore exception messages



## Current Stock/Requirements List and MRP List

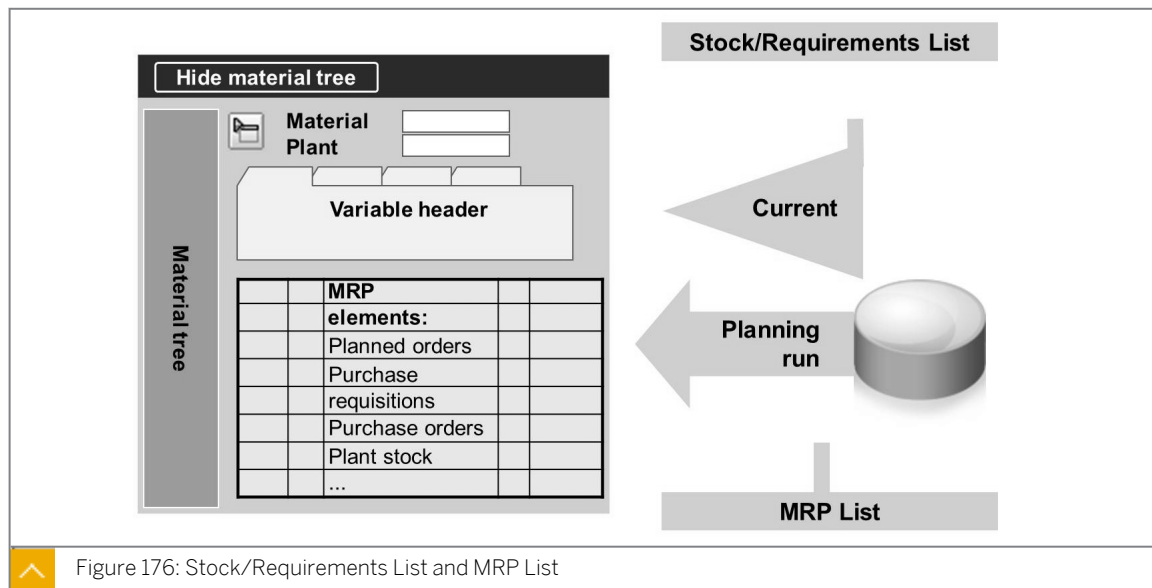


Figure 176: Stock/Requirements List and MRP List

After the regular requirements planning run, check the stock/requirements situation of the planned materials, execute any necessary changes, and ensure the availability of the materials. The MRP list and current stock/requirements list are available for the evaluation of planning results.

Individual access allows you to display the stock/requirements situation for a single material in a list whereas collective access allows you to display the stock/requirements situation for a range of materials.

### Characteristics of the MRP and Current Stock/Requirements Lists

#### The characteristics of the MRP list are as follows:

- Depending on the creation indicator of the MRP list, the system creates the MRP list during the planning run. This list contains the planning results for a material.
- The MRP list always displays the stock/requirements situation from the time of the last planning run.
- The MRP list provides a work basis for the MRP controller.
- Changes made after the planning date are not considered. The list is static.
- The MRP list is stored in the system until it is either deleted manually or replaced by a new list from a subsequent planning run.

#### The characteristics of the current stock/requirements list are as follows:

- The current stock/requirements list displays the updated stocks and requirements.
- Each time the stock/requirements list is called, it determines the various MRP elements again and displays the most up-to-date situation for a material. Therefore, the stock/requirements list provides the most recent availability situation for a material.
- Changes made after the planning date are displayed directly. The list is dynamic.

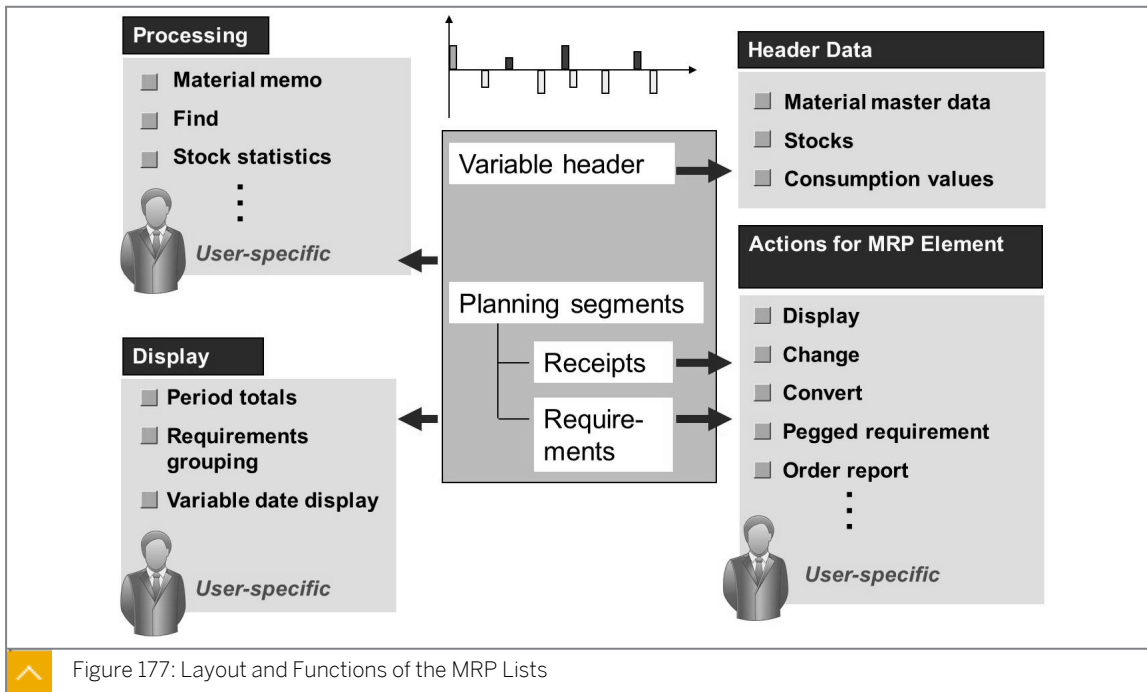


Note:  
Both lists contain exactly the same information directly after the planning run. As soon as an MRP-relevant change is made, the information in the stock/requirements list is updated.

**The structure of both lists is as follows:**

- On the left-hand side is the worklist of the MRP controller in treeform. This is optional.
- The tops of the lists contain the headers with the material numbers. The header details provide more information.
- The lists contain the individual MRP elements and the corresponding available quantities.

**MRP List Layout and Functions**



The individual lists have a large number of display options.

You can display different dates (availability date or goods receipt / delivery date).

You can use filters. There is a difference between selection rules and display filters. With selection rules, you determine the MRP elements and stocks that are included in the quantity and stock calculations. You define your own business views. With display filters, you determine the MRP elements and MRP segments that are displayed. In this way, you can reduce the information displayed so that you have a clear selection.



Hint:

**From a materials management perspective, the following selection rules are important:**

- **SAP VB with dependent requirements also displays dependent requirements for materials planned using consumption-based planning.** These are otherwise invisible with MRP type VB (*Manual reorder point planning*). **The dependent requirements nevertheless have no influence on MRP.**
- *SAP SA releases instead of delivery schedules* are useful for scheduling agreements with release documentation. You can use them to see whether releases were created and sent to the vendor.

The period totals are a display variant in which the planning results are periodically summarized. Different tab pages display the individual periodicities of the period totals. This form of display provides a quick overview of material availability over time.

To compare the MRP list and the stock/requirements list, use the compare functions. You can compare the situation at the time of the last planning run with the current stock/requirements situation.

The header details show an overview of master and movement data for each material. This data is grouped together by topic on individual screens. The MRP type controls the screens displayed in the requirements planning evaluations. To control screen display, screen sequences have a key that is assigned to the MRP type. It is, therefore, possible to display different master data for the evaluation of consumption-based planned materials and for MRP-planned materials.

The items contain information concerning the individual MRP elements, such as planned orders, purchase orders, reservations, and sales orders. You can process individual MRP elements from the list.

You can use user-specific settings to adjust the lists to your personal requirements. These settings apply to both lists.

### User-Specific Configurations

**The user-specific configurations include the following settings:**

- Definition of list display settings
- Definition of user-specific transaction calls
- Configuration of columns in the lists
- Navigation between materials within the material tree
- Definition of the traffic light values
- Saving the selection parameters for collective access into the MRP list

On the SAP Easy Access screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → **MRP List - Material (MD05)** to display the MRP list for a particular material.

On the SAP Easy Access screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → **Stock/Reqmts List (MD04)** to show the current stock/requirements list for a particular material.



A prerequisite for the demos in this lesson is that you have performed all the previous demos in this unit.



### How to Use the Individual Lists

Give the participants additional details about the individual lists and explain the differences between the MRP list and the current stock/requirements list.

1. Show the current stock/requirements list for material T-SCM525-1.
  - a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Reqmts List (MD04)*.
  - b) On *Stock/Requirements List: Initial Screen*, enter the following data:

Field Name or Data Type	Value
<i>Material</i>	<b>T-SCM525-1</b>
<i>Plant</i>	<b>1000</b>

- c) Choose *Enter* to call the list.



Explain the three areas: the header, items with information on the MRP elements, and the material tree.

- d) Change between the availability date and the delivery date or goods receipt date.
  - e) Use (*Refresh*) to show how to refresh the current stock/requirements list.
2. Show the MRP list for material T-SCM525-1.
  - a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *MRP List - Material (MD05)*.
  - b) On *MRP List: Initial Screen*, choose the *Individual access* tab and enter the following data:

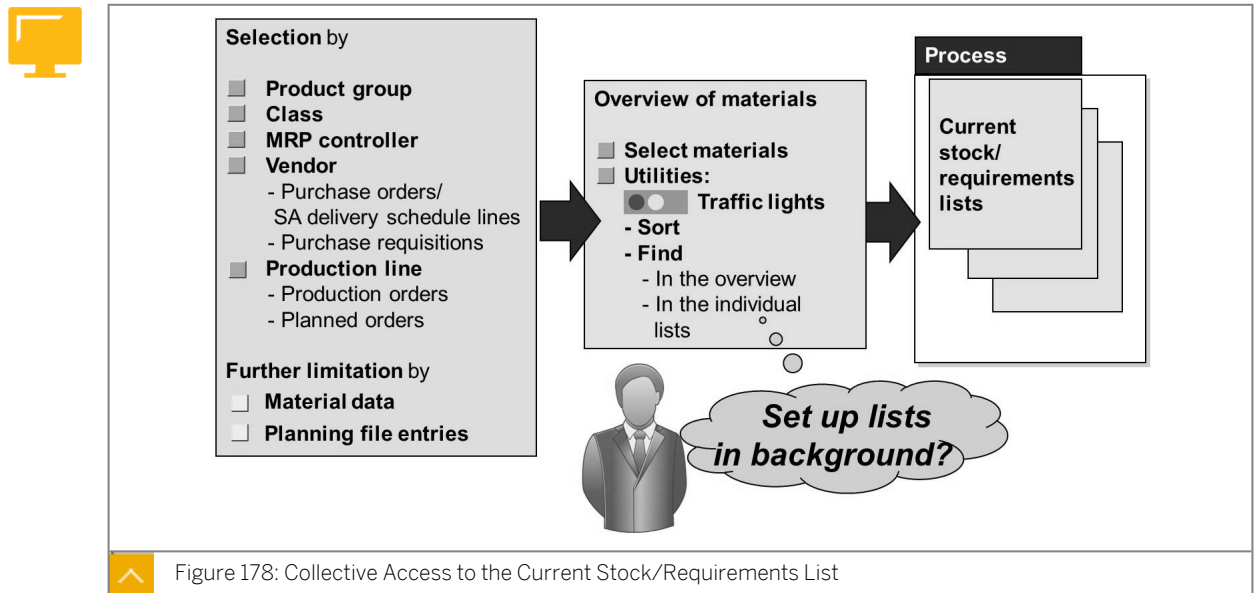
Field Name or Data Type	Value
<i>Material</i>	<b>T-SCM525-1</b>
<i>Plant</i>	<b>1000</b>

- c) Choose *Enter* to call the list.



Show the differences between the current stock/requirements list and the MRP list. The *Refresh* pushbutton does not exist in the MRP list, but there is a processing indicator and header data for exception messages.

## Collective Lists



Collective access is possible with a large number of selection criteria. The criteria for accessing the current stock/requirements list are different from those for accessing the MRP list.

### Characteristics of collective access are as follows:

- With collective access, a material overview displays all selected materials. From the overview of all selected materials, you can go to the individual lists and process these materials. If, for example, you have selected several lists for processing, you can go from one list directly to the next selected list.
- If you access the collective list with the *Set up lists in background* indicator, you have orientation help.
- Traffic light values display the urgency of the material processing. The criteria for the display can be user-specific. The ranges of coverage and exception groups control the traffic light display.
- There are various sort and search functions available in the overview and in the individual lists.

### You can use the following functions:

- The search function helps you select materials according to particular exception messages.
- The sort function enables you to sort the materials in the collective access list according to certain criteria.
- The graphical display can show you ranges of coverage or stock values for a material over time.

### Setting the Traffic Lights for the Stock/Requirements and MRP Lists

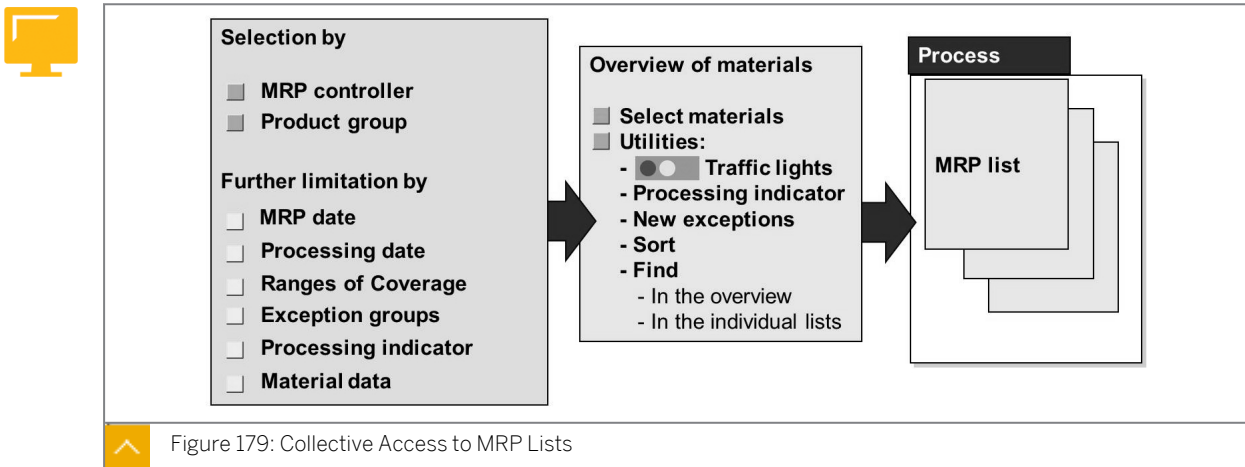
You can set the traffic lights for the stock/requirements list and the MRP list material-specific.

**You need to perform the following steps:**

- Define evaluation profiles in Customizing under *Materials Management->Consumption-Based Planning → Evaluation → Define Evaluation Profile for Range-of-Coverage Data*.
- Assign these profiles to the MRP groups that can in turn be entered in the material master record in the *MRP 1* view. You can do this in Customizing under *Material Requirements Planning->MRP Groups → Carry Out Overall Maintenance of MRP Groups (OPPZ)*.
- Assign evaluation profiles depending on the plant and MRP group combination.

On the SAP Easy Access screen, choose *Logistics → Materials Management → Material Requirements Planning (MRP) → MRP → Evaluations → Stock/Requirements: Collective Display (MD07)* to call the current stock/requirements list for collective access.

**Collective Access to MRP Lists**



The selection criteria for collective access in the MRP lists are not the same as those in the current stock/requirements lists. For example, you can use the MRP date, the processing date, or the processing indicator for selection.

The orientation guides in the material overview correspond to the current stock/requirements list. You can also search for processing indicators or new exceptions.

On the SAP Easy Access screen, choose *Logistics → Materials Management → Material Requirements Planning (MRP) → MRP → Evaluations → MRP List - Coll. Displ. (MD06)* to call the MRP list for collective access.



**How to Call Collective Access**

Show collective access to the MRP list and current stock/requirements list. Mention the different selection possibilities for the two lists and explain the processing indicator in the MRP list.

1. Show collective access to the current stock/requirements list.
  - a) On the SAP Easy Access screen, choose *Logistics → Materials Management → Material Requirements Planning (MRP) → MRP → Evaluations → Stock/Requirements: Collective Display (MD07)*.



Show the different selection options. Explain the *Set up lists in background* indicator.

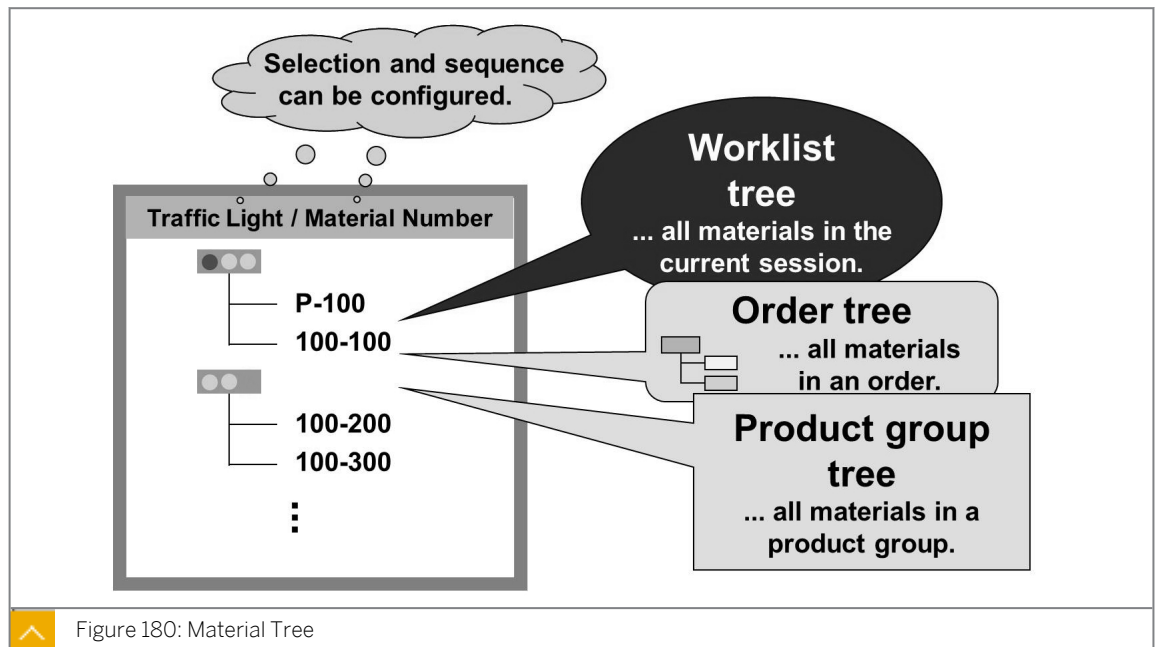
- b) Enter the MRP controller **020**.
- c) In the *Create Material List* dialog box, choose the *Yes* pushbutton.
- d) Choose *Enter* to call the list.



Explain the structure of the list and pay particular attention to the traffic light values. Explain the options for setting the traffic lights specifically for a user.

- e) To display the search function, choose *Edit* → *Find*.
  - f) Enter material **T-SCM525-1** and choose (*Find in materials*).
  - g) To show the graphical display, choose (*Graphics*).
  - h) Choose (*Selected Stock/Requirements Lists*) to go to an individual list.
  - i) Choose (*Details of Element*).
2. Define the receipt days' supply for the traffic lights in Customizing for *Materials Management* under *Consumption-Based Planning* → *Evaluation* → *Define Receipt Elements for Receipt Days' Supply* (OMIL).

## Material Tree



The material tree is a structure tree that can be shown in the MRP list and in the current stock/requirements list. You can specify in the user settings whether you want to display the material tree.

The following materials are automatically included in the material tree:

- All materials that you have selected during collective access to the MRP list or current stock/requirements list
- All materials for which you have called up the MRP list or current stock/requirements list during a session




**Note:**  
If you exit the transaction, the material selection is lost.

**You can change the layout of the tree and display the following structure trees:**

- **Worklist tree**  
In the worklist tree, all materials in the current session are displayed.
- **Order tree**  
All components and assemblies of a selected MRP element are displayed according to the order report.
- **Product group tree**  
All materials of a product group are displayed but only if you use collective access through a product group.



**Hint:**  
To view a material number in the overview, double-click the material number in the material tree. For the worklist tree and order tree, you can set the fields to be displayed and the sequence by choosing  (*Define Fields and Sequence*).



**How to Use the Material Tree**



Show the options of the material tree in the MRP list and current stock/requirements list.

1. Show the current stock/requirements list for material T-SCM525-1.
  - a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Reqmts List (MD04)*.
  - b) On the *Stock/Requirements List: Initial* screen, in the *Individual access* tab, enter the following data:

Field Name or Data Type	Value
<i>Material</i>	<b>T-SCM525-1</b>
<i>Plant</i>	<b>1000</b>

- c) Choose *Enter* to call the list.
- d) Choose the *Show Overview Tree* pushbutton. Show the display options.



- e) For the worklist tree and product group tree, to set the fields to be displayed and the sequence, choose  (*Define Fields and Sequence*).
- f) To show the settings for the traffic lights, choose  (*Define Traffic Light*).
- g) In the list header, enter another existing MRP-relevant material, such as **T-M525A01**.
- h) Choose *Enter*. The material selected first and the new material are both listed in the material tree.
- i) Double-click the corresponding material number to navigate within the material tree.



Hint:

You can also prepare a subcontract order or a production order and show the order reports.

## Navigation Profile

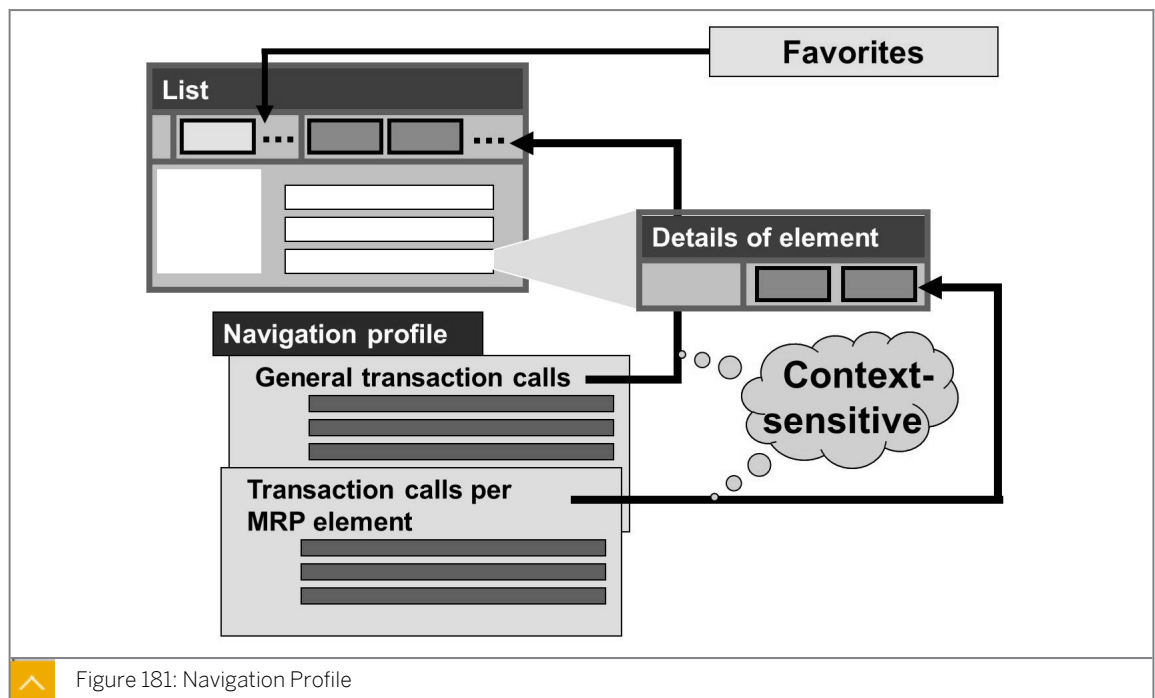


Figure 181: Navigation Profile

Navigation profiles and user-specific transaction calls (*Own Favorites*) enable you to easily work with MRP lists and current stock/requirements lists.

A navigation profile contains transaction calls for transactions that can be called directly from the current stock/requirements list or the MRP list. The transactions are either general, such as actions on a material level, or refer to a particular MRP element. You can access these transactions without having to leave the displayed list by using buttons with icons or text.

You can define a navigation profile in Customizing under *Materials Management* -> *Consumption-Based Planning* -> *Evaluation* -> *Define Navigation Profiles* (OM0K).

Users can assign themselves a profile.

**To assign a profile, perform the following steps:**

1. From the menu bar, select *Environment* → *Navigation Profile* → *Assign*.
2. Enter the required navigation profile.
3. Save your entry.

**Functions Performed in a Navigation Profile**

**You can perform the following functions in a navigation profile:**

- Define any number of transaction calls. The list display is limited to five general transaction calls and two transaction calls for each MRP element. However, only the first five or the first two transaction calls relevant for a particular context are displayed.
- Prepopulate three parameters for each transaction call for the initial screen of this transaction.
- Link or restrict the display of a transaction call to certain parameters from the material master record. The possible linking parameters are as follows:
  - Procurement type
  - Material type
  - MRP group
  - MRP type

User-specific transaction calls (*Own Favorites*) complete the general navigation profiles. In your favorites, you define transaction calls for the transactions you want to branch to from the lists. As with navigation profiles, you can have both general and specific transaction calls for each MRP element.

In *Environment* → *Own Favorites* → *Maintain*, you can activate up to five general user-specific transaction calls.



**How to Choose a Navigation Profile**

Explain the possibility of the navigation profile *Own Favorites* and its advantages.

1. Show the current stock/requirements list for material T-SCM525-1.
  - a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Reqmts List (MD04)*.
  - b) On *Stock/Requirements List: Initial Screen*, in the *Individual access* tab, enter the following data:

Field Name or Data Type	Value
<i>Material</i>	<b>T-SCM525-1</b>
<i>Plant</i>	<b>1000</b>

- c) Choose *Enter* to call the list.

- d) Assign the NAVSCM525 navigation profile. From the menu bar, choose *Environment* → *Navigation Profile* → *Assign*.



Show the second possibility of assigning a navigation profile. Choose *Settings* → *Settings*. On the *General Settings* tab, assign the navigation profile.

- e) Show the transaction calls included in the list as a result of the assignment of the navigation profile.
- f) Show the option of creating individual favorites. Choose *Environment* → *Own Favorites* → *Maintain*.
- g) On the *Stock/Requirements List* screen, choose *New Entries*.
- h) On the *User Settings for Flexible Transaction Calls* screen, enter the following data:

Field Name or Data Type	Value
<i>Navigation no.</i>	<b>10</b>
<i>Transaction code</i>	<b>MMBE</b>
<i>Text in Menu</i>	<b>Stock overview</b>

- i) Explain further options and save the user-specific transaction call.
- j) Choose *Back* to return to the current stock/requirements list.
2. Customizing settings for the navigation profile.
- a) Define a navigation profile in Customizing under *Materials Management* → *Consumption-Based Planning* → *Evaluation* → *Define Navigation Profiles* (OMOK).

## Exception Messages



**Exceptions** indicate the following:

- **New order proposals** created by MRP
- Dates in the **past** (start date, finish date, or opening date)
- Problems during **BOM explosion**
- Problems during **scheduling**
- **Rescheduling**

In **Customizing** you can make the following settings:

- **Priority**: Determines which exception message is displayed in the MRP list if several exceptions were created during the planning run for an MRP element
- Creation of a MRP list dependent on the exception messages that appeared
- Grouping of various exception messages for selection



Figure 182: Exception Messages

Exception messages depend on the procedure and indicate exceptional situations to consider, for example, a start date in the past or stock level falling below safety stock.

Exception messages are created during the planning run for situations that need to be checked by the MRP controller. These exception messages can, therefore, be used to monitor the planning results. In this way, the MRP controller is able to filter materials that require immediate processing out of the planning results .

An exception message refers to an individual MRP element.

The number of exception messages displayed in both lists is almost the same, the only difference being that **in the stock/requirements list, exception messages for newly scheduled MRP elements cannot be issued.**

**Definition and Grouping of Exception Messages**

You define and group exception messages in Customizing under *Materials Management->Consumption-Based Planning → Evaluation → Exception Messages → Define and Group Exception Messages (OMD3)*.

**Regarding exception messages, you determine the following system behaviour:**

- Whether an exception message should be created
- The priority of the exception messages (if multiple exception messages were created during the planning run for an MRP element)
- The exception messages that are to be grouped together into an exception group
- The exception messages that lead to the creation of an MRP list (if creation indicator *Create MRP list depending on exception messages* has been set)

**Customizing of Evaluations**

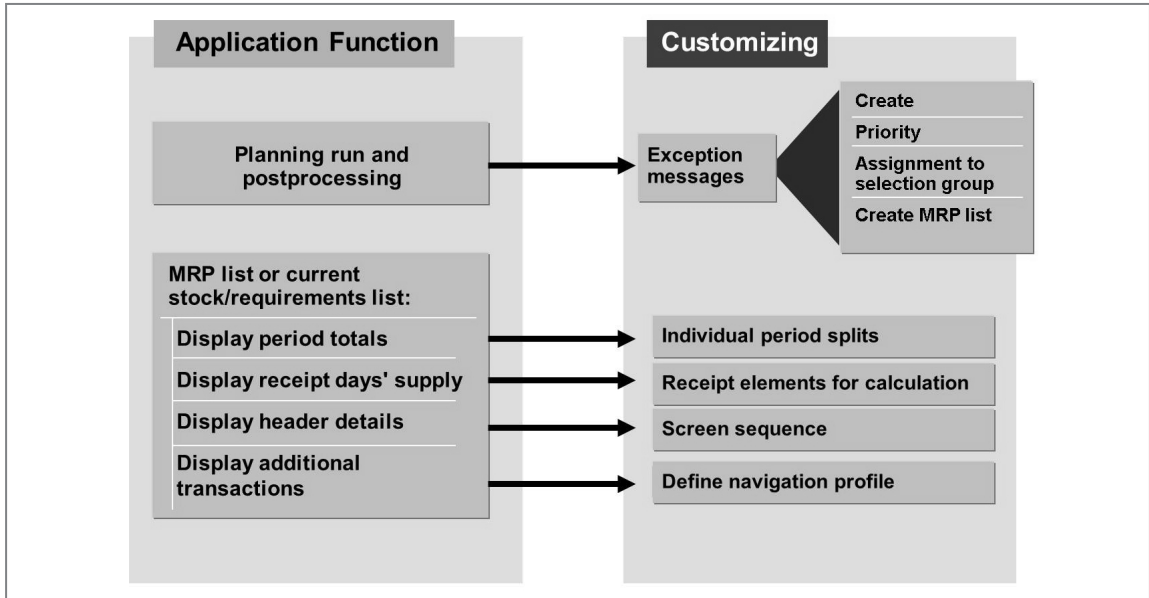


Figure 183: Customizing of Evaluations

**In the SAP system, the following Customizing options are available for evaluations:**

- Period totals  
You can define new period splits (displayed with the period totals and represented on a daily, weekly, and monthly basis) in Customizing under *Materials*

*Management → Consumption-Based Planning → Evaluation → Period Totals → Define Individual Period Split for Period Totals (OMDA).*

- Receipt days' supply

You can set which receipt elements are to be taken into account for receipt days' supply in Customizing under *Materials Management → Consumption-Based Planning → Evaluation → Define Receipt Elements for Receipt Days' Supply (OMIL)*. You can define supplies for up to two receipt days.



- Header details

You can define screen sequences to be assigned to the MRP type in Customizing under *Materials Management → Consumption-Based Planning → Evaluation → Define Screen Sequence for Header Details (OMIO)*.



### Use and Customize Exception Messages

Discuss exception messages in detail and explain the corresponding Customizing settings. Also cover the other Customizing settings for evaluations.

1. Show the collective access into the MRP list.
  - a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Requirements Planning (MRP) → MRP → Evaluations → MRP List - Coll. Displ (MD06)*.
  - b) On the *MRP List: Initial* screen, show the options for selecting exception messages and the option on the *Processing Indicator* tab for selecting unprocessed MRP lists.
  - c) Select *Only unprocessed MRP lists* and choose *Enter* to call the list.
  - d) In the collective display, show the exception messages accumulated into exception groups.
  - e) On the *MRP List: Materials List* screen, choose  *Exception Groups*.
  - f) Go to an individual list.
  - g) Show the exception messages accumulated into groups in the header and the exception messages for individual MRP elements. To do this, go to  *Details of Element*.
2. Customizing settings for the exception messages.
  - a) Define the settings for the exception messages in Customizing under *Materials Management → Consumption-Based Planning → Evaluations → Exception Messages → Define and Group Exception Messages (OMD3)*. Explain the options.



# Unit 8

## Exercise 43



### Review the Stock/Requirements List

#### Business Example

After the planned order has been converted, you must check the current stock/requirements situations for your materials on a regular basis. For this reason, you must first be able to review the stock/requirements list.

Display the current stock/requirements list for material T-M525A## (where ## is your group number) in plant 1000.

1. Is the firming indicator set for the purchase requisition?

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2. Change the purchase requisition by calling it from the list and increasing the quantity of the purchase requisition by 100 pieces.
3. What consequence does setting the firming indicator have?

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## Review the Stock/Requirements List

### Business Example

After the planned order has been converted, you must check the current stock/requirements situations for your materials on a regular basis. For this reason, you must first be able to review the stock/requirements list.

Display the current stock/requirements list for material T-M525A## (where ## is your group number) in plant 1000.

1. Is the firming indicator set for the purchase requisition?


a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Reqmts List (MD04)* to show the current stock/requirements list for a material.


b) On the *Stock/Requirements List: Initial* screen, enter the following data:

Field Name or Data Type	Value
<i>Material</i>	<b>T-M525A##</b>
<i>Plant</i>	<b>1000</b>

c) Confirm your entries and choose *Enter*. The firming indicator for the purchase requisition is set.

2. Change the purchase requisition by calling it from the list and increasing the quantity of the purchase requisition by 100 pieces.

a) Go to the purchase requisition detail screen. Choose  *Details of Element*.

b) In the *Additional Data for MRP Element* dialog box, choose  *Change Element* to go to the purchase requisition.

c) On the *Change Purchase Req.* screen, select the *Quantities/Dates* tab and overwrite the quantity.

d) Save your data.

e) Select  *Refresh* to refresh the current stock/requirements list.

3. What consequence does setting the firming indicator have?



- 
- a) By setting the firming indicator, dates and quantities cannot be changed for this MRP element by a new MRP run. The MRP controller can only make manual changes.



# Unit 8

## Exercise 44



## Control the Personal Settings of the List

### Business Example

After the planned order has been converted, you must check the current stock/requirements list for your materials on a regular basis. For this reason, you must be able to control the personal settings of the list.

Control the personal settings and determine the appearance of the current stock/requirements list and the MRP list according to user needs.

1. From the requirements planning menu, call the current stock/requirements list of material **T-M525A##** (where ## is your group number) in plant 1000. Display the default settings for your user in the list. The data for the settings is organized according to topic on multiple tab pages. What are the names of the tab pages?

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2. In the list, do you see the availability date or the goods receipt date as the date of an MRP element (*Dates* tab page)?

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3. Go back to the user-specific settings on the *Display* tab page and select the *With header details for material* field. Return to the list. Are the header details now displayed?

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In the header details, which MRP controller is specified in the material master record?

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Close the header details.

4. Position the cursor on the *Material* field in the header and double-click. What is displayed?

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Go back to the current stock/requirements list.



## Control the Personal Settings of the List

### Business Example

After the planned order has been converted, you must check the current stock/requirements list for your materials on a regular basis. For this reason, you must be able to control the personal settings of the list.

Control the personal settings and determine the appearance of the current stock/requirements list and the MRP list according to user needs.

1. From the requirements planning menu, call the current stock/requirements list of material **T-M525A##** (where ## is your group number) in plant 1000. Display the default settings for your user in the list. The data for the settings is organized according to topic on multiple tab pages. What are the names of the tab pages?

a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Reqmts List (MD04)* to show the current stock/requirements list.

b) On the *Stock/Requirements List: Initial* screen, enter the following data:

Field Name or Data Type	Value
<i>Material</i>	<b>T-SCM525A##</b> (##=your group number)
<i>Plant</i>	<b>1000</b>

c) Choose the *Continue* pushbutton.

d) Choose *Settings* → *Settings* to define user-specific settings.

e) The tab pages are:

- *Display*
- *Material Groupings*
- *Period Totals*
- *Dates*
- *Filter*
- *General Settings*

2. In the list, do you see the availability date or the goods receipt date as the date of an MRP element (*Dates* tab page)?
- 


a) The availability date is displayed on the *Dates* tab page.

3. Go back to the user-specific settings on the *Display* tab page and select the *With header details for material* field. Return to the list. Are the header details now displayed?
- 

In the header details, which MRP controller is specified in the material master record?

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Close the header details.

- a) Choose *Settings* → *Settings* to define user-specific settings.
- b) Go to the *Display* tab page and select the *With header details for matl* field.
- c) Choose *Continue* to copy your changes to the list.
- d) The header details are displayed. MRP controller 025 is assigned to the material.
- e) Choose  *Collapse header details* to close the header details.
4. Position the cursor on the *Material* field in the header and double-click. What is displayed?
- 

Go back to the current stock/requirements list.

- a) Double-click the *Material* field that displays in the header of the *Material* field. You will see the MRP views of the material master record.
- b) Choose *Back* to go back to the current stock/requirements list.



## Choose a Navigation Profile

### Business Example

After the planned order has been converted, you must check the current stock/requirements list for your materials on a regular basis. For this reason, you must be able to choose a navigation profile.

Call frequently-used transactions directly from the current stock/requirements list.

1. Assign navigation profile NAVSCM525 to enable you to call the transaction calls defined in the profile directly from the current stock/requirements and MRP list without having to leave the stock/requirements list.
2. Which transaction calls are now displayed on the application toolbar?

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3. Permanently copy this setting into your personal settings.
4. Leave the current stock/requirements list and call the list again. Are the transaction calls displayed?

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## Choose a Navigation Profile

### Business Example

After the planned order has been converted, you must check the current stock/requirements list for your materials on a regular basis. For this reason, you must be able to choose a navigation profile.

Call frequently-used transactions directly from the current stock/requirements list.

1. Assign navigation profile NAVSCM525 to enable you to call the transaction calls defined in the profile directly from the current stock/requirements and MRP list without having to leave the stock/requirements list.
  - a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Reqmts List*.
  - b) On the *Stock/Requirements List: initial* screen, choose *Continue*.
  - c) In the current stock/requirements list, choose *Environment* → *Navigation Profile* → *Assign*.
  - d) In the *Navigation profile* field, select the profile with the key NAVSCM525 and description *MRP Controller SCM525*.
  - e) Copy the entry and choose *Save*.
  - f) Choose *Continue* to confirm the info message.
2. Which transaction calls are now displayed on the application toolbar?

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a) In the application toolbar, the following transaction calls are displayed:

- Single-item planning
- Display Source List
- Maintain Source List
- Planning file Entry

3. Permanently copy this setting into your personal settings.
  - a) Choose *Settings* → *Settings* to define the navigation profile for your personal settings.
  - b) Save the defined navigation profile.
  - c) Choose *Continue* to confirm the info message.



4. Leave the current stock/requirements list and call the list again. Are the transaction calls displayed?

- 
- a) You have saved the navigation profile as your user-specific setting; therefore the transaction calls are still offered.



# Unit 8

## Exercise 46



### Use the Navigation Profile

#### Business Example

After the planned order has been converted, you must check the current stock/requirements list for your materials on a regular basis. For this reason, you must be able to use a navigation profile.

Execute requirements planning with the help of the transaction calls that display in the current stock/requirements list.

1. Execute a single-level, single-item planning from the list. Does the planning run generate new procurement elements?

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## Use the Navigation Profile

### Business Example

After the planned order has been converted, you must check the current stock/requirements list for your materials on a regular basis. For this reason, you must be able to use a navigation profile.

Execute requirements planning with the help of the transaction calls that display in the current stock/requirements list.

1. Execute a single-level, single-item planning from the list. Does the planning run generate new procurement elements?

- 
- a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Reqmts List*.
  - b) Choose *Continue*.
  - c) To execute a single-item, single-level planning from the current stock/requirements list, choose the  *Single-item planning* pushbutton.
  - d) Do not change the control parameters. Choose *Enter* to execute the planning run.
  - e) Choose *Enter* to confirm the warning message.
  - f) Choose  *Refresh* to refresh the list.
  - g) No new procurement elements were generated because no shortage situation arose.

# Unit 8

## Exercise 47



### Use the Material Tree

#### Business Example

After the planned order has been converted, you must check the current stock/requirements list for your materials on a regular basis. For this reason, you must be able to use a material tree.

Display the overview tree in the current stock/requirements overview.

1. What materials display in the material tree?

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2. Change to the stock/requirements list of material T-M525C## by entering the corresponding material number in the *Material* field in the list header and confirming your change. What materials now display in the material tree?

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3. Is it possible to individually define the display of the traffic lights in the material tree, depending on the different exception groups?

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4. Use the material tree to go back to material T-M525A##.



## Use the Material Tree

### Business Example


After the planned order has been converted, you must check the current stock/requirements list for your materials on a regular basis. For this reason, you must be able to use a material tree.

Display the overview tree in the current stock/requirements overview.

1. What materials display in the material tree?

- 
- a) Choose the *Show Overview Tree* pushbutton to display the material tree.
  - b) All materials that you processed in the current session display. If you accessed the system for the first time with material T-M525A## (where ## is your group number), this is the only material shown.
2. Change to the stock/requirements list of material T-M525C## by entering the corresponding material number in the *Material* field in the list header and confirming your change. What materials now display in the material tree?

- 
- a) In the header details, in the *Material* field, enter the material number **T-M525C##**.
  - b) Choose *Enter* to confirm your entry.
  - c) Material T-M525C## is also displayed in the material tree.
3. Is it possible to individually define the display of the traffic lights in the material tree, depending on the different exception groups?

- 
- a) You can set the traffic light values individually in the material tree.
  - b) Choose  *Define Traffic Light* to set the traffic light values in the overview tree.
  - c) Do not make any changes. Close the *Define Traffic Light* dialog box.

4. Use the material tree to go back to material T-M525A##.
  - a) Double-click the corresponding material number in the material tree to display the current stock/requirements list for this material.



### **LESSON SUMMARY**

You should now be able to:

- Use the most common planning evaluation tools
- Use the collective access to lists
- Use the material tree
- Use the navigation profile
- Explore exception messages





## Calculating a Lot Size

### LESSON OVERVIEW

This lesson explains the different static and period lot-sizing procedures as well as the additional restrictions in the material master record that you can use to determine the lot size.

### Business Example

As an employee in material requirements planning (MRP), you must maintain MRP views in the material master record for individual materials. You must also decide which lot-size data to define for each material. For this reason, you require the following knowledge:

- An understanding of the different static and period lot-sizing procedures
- An understanding of the restrictions for lot size



In this lesson, discuss in detail the static and period lot-sizing procedures. Explain useful lot-sizing procedures for the different MRP procedures in consumption-based planning. Optimizing lot-sizing procedures are not included in the lesson, but you can briefly explain the basic principle of this lot-sizing procedure. Describe the other options in the material master record for influencing the procurement quantity.

The exercise at the end of this lesson can only be carried out if the participants have completed the previous exercises of this course.

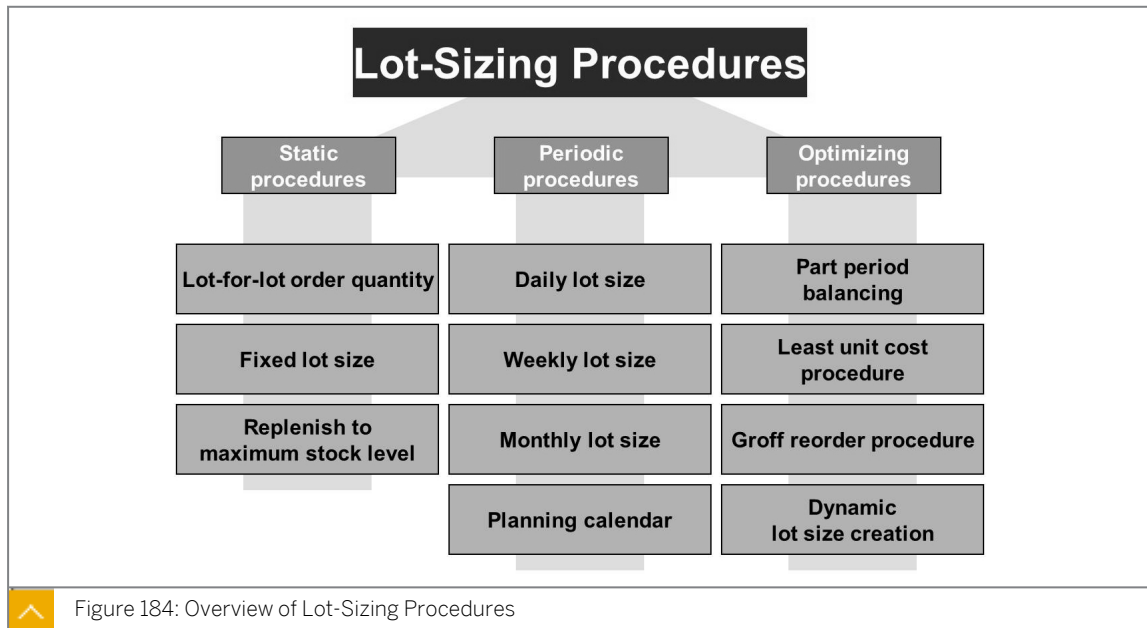


### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Explore the lot-sizing settings

## Lot-Sizing Procedures Overview



In the net requirements calculation, the system determines material shortages for requirement dates. These shortage quantities must be covered by receipts. The system calculates the receipt quantity in the lot-sizing calculation, which is carried out during a planning run. You specify how the system determines the lot sizes by selecting one of the lot-sizing procedures in material master record maintenance.

### The procedures for calculating the lot size are as follows:

- Static lot-sizing procedures
- Period lot-sizing procedures
- Optimizing lot-sizing procedures

The result of the lot-sizing calculation is the amount of a material for production or procurement.

You can define lot-sizing procedures in Customizing under *Materials Management* → *Consumption-Based Planning* → *Planning* → *Lot-Size Calculation* → *Define Lot-Sizing Procedure* (OMI 4).

## Static Lot-Sizing Procedure

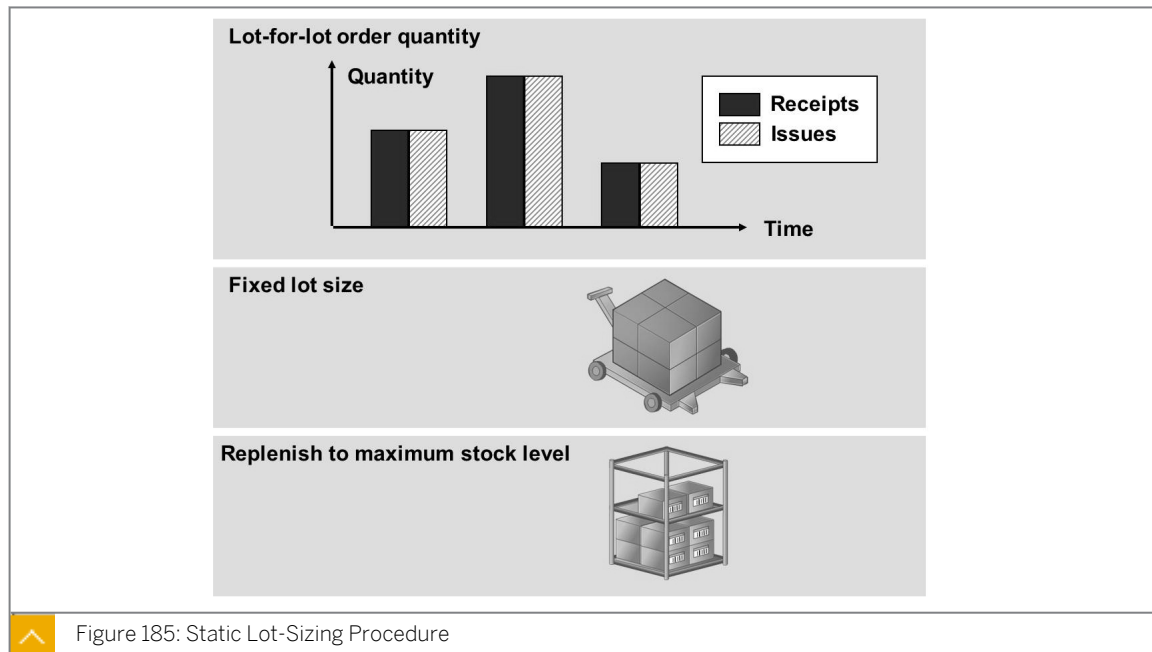


Figure 185: Static Lot-Sizing Procedure

In the static lot-sizing procedure, the procurement quantity is calculated using the quantity specifications in the material master record. The types of quantities that can be entered in the material master record include the lot-for-lot order quantity, fixed order quantity, and replenish to maximum stock level.

**Based on the type of quantity you select, the following activities can occur:**

- Lot-For-Lot Order Quantity

If you select the lot-for-lot order quantity, an order proposal is created for the shortage quantity. If there are several issues on one day that cannot be covered, the system still creates an order proposal covering the total shortage quantity on this day. Exact lot size means that the difference to the reorder point is proposed for reorder point planning. For this reason, lot-for-lot order quantity is suitable only for certain cases, such as for spare parts.

In time-phased materials planning, lot-for-lot order quantity is the only suitable lot-sizing procedure.



For further information, see the Time-phased materials planning lesson in unit 3.

- Fixed Order Quantity

If you select fixed order quantity, the system creates an order proposal for the fixed lot size in the case of a material shortage. If the proposal is not sufficient to cover the shortage quantity, the system creates several order proposals for the same date until the shortage is covered.

- Replenish to Maximum Stock Level

With replenish to maximum stock level, an order proposal is made in case of a material shortage that is equal to the difference of the available stock to the specified maximum stock level.

### Periodic Lot-Sizing Procedure

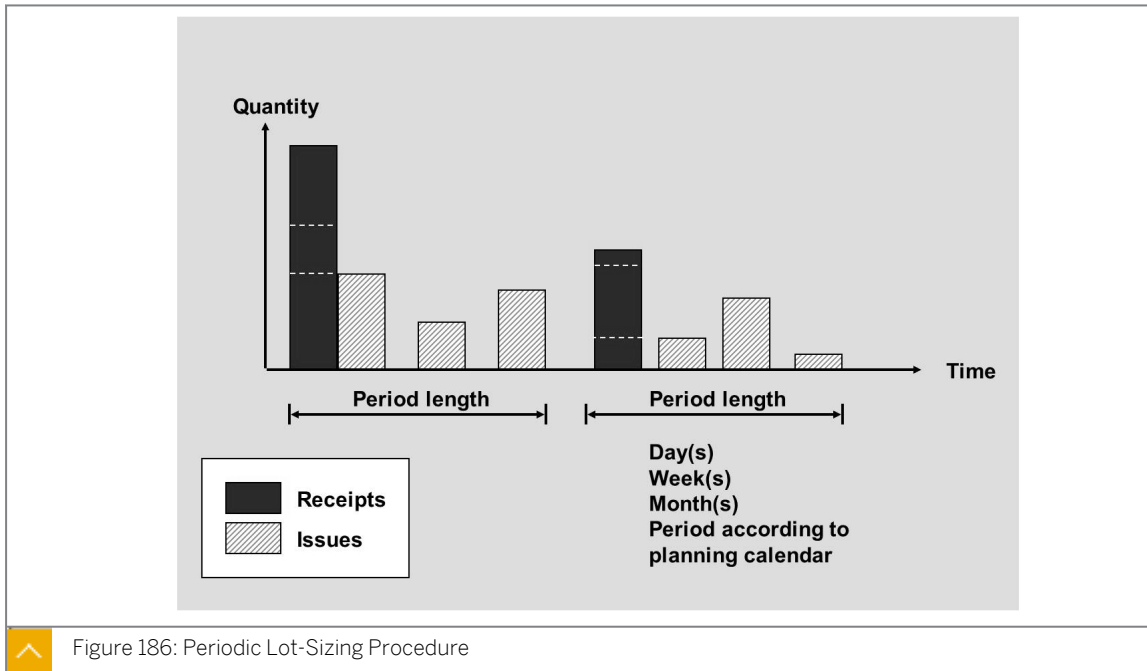


Figure 186: Periodic Lot-Sizing Procedure

In periodic lot-sizing procedures, the system forms a lot by grouping several requirement quantities within a time interval.

The time period lengths can be classified as days, weeks, months, or a period of flexible length equal to posting periods, as well as freely definable periods according to a planning calendar.

#### Time Period Lengths

The time period lengths can be as described in the following table:

Period Length	Description
Daily lot size	All requirement quantities that fall within a day or within a specified number of days are grouped together to form a lot.
Weekly lot size	All requirement quantities that fall within a week or within a specified number of weeks are grouped together to form a lot.
Monthly lot size	All requirement quantities that fall within a month or within a specified number of months are grouped together to form a lot.
Lot size with flexible period length	All requirement quantities that fall within one or several flexible definable periods are grouped together to form a lot. You define the period lengths according to the accounting periods. This lot size is also called period lot size.

Periodic procedures are suitable in consumption-based MRP for forecast-based planning only.

The system default is to create the availability date for periodic lot-sizing procedure on the first requirements date of the period. You can also define whether the availability date is to lie at the start or end of the period.

Alternatively, you can use a planning calendar to define certain delivery dates. In the standard SAP system, lot-sizing procedure PK enables you to do this. **The planning calendar is maintained on the MRP 2 view in the material master.**

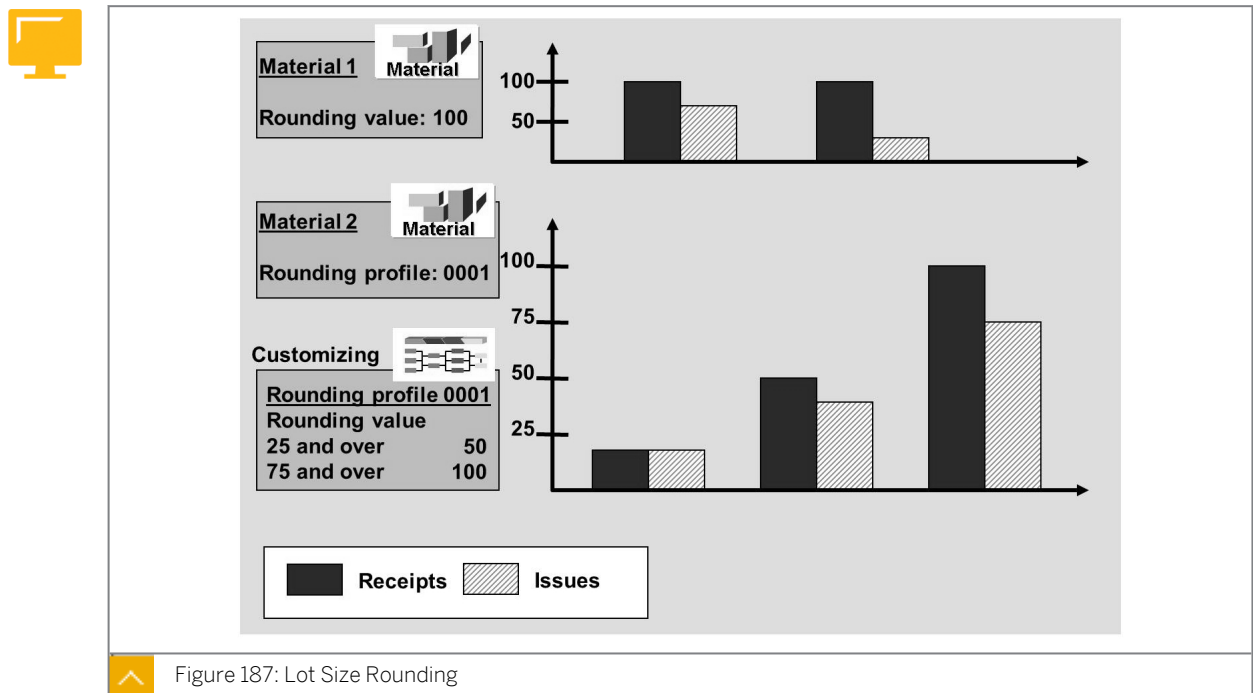
### Optimizing Lot-Sizing Procedure

The optimizing lot-sizing procedure groups requirements from several periods together to form a lot, whereby an optimum cost ratio is determined between lot-size independent costs and storage costs.

**Price per quantity scales are not taken into account in the optimizing lot-sizing procedure.**

You can find more information about optimizing procedures in the SAP library in the *Requirements Planning* (PP-MRP) section.

### Additional Restrictions for Lot-Sizing Calculation



When maintaining the material master record, you can specify additional restrictions to be taken into account during lot-sizing calculation. This includes lot-size rounding and the minimum and maximum lot size.

With lot-size rounding, you can adjust the procurement quantities to the delivery, packing, and transport units. This may be useful, for example, if purchase orders are only delivered in containers of a particular number of pieces, and if produced quantities can only be packed and transported in entire pallets.

**The following rounding options are available:**

Rounding Options	Description
Rounding value	During lot-sizing calculation, the system determines that the lot size quantity is a multiple of an order unit. For example, an order unit can be pallet size if the material is only delivered in entire pallets.
Rounding profile or scaled rounding	You can define rounding in a way that takes full advantage of price per quantity scales.

You can define several combinations of threshold and rounding values for a rounding profile.

### Scale Prices

The vendor of a particular material offers you scale prices as listed in the following table:

Quantity	Price per Piece
1	EUR 100
100	EUR 80
1000	EUR 68

On the basis of these prices, you can determine that with a quantity in excess of 80 pieces, it is worthwhile rounding up to 100 pieces ( $80 \times 100 / 100$ ), and in excess of 850 pieces it makes sense to round up to 1000 ( $68 \times 1000 / 80$ ).

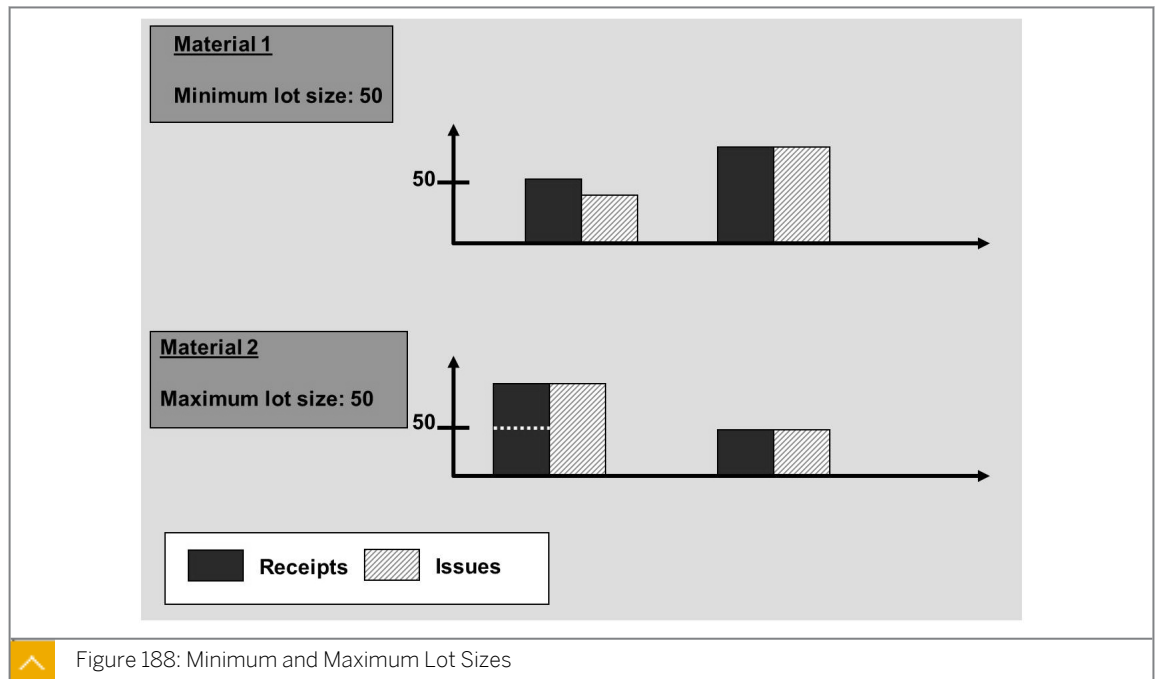
Rounding profiles are defined in Customizing under *Materials Management* → *Consumption-Based Planning* → *Planning* → *Lot-Size Calculation* → *Maintain Rounding Profile* (OWD1).

Rounding profiles consist of a threshold value and a rounding value. The threshold value is the value from which the system rounds up the value of the next deliverable unit. The rounding value is the value to which the system rounds up to as soon as the threshold value is exceeded. In time-phased materials planning, lot-for-lot order quantity is the only suitable lot-sizing procedure.

You enter the rounding profile in the material master record. It is then included in MRP.

You can also enter the rounding profile in the purchasing info record. In this case, rounding is first taken into account when you convert a purchase requisition or create a purchase order (PO) manually.

## Minimum and Maximum Lot Sizes



You can enter a minimum and maximum lot size in the material master record. These limit values are taken into consideration during lot-sizing calculation. The minimum lot size defines the minimum quantity, and the maximum lot size defines the maximum quantity for the procurement proposal. The system rounds up to the minimum lot size, thus preventing a round up over the maximum lot size.



### FACILITATED DISCUSSION

A material is planned using the reorder point planning procedure. Which lot-sizing procedures would be useful for this material and which would not?



### Explore the Lot-Sizing Settings

Show and explain to the participants the lot size data in the material master record. Also, explain the possible Customizing settings for the lot-sizing procedures.

1. Create a material master record.
  - a) On the SAP Easy Access screen, choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create (General)* → *Immediately (MM01)*.
  - b) On the *Create Material: Initial Screen*, enter the following data:

Field Name or Data Type	Value
<i>Material</i>	<b>T-SCM525-2</b>
<i>Industry sector</i>	<i>Mechanical Engineering</i>

Field Name or Data Type	Value
Material Type	Raw material

- c) Select *Purchasing*, *MRP 1*, *MRP 2*, and *Accounting 1*.
- d) Choose *Continue*.
- e) In the *Organizational Levels* dialog box, enter the following data:

Field Name or Data Type	Value
Plant	1000
Stor. Location	0001

- f) Choose *Continue*.
- g) On the *Create Material T-SCM525-2 (Raw material)* screen, choose the *Purchasing* tab page and enter the following data:

Field Name or Data Type	Value
Short text	<b>VB Material</b>
Base Unit of Measure	<b>PC</b>
Purchasing Group	<b>020</b>
Material Group	<b>001</b>

- h) On the *MRP 1* tab page, enter the following data:

Field Name or Data Type	Value
MRP Type	<b>VB</b>
Recorder Point	<b>50</b>
MRP Controller	<b>020</b>
Maximum stock level	<b>100</b>
Maximum Lot Size	<b>50</b>
Lot size	<b>HB</b>

- i) On the *MRP 2* tab page, enter the following data:

Field Name or Data Type	Value
Planned Deliv. Time	<b>5</b>

- j) On the *Accounting 1* tab page, enter the following data:

Field Name or Data Type	Value
Valuation Class	<b>3000</b>



Field Name or Data Type	Value
<i>Moving price</i>	<b>10</b>

- k) Save your data and exit.
2. Show the current stock/requirements list for material T-SCM525-2.
    - a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Reqmts List (MD04)*.
    - b) On the *Stock/Requirements List: Initial Screen*, enter the material number and plant **1000**.
    - c) Choose *Enter* to call the list. Plant stock should be zero pieces.
  3. Execute single-level, single-item planning for material T-SCM525-2.
    - a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single-Item, Single-Level (MD03)*.
    - b) On the *Single-Item, Single-Level* screen, enter the material number and plant **1000**. Accept the control parameters proposed by the system.
    - c) Choose *Enter*. Confirm the warning message.
  4. Show the current stock/requirements list for material T-SCM525-2.
    - a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Reqmts List (MD04)*.
    - b) On the *Stock/Requirements List: Initial* screen, enter the material number and plant **1000**.
    - c) Choose *Enter* to call the list.  
 In the total, 100 pieces are procured as *Replenish to maximum stock level (HB)*, and a maximum stock level of 100 pieces has been entered in the material master record as the lot size. However, two purchase requisitions of 50 pieces are created, because 50 pieces is the maximum lot size entered in the material master record for each procurement proposal.
  5. Show the Customizing settings for the lot-sizing procedure.
    - a) Define the settings for the lot-sizing procedures in Customizing under *Materials Management* → *Consumption-Based Planning* → *Planning* → *Lot-Size Calculation* → *Define Lot-Sizing Procedure (OMI 4)*.
  6. Show the Customizing settings for the rounding profiles.
    - a) Define rounding profiles in Customizing under *Materials Management* → *Consumption-Based Planning* → *Planning* → *Lot-Size Calculation* → *Maintain Rounding Profile (OWD1)*.



# Unit 8

## Exercise 48



### Apply Lot-Sizing Procedures

#### Business Example

As an employee in MRP, you must decide the lot-size data that is to be defined for a particular material. For this reason, you must be able to apply lot-sizing procedures.

Test the lot-sizing procedures in the planning run.

1. Create material T-M525L## (where ## is your group number) as a copy of material T-M525A##. In doing so, copy the *Purchasing*, *MRP 1*, *MRP 2*, and *Accounting 1* views.
2. Reset the MRP profile and save the material master record.
3. Change the material master data in accordance with the following table and execute a planning run after each change (i.e. for each column). Display the results and enter the result in the last row of the table.

MRP lot size	EX	EX	EX	EX	HB	HB
Minimum lot size		100				
Maximum lot size			50	50		
Rounding value				50		
Maximum stock level					800	900
Rounding profile						0001
Result						

4. How can you ensure that the lot size takes the best possible advantage of the following price per quantity scale in the planning run?

PO Quantity	Price per Piece
1	100
100	80
1000	68

5. Set up a static rounding profile in Customizing that contains the data from subtask 4. Name this profile ZO##.



## Apply Lot-Sizing Procedures

### Business Example

As an employee in MRP, you must decide the lot-size data that is to be defined for a particular material. For this reason, you must be able to apply lot-sizing procedures.

Test the lot-sizing procedures in the planning run.

1. Create material T-M525L## (where ## is your group number) as a copy of material T-M525A##. In doing so, copy the *Purchasing*, *MRP 1*, *MRP 2*, and *Accounting 1* views.
  - a) On the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create (General)* → *Immediately (MM01)* to create the material master record.
  - b) On the *Create Material (Initial Screen)*, enter the following data:

Field Name or Data Type	Value
<i>Material</i>	<b>T-M525L##</b>
<i>Industry sector</i>	<i>M Mechanical Engineering</i>
<i>Material Type</i>	<i>ROH Raw material</i>
<i>Reference Material</i>	<b>T-M525A##</b>

- c) Confirm your entry and choose *Continue*.
  - d) Select the *Purchasing*, *MRP 1*, *MRP 2*, and *Accounting 1* views and choose *Continue*.
  - e) Enter plant **1000** in the *Plant* field and in the *Copy from* field, and choose *Continue*.
  - f) Confirm the warning message and choose *Continue*.
2. Reset the MRP profile and save the material master record.
  - a) From the *MRP 1* tab page, choose *Edit* → *MRP Profile* and remove the entry.
  - b) Choose *Continue*.
  - c) Confirm the warning message and choose *Continue*.
  - d) Save the new material master record.
  - e) Go back to the *SAP Easy Access* screen.
3. Change the material master data in accordance with the following table and execute a planning run after each change (i.e. for each column). Display the results and enter the result in the last row of the table.

MRP lot size	EX	EX	EX	EX	HB	HB
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Minimum lot size		100				
Maximum lot size			50	50		
Rounding value				50		
Maximum stock level					800	900
Rounding profile						0001
Result						

- a) Change the material by choosing *Environment -> Change Material* from the menu bar (or by choosing transaction code `MM02` and using the MRP views 1-4 for material **T-M525L##** and plant **1000**).
- b) To simulate the planning run, on the *SAP Easy Access* screen, choose *Logistics -> Materials Management -> Material Requirements Planning (MRP) -> MRP -> Planning -> Single-Item, Single-Level (MD03)*.
- c) Enter material **T-M525L##** and plant **1000**.
- d) Select the *Display results before they are saved* checkbox.
- e) Choose *Enter* and confirm the message that follows.
- f) Enter the result in the table and return to the initial screen.
- g) Change the material master data and repeat the procedure.


MRP lot size	EX	EX	EX	EX	HB	HB
Minimum lot size		100				
Maximum lot size			50	50		
Rounding value				50		
Maximum stock level					800	900
Rounding profile						0001

Result	A purchase requisition with quantity 80	A purchase requisition with quantity 100	A purchase requisition with quantity 50 and another with quantity 30	Two purchase requisitions with quantity 50	A purchase requisition with quantity 800	A purchase requisition with quantity 1000
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4. How can you ensure that the lot size takes the best possible advantage of the following price per quantity scale in the planning run?


PO Quantity	Price per Piece
1	100
100	80
1000	68


a) You can achieve this with a rounding profile.



Hint:  
You will find the calculation of the threshold values in the lesson.

5. Set up a static rounding profile in Customizing that contains the data from subtask 4. Name this profile Z0##.

- a) Define the rounding profile in Customizing under *Materials Management* → *Consumption-Based Planning* → *Planning* → *Lot-Size Calculation* → *Maintain Rounding Profile* (OWD1).
- b) Enter **Z0##** in the *Rounding Profile* field and choose  *Static*.



Hint:  
You can also define rounding profiles in conjunction with a plant. For the purpose of this exercise, however, you should leave the *Plant* field empty.

c) Enter **Rounding Profile Z0##** as the name of your profile and fill the table as follows:

Threshold Value	Rounding Value
80	100
850	1000

d) Save the profile.

**Hint:**

If you want to test the profile, proceed as described in subtask 3. Use the following settings:

- MRP lot size: HB
- Maximum stock level: 80
- Rounding profile: Z0##

This will result in a purchase requisition with a quantity of 100 pieces/units being generated in the planning run.



### **LESSON SUMMARY**

You should now be able to:

- Explore the lot-sizing settings





## Learning Assessment

1. What options are there in the SAP system for executing a planning run?

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2. Name the individual subprocesses of a planning run.

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3. The low-level code is the lowest level in which a material appears within any bill of material (BOM).

*Determine whether this statement is true or false.*

True

False

4. The MRP group is assigned to the relevant master record according to the material type.

*Determine whether this statement is true or false.*

True

False

5. How many processing keys for the planning run are available?

*Choose the correct answer.*

A One

B Two

C Three

D Four

6. The creation indicator for MRP lists determines whether the planning run should create MRP lists.

*Determine whether this statement is true or false.*

True

False

7. Which is the processing key for regenerative planning?

*Choose the correct answer.*

A NETCH

B NEUPL

C NETPL

8. Plant parameters have higher priority than the MRP groups.

*Determine whether this statement is true or false.*

True

False

9. What are the options for converting a planned order into a purchase requisition?

*Choose the correct answers.*

A Individual conversion

B Collective conversion

C Partial conversion

D Logistic conversion

10. The MRP list always displays the stock/requirements situation at the time of the last planning run, and also provides a work basis for the MRP controller.

*Determine whether this statement is true or false.*

True

False

11. In a navigation profile, any number of transaction calls can be defined.

*Determine whether this statement is true or false.*

True

False

12. Exception messages are created during the planning run for situations that need to be checked by the MRP controller.

*Determine whether this statement is true or false.*

True

False

13. The total planning run can be carried out online or in the background processing mode.

*Determine whether this statement is true or false.*

True

False

14. Where is the planning horizon defined?

*Choose the correct answer.*

A Material management requirements

B Logistic

C Planning file entry

D Customizing for material management

15. During bill of material (BOM) maintenance, the low-level code is automatically determined. It is entered in the material master and displayed in the planning file.

*Determine whether this statement is true or false.*

True

False



## Learning Assessment - Answers

1. What options are there in the SAP system for executing a planning run?

Single-item planning (single-level or multi-level), total planning online, and total planning in background processing.

2. Name the individual subprocesses of a planning run.

Check the planning file, net requirements calculation, lot-size calculation, scheduling, and type of procurement proposals. With the corresponding settings, the system determines a source of supply during a planning run for externally procured materials, and assigns them directly to the procurement proposal.

3. The low-level code is the lowest level in which a material appears within any bill of material (BOM).

*Determine whether this statement is true or false.*

- True  
 False

4. The MRP group is assigned to the relevant master record according to the material type.

*Determine whether this statement is true or false.*

- True  
 False

5. How many processing keys for the planning run are available?

*Choose the correct answer.*

- A One  
 B Two  
 C Three  
 D Four

6. The creation indicator for MRP lists determines whether the planning run should create MRP lists.

*Determine whether this statement is true or false.*

- True  
 False

7. Which is the processing key for regenerative planning?

*Choose the correct answer.*

- A NETCH  
 B NEUPL  
 C NETPL

8. Plant parameters have higher priority than the MRP groups.

*Determine whether this statement is true or false.*

- True  
 False

9. What are the options for converting a planned order into a purchase requisition?

*Choose the correct answers.*

- A Individual conversion  
 B Collective conversion  
 C Partial conversion  
 D Logistic conversion

10. The MRP list always displays the stock/requirements situation at the time of the last planning run, and also provides a work basis for the MRP controller.

*Determine whether this statement is true or false.*

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11. In a navigation profile, any number of transaction calls can be defined.

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12. Exception messages are created during the planning run for situations that need to be checked by the MRP controller.

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14. Where is the planning horizon defined?

*Choose the correct answer.*

A Material management requirements

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15. During bill of material (BOM) maintenance, the low-level code is automatically determined. It is entered in the material master and displayed in the planning file.

*Determine whether this statement is true or false.*

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