

TSCM50

Procurement I, Part 1 of 2

mySAP ERP Procurement and Logistics Execution

Date _____
Training Center _____
Instructors _____
_____ _____
Education Website _____

Instructor Handbook

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Owner: Winfried Wuerzer (D036695)



An SAP Compass course - use it to learn, reference it for work

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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.

Type Style	Description
<i>Example text</i>	Words or characters that appear on the screen. These include field names, screen titles, pushbuttons as well as menu names, paths, and options. Also used for cross-references to other documentation both internal (in this documentation) and external (in other locations, such as SAPNet).
Example text	Emphasized words or phrases in body text, titles of graphics, and tables
EXAMPLE TEXT	Names of elements in the system. These include report names, program names, transaction codes, table names, and individual key words of a programming language, when surrounded by body text, for example SELECT and INCLUDE.
Example text	Screen output. This includes file and directory names and their paths, messages, names of variables and parameters, and passages of the source text of a program.
Example text	Exact user entry. These are words and characters that you enter in the system exactly as they appear in the documentation.
< Example text >	Variable user entry. Pointed brackets indicate that you replace these words and characters with appropriate entries.

Icons in Body Text

The following icons are used in this handbook.

Icon	Meaning
	For more information, tips, or background
	Note or further explanation of previous point
	Exception or caution
	Procedures
	Indicates that the item is displayed in the instructor's presentation.

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Course Overview

This course will give you an introduction to external procurement using *mySAP ERP 2005*. During the course, you go through the entire procurement process with its typical steps - purchase order, entry of goods receipt, and entry of incoming invoice - several times. In doing so, you will focus on different aspects and become acquainted with additional functions. You will also require a basic knowledge of requirements planning.

The first unit of this course gives you a basic overview of procurement. You will familiarize yourself with the organizational levels in the procurement process and use of the Enjoy transactions for this process.

A unit covering master data and four units introducing the various processes of external procurement follows this. The course concludes with a unit that discusses different options for reporting and analysis, and a unit on requirements planning.

Target Audience

This course is intended for the following audiences:

- Solution Consultants responsible for implementing procurement using mySAP ERP or mySAP SCM

Course Prerequisites

Required Knowledge

- Basic knowledge and experience of procurement
- Sound knowledge of the Windows operating system
- E-Learning SAP125 (SAP Navigation 2005) or comparable knowledge

Recommended Knowledge

- SAP01 (SAP Overview) or
- SAPSCM (mySAP SCM overview)

Course Duration Details

Unit 1:

The Procurement Process: Basics

Procurement Process and Organizational Levels	45 Minutes
Purchase Order Entry - Basics	60 Minutes
Exercise 1: Purchase Order Entry: Basics	20 Minutes
Goods Receipts Entry - Basics	60 Minutes
Exercise 2: Goods Receipt Processing - Basics	20 Minutes



Invoice Entry - Basics	45 Minutes
Exercise 3: Invoice Verification - Basics	15 Minutes
Unit 2: Master Data	
Vendor master record	60 Minutes
Exercise 4: Vendor Master Record	20 Minutes
Material Master Record	90 Minutes
Exercise 5: Material Master Record	20 Minutes
Entry Aids	45 Minutes
Exercise 6: Entry Aids	20 Minutes
Mass Maintenance (Optional)	20 Minutes
Unit 3: Procurement of Stock Material	
Conditions	30 Minutes
Request for Quotation Management / Quotation Processing	45 Minutes
Exercise 7: Request for Quotation and Quotation Processing	40 Minutes
Create Purchase Order with Reference	60 Minutes
Exercise 8: Purchase Order Processing	25 Minutes
Purchasing info records	60 Minutes
Exercise 9: Maintain Purchasing Info Record	25 Minutes
Material Valuation Basics	30 Minutes
Stock Types, Valuation, GR in Warehouse	45 Minutes
Exercise 10: Stocks, Valuation, and Goods Receipt	45 Minutes
Invoice Verification and Delivery Costs	45 Minutes
Exercise 11: Invoice Verification with Unplanned Delivery Costs	20 Minutes
Unit 4: Procurement of Consumable Material	
Consumable Material - Overview	30 Minutes
Purchase requisition	45 Minutes
Exercise 12: Purchase Requisition Processing	20 Minutes
Purchase Order and Order Acknowledgement	45 Minutes
Exercise 13: Convert Purchase Requisition into a Purchase Order, Order Acknowledgement	20 Minutes
Valuated and Non-Valuated Goods Receipts	60 Minutes
Exercise 14: Goods Receipt and Invoice Entry	25 Minutes
Blanket Purchase Order	45 Minutes
Exercise 15: Blanket Purchase Order	15 Minutes
Unit 5: Procurement of External Services	
Service Master Record and Conditions	40 Minutes
Exercise 16: Master Data for External Services Management	5 Minutes
Purchase Order for Services	45 Minutes
Exercise 17: Procurement of External Services	15 Minutes
Service Entry and Invoice Verification	50 Minutes

Exercise 18: Service Entry and Invoice Verification	20 Minutes
Unit 6: Reporting and Analysis Functions	
Standard Reports at Document Level	60 Minutes
Exercise 19: List Displays	15 Minutes
Logistics Information System (LIS)	45 Minutes
Exercise 20: Logistics Information System	15 Minutes
Unit 7: Basics of Consumption-Based Planning	
Overview of Material Requirements Planning	30 Minutes
Overview of MRP Procedures	30 Minutes
Material Master Record	45 Minutes
Exercise 21: Material Master Record Maintenance	25 Minutes
Reorder Point Planning	60 Minutes
Exercise 22: Reorder Point Planning	15 Minutes
Unit 8: Cost Planning	
Basics of the Planning Run	20 Minutes
Executing the Planning Run	50 Minutes
Exercise 23: Planning Run	20 Minutes
Planning Result	20 Minutes
Planning Evaluation	60 Minutes
Exercise 24: Evaluating and Processing the Planning Result	30 Minutes
Lot-Size Calculation	40 Minutes
Unit 9: Optional: Automated Procurement	
MRP	60 Minutes
Exercise 25: Material Master Record: Create MRP Data	15 Minutes
Contract and Source Determination	60 Minutes
Exercise 26: Source List Maintenance	15 Minutes
Automated Procurement Process	45 Minutes
Exercise 27: Automated Procurement Process	20 Minutes



Course Goals

This course will prepare you to:

- Name the basic organizational levels, master data, and functions of the *SAP System* for the procurement processes in the supply chain.
- Perform a procurement process for stock material in the *SAP System*.
- Replicate a procurement process for materials for direct consumption in the *SAP System*.
- Carry out a procurement process for services in the *SAP System*.
- Deploy selected automation options in the procurement process
- Carry out analyses in the area of external procurement processes
- Explain the materials planning process in Materials Management
- Describe automation of the procurement process (optional).



Course Objectives

After completing this course, you will be able to:

- Create, change and display material master records and vendor master records
- Create, change, and display purchase requisitions, requests for quotations, contracts, and purchase orders
- Enter goods receipts and incoming invoices and display and analyze the documents generated when they are posted
- Distinguish between material valuation according to the moving average price procedure and valuation according to the standard price procedure
- Describe and understand the procurement process for services
- Carry out simple evaluations in the *SAP System*
- Perform and evaluate a planning run
- Describe and perform simple automation of the procurement process (optional)

SAP Software Component Information

The information in this course pertains to the following SAP Software Components and releases:

Curriculum Path

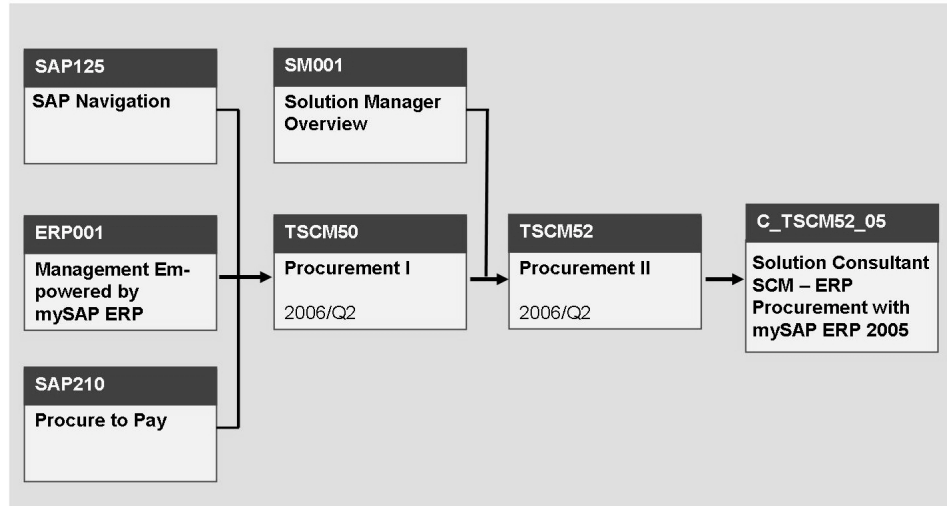


Figure 1: Solution Consultant: SCM - Procurement with mySAP ERP 2005



CATTs

For this course there is a CATT **ZT_TSCM50** that must have run before the course starts. This CATT generates the master data (materials, vendors, info records) and changes Customizing settings. The CATT is run automatically for groups 00 to 30 (or 20) prior to the start of the course. (If this should not be the case, please contact the CATT group.) It takes about 30 minutes to run the CATT. If you need the CATT to be run in a system at short notice, tell the CATT group how many groups are required, as a lower number of groups reduces the runtime.

The CATT team requires the following information in order to process your request quickly:

- System and client in which the CATT is to be run.
- Name of the CATT (ZT_TSCM50)
- Course for which this CATT is required (TSCM50). If you do not enter the course name, you cannot check whether the system is booked for this course.
- Number of groups required (maximum 00 through 30)

The ISM Homepage in the Corporate Portal contains a CATT request, “Request for CATT Execution”, that you can use to request a CATT execution.

Users

Create the user master records for the participants and for your own user, if necessary:

User for the instructor:

- If you have not specified an own user in the training system, then logon for the first time with the user **TRAINING**. The password changes monthly: you will receive the new one in the mail for the week, which will be sent to you automatically before the course begins.
- With transaction SU01, you can then create your own user. Copy the reference user **SCM5XX-99** or manually enter all necessary data (user group TRAINING, profile SAP_ALL and SAP_NEW).



Caution: The TRAINING user cannot be used as a reference.


User for the course participants:

- Use transaction ZUSR (user maintenance for SAP courses) to copy the template user ID **SCM5XX-99**.



Caution: The reference user has authorizations SAP_ALL and SAP_NEW. The course participants therefore have all authorizations, for Customizing changes too. Point this out to participants at the start of the course and ask them not to make any changes in the training system unless explicitly requested to do so in an exercise. Point out that a thoughtless change can “disrupt” the system.

Previous experience has shown that the participants use their authorizations responsibly and there are therefore no problems.

- Enter the following data in the relevant fields and choose  *Execute*:

Copy reference	SCM5XX-99
Course code	TSCM50
Number of training groups	(according to demand)
Initial password	initial (or another password, note that this is case-sensitive)

- In the window that subsequently appears, choose the *Create* button and answer the question regarding the uniqueness of the group numbers with No. Finally, choose *Create* again.

Exercises and Demos

If possible, explain to the participants before the first exercise that the character string “##” corresponds with the group numbers attached to the monitors in the training classrooms. Enter these group numbers instead of “##” in the exercises.

A “facilitated discussion” has been included in some lessons for purely formal reasons, where exercises are either not possible for technical reasons involving the system, or they have no sensible purpose. You should think carefully before expressly stimulating discussion, since experience shows that lively debates are liable to break out during the course anyway.

In many lessons, a detailed description of the demonstration has been dispensed with. In such lessons, the instructor should orientate him- or herself on the exercises when performing the demo. When preparing for the course, the instructor is advised to go through **all** demonstrations and exercises at least once and, of course, to read the course documentation carefully.



Caution: This course introduces the process of external procurement. A complete procurement process is carried out in each of four units of the course. There is a different emphasis each time the procurement process is run through. In one case, the focus is on the basics of the process. In another it is on procurement for stock, and in another on the procurement of services, for example. Within a unit, the individual process steps are distributed among several lessons (as a rule, one lesson per process step). As a result, the exercises and demos of the individual lessons build on each other within a unit. Generally, the following applies:

The units can be processed independently of each other. However, this does not apply to the lessons within a unit. An exception to this is the Reporting and Analysis Functions unit. In the exercises, the data generated by the participants during the week's training is analyzed and evaluated.

The instructor should therefore make sure that the participants have correctly performed the most important parts of the exercises (for example, create RFQ, create quotation, create PO, post goods receipt). Point out to the participants that the exercises within a unit build on each other.

Other

The times specified in the “course duration details” are only general guide values. Previous experience has shown that the time requirement for the contents of this course varies according to participant interest and previous knowledge. You will therefore need much more time than planned for some lessons, and much less time for other lessons.



Caution: System data is specified for trainer demos and exercises in the instructor handbook. Since these training materials have largely been created using other standard training course materials, some information, such as the users may not match the information for this course. e.g. User SCM500-## instead of the user for this course TSCM50-## . In this case, you should always use the information that is specific to the course TSCM50.

Unit 1



The Procurement Process: Basics



The purpose of this unit is to introduce the basics of the external procurement process. This includes the relevant organizational levels in the *SAP ERP Central Component* and the three principal elements: purchase order, goods receipt, and invoice verification.

You should spend an adequate amount of time on this unit, which lays the foundation for the rest of the course. When introducing the transactions ME21N, MIGO and MIRO, take care to focus on the handling of the transactions. Try not to get lost in the details.

Unit Overview

This unit deals with the concept of organizational levels necessary to replicate an enterprise structure in the SAP system. It also introduces a simple procurement process with its elements purchase order, goods receipt, and invoice verification. In the process, you get to know the Enjoy interfaces of the purchase order, goods receipt, and invoice receipt transactions.



Unit Objectives

After completing this unit, you will be able to:

- Describe the various external procurement processes.
- List the organizational levels relevant to the procurement process in the SAP system.
- Explain the relationships between these organizational levels
- Name various documents to which you can make reference when creating a purchase order
- Name the most important elements of a purchase order
- Enter and issue a simple purchase order
- Explain the most important effects of a goods receipt against a purchase order
- Enter a simple goods receipt with reference to a purchase order
- Name the most important elements of a material document

- Name the most important information given in an invoice
- Carry out a simple invoice verification process with reference to a purchase order
- Explain the most important effects of entering an invoice against a purchase order

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Lesson: Procurement Process and Organizational Levels



Lesson Duration: 45 Minutes

Lesson Overview

This lesson provides an overview of the various forms of external procurement and of the organizational levels necessary for mapping a procurement process.



Lesson Objectives

After completing this lesson, you will be able to:

- Describe the various external procurement processes.
- List the organizational levels relevant to the procurement process in the SAP system.
- Explain the relationships between these organizational levels



At the beginning of this lesson you will demonstrate a "normal" procurement process. Building on this process you will then discuss the special procurement processes subcontracting, vendor consignment and stock transfer. The special procurement processes are not expanded upon in course SCM500 but should be introduced briefly so that customers 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, and gain an insight into the organizational structure of the IDES enterprise.

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

You should back up your explanatory remarks with a diagram of the enterprise structure. Develop this structure step by step, orientating yourself on the graphic "Organizational Levels in Inventory Management". If necessary, you can then refer to this diagram of the enterprise structure in following lessons.

Business Example

Materials are procured in your company by means of various channels - partly from external vendors and partly from other branches of your company. The departments involved in these procurement processes are Purchasing, Warehousing and Invoice Verification. These are organized on a regional and functional basis. As a member of the project team you are examining how these procurement processes and the necessary company structure are replicated in the SAP system.

External procurement process

The external procurement of materials is based on a cycle of general activities. In detail, a typical procurement process includes the following phases:

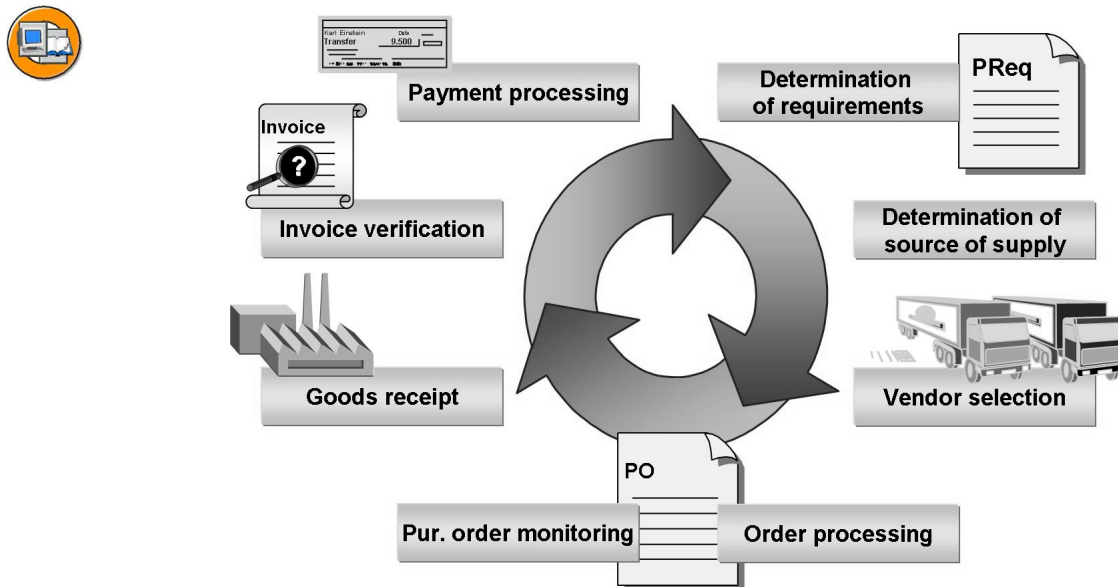


Figure 2: Procurement Cycle

Determination of requirements: The responsible user department can manually pass a requirement for materials to the Purchasing department via a purchase requisition. If you have set a MRP procedure for a material in the material master, the SAP system automatically generates a purchase requisition.

Determination of source of supply: As a purchaser, you are supported during determination of possible sources of supply. You can use determination of the source of supply to create requests for quotation (RFQs) and then enter the quotations. In addition, you can refer to purchase orders, contracts and conditions that already exist in the system.

Vendor selection: The system simplifies the selection of vendors by making price comparisons between the various quotations. It automatically sends rejection letters.

Purchase order handling: Similar to purchase requisitions, you can create purchase orders manually or have them created automatically by the system. When you create purchase orders, you can copy data from other documents, such as purchase requisitions or quotations, to reduce the amount of entry work required. You also have the option of working with outline agreements.

Purchase order monitoring: You can monitor the processing status of the purchase orders in the system. You can also determine, for example, whether a delivery or an invoice for a purchase order item has been entered. You can remind the vendors of outstanding deliveries.

Goods receipt: When you enter incoming deliveries in the system, you refer to the relevant purchase order. The amount of entry work is therefore minimized, and you can check whether the delivered goods and quantities match the purchase order. The system also updates the purchase order history of the purchase order.

Invoice verification: When entering invoices, you refer to the previous purchase order or delivery so you can check the calculations and the general accuracy of the invoice. The availability of the purchase order and goods receipt data enables you to refer to the quantity and price variances.

Payment processing: The payment program authorizes payment to the creditor liabilities. Financial Accounting executes this program regularly.

As well as the "normal" procurement process described above, various other special procurement processes are also possible. What follows is a brief introduction to

- Stock transfer with stock transfer orders
- Subcontracting
- Vendor consignment



Note: You can find more information on special procurement processes in the SAP documentation under *SAP ERP Central Components (or SAP R/3 Enterprise Application Component) → Logistics → Material Management (MM) → Inventory Management (MM-IM) → Special Stocks and Special Forms of Procurement*

Stock transfer with stock transfer orders

With this type of procurement, goods are procured and delivered within one company. The plant which requires the materials places an internal order with another plant which can supply the materials. Thus this stock transfer process involves not just inventory management but also purchasing in the receiving plant.

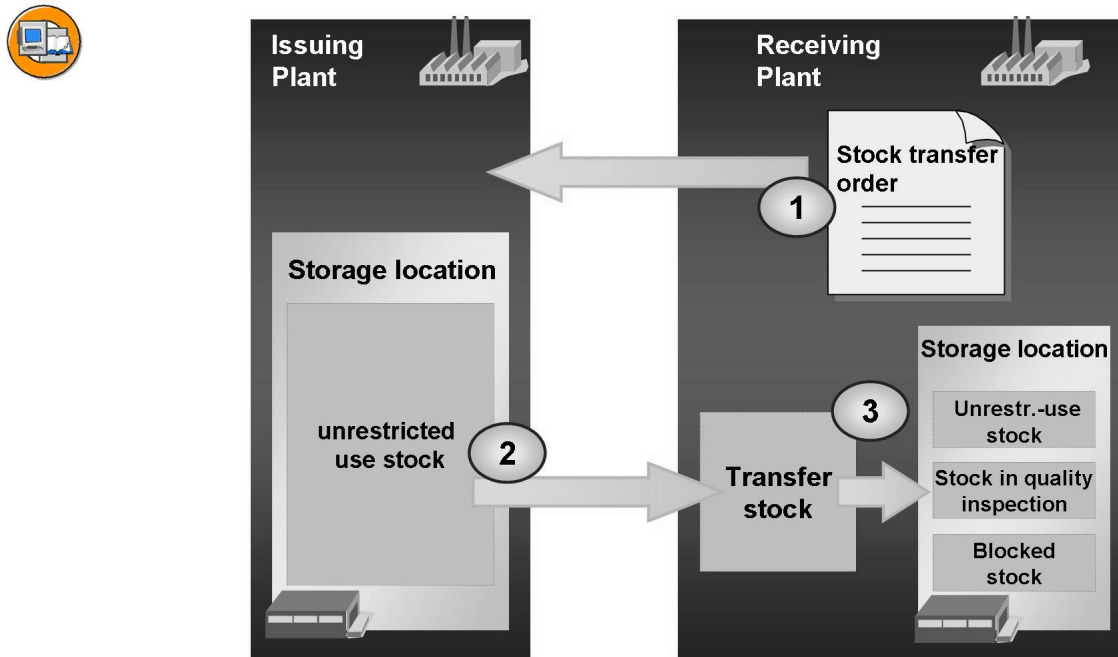


Figure 3: Stock transfer with stock transfer orders

The process begins in the receiving plant with the creation of a stock transfer order in purchasing. A goods issue is then entered in the issuing plant with reference to this stock transfer order. The quantity is first of all written off in a special stock, the *Stock in transit* of the receiving plant. The process finishes with the goods issue being posted to the stock transfer order in the receiving plant. As this is done, the quantity is transferred from stock in transit to storage location stock for the plant.



Hint: Stock transfers from materials between plants can also be replicated in inventory management only without stock transfer orders.

Subcontracting

With this process your company orders material from an external vendor. Unlike a normal external procurement process, your company provides the vendor with some or all the components for the production of the material (that is, subcontractor).

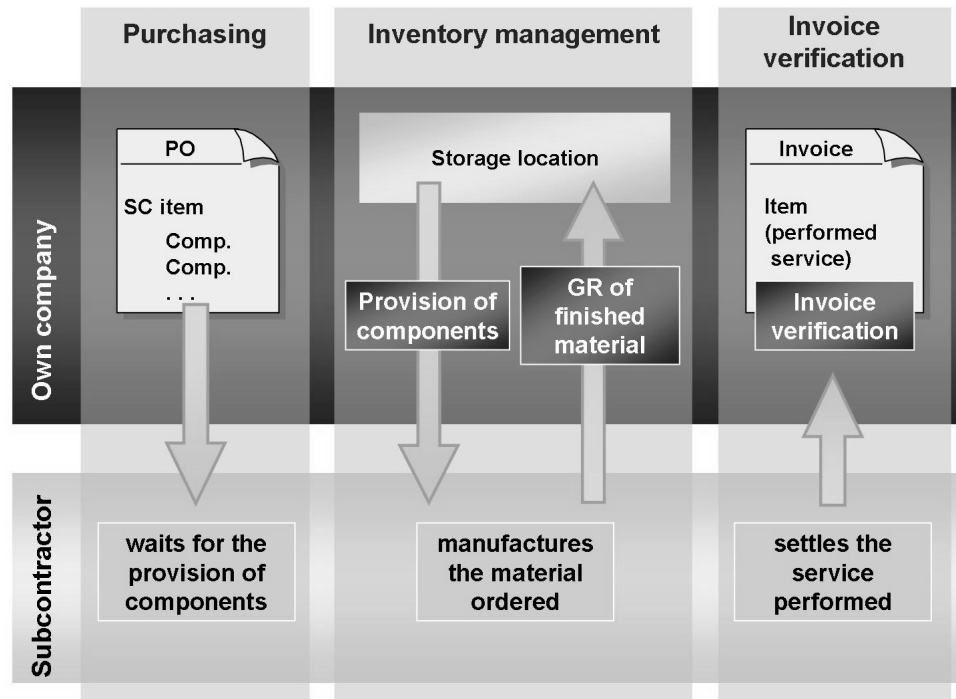


Figure 4: Subcontracting

The processing has the following characteristics:

You order the end product with a subcontract order. This order contains not only information about the material to be delivered, but also details about the components to be made available to the subcontractor.

These components must then be provided for the subcontractor. This provision is replicated in the system by transfer posting. Material that have been provided are physically no longer in your company but 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*.

When the subcontractor has completed his service, he delivers the finished or refined material. The goods receipt is also entered here with reference to the (subcontract) order. This means that not only the receipt of the end products is correctly posted but also the consumption of components from the stock of material provided to vendor. Finally, the subcontractor writes an invoice for the service rendered.

Vendor consignment

This form of consignment means that a vendor provides you with a material that you store but for which you do not need to pay anything. The vendor remains owner of the material until you remove something from the consignment store. Only then does a liability arise for the vendor. Settlement for these withdrawals is due according to agreed periods - for instance monthly.

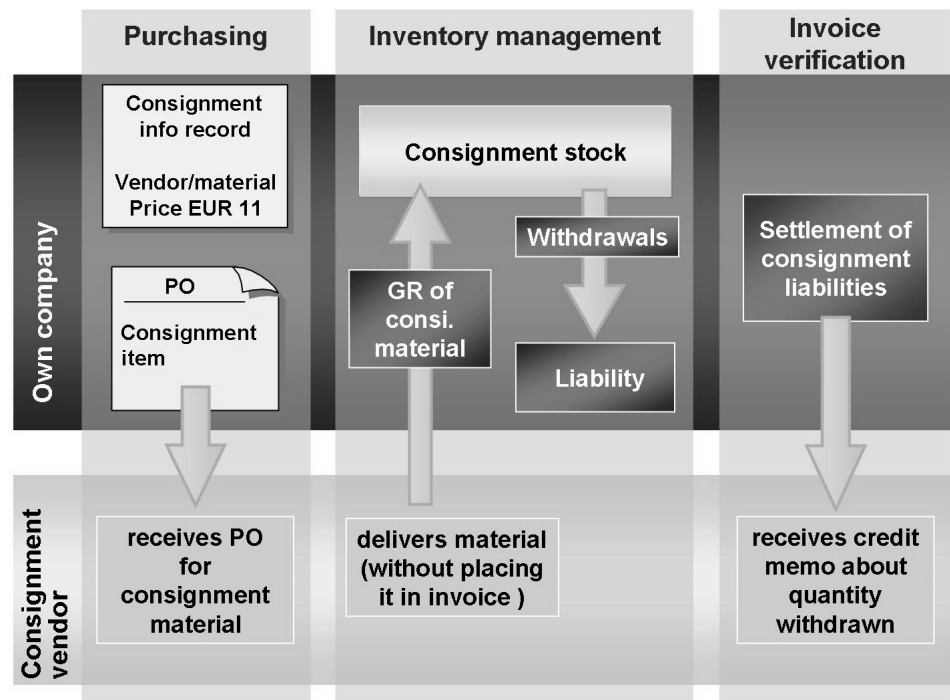


Figure 5: Vendor consignment

Before you can procure a material from a vendor for a consignment, you need to agree a price for the material. This price information is stored in what is known as a consignment information record in the system. Only then can the consignment store for this material in your company be filled up.

You can request the material from you vendor using a consignment order. If delivery of the material is made, the goods receipt is posted with reference to the consignment order. This is the completion of the procurement process, as payment is required for the material not after supply but after withdrawal.

The SAP system contains a special function for settlement of liabilities resulting from withdrawals from consignment stock. A credit memo is produced as a result of the procurement process and an appropriate message is generated for the vendor.



Hint: You control the procurement process you want to use with a purchase order - or more precisely with a purchase order item - using a special indicator known as an *item category*.



Hint: You can set all the special procurement processes described as the “standard procurement process” for a material so that purchase requisitions are produced automatically with the necessary indicator using MRP.

Organizational Levels in the Procurement Process



In the following, you will learn about the organizational levels of the procurement process. The instructor should discuss the following points for each organizational level:

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



Hint: The Participant Handbook does not include all of 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/group

However, the information from these slides is included as text in the course documentation. The instructor should point this out to the participants.

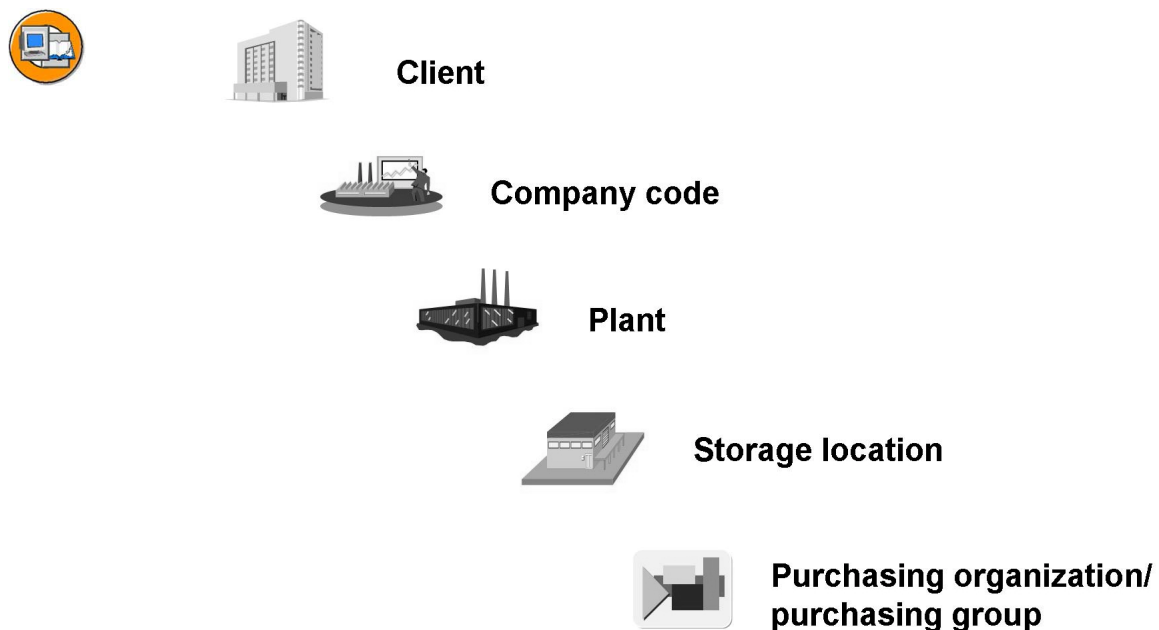


Figure 6: Organizational Levels in the Procurement Process

In the SAP system, organizational levels are structures that represent the legal or organizational views of a company. The determination of the organizational levels is an important work step in your project. In fact, it is an essential prerequisite for all subsequent activities.

First analyze the structural and process organizations in your enterprise and then reconcile them with the SAP structures. Once you have decided on an organizational structure, it is very difficult to change it.



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

Client, Company Code, Plant, and Storage Location

The **client** is a unit within an SAP system that is self-contained both in legal and organizational terms and in terms of data, with separate master records and an independent set of tables. From a business viewpoint, the client represents a corporate group, for example.

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 all other organizational units. Therefore, you do not have to enter the specifications and data at client level more than once in the system. This ensures a uniform data status.

Access authorization is assigned on a client-specific basis. A user master record must be created for every user in the client in which he or she wishes to work. If the *Client* field has not been prepopulated, each user must specify a client key when logging onto an SAP system. In this way, the user specifies the client in which he or she wishes to work. All user input is stored, separated by client. The processing and evaluation of data is likewise carried out on a client-specific basis.

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

The **company code** is the smallest organizational unit of external accounting for which a complete, self-contained bookkeeping system can be replicated. This includes the entry of all events that require posting to the accounts and the creation of a complete audit trail for balance sheets and profit and loss statements. A company code represents an independent unit producing its own balance sheet, for example, a company within a corporate group (client).

You can set up several company codes in one client in order to thus keep separate sets of financial books. You can use a special Customizing function to copy a company code. In the process, company-code-dependent specifications are adopted for your 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.

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

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

- Production facility
- Distribution center
- Regional sales office
- Corporate headquarters
- Maintenance location

When creating a new plant, you can use the plant copy function. In the process, all entries in the plant table and all Customizing and system tables that depend on it, and in which the plant occurs as the key, are taken into account.

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

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 storage location level. The physical inventory is also carried out at this level.

A storage location is defined by means of a four-character alphanumeric key that is unique in the plant.



After defining the organizational levels, explain the structure. Explain which assignments are necessary.

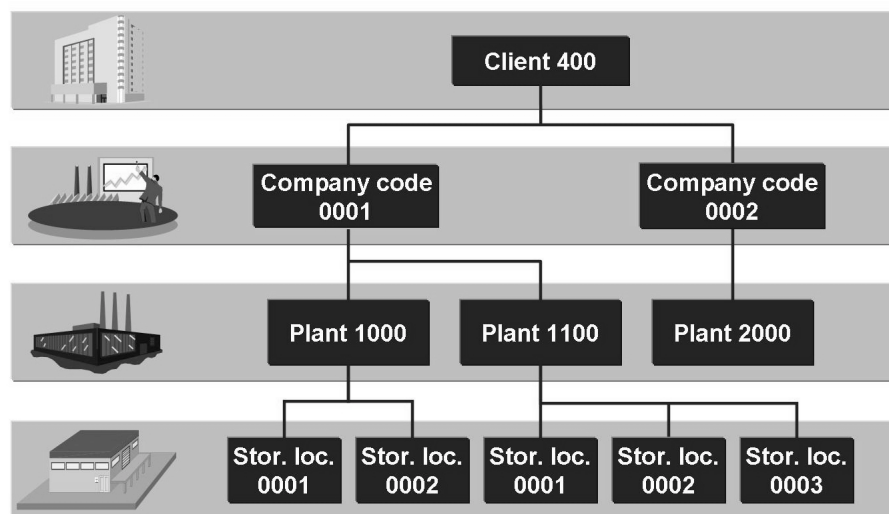


Figure 7: Organizational Levels in Inventory Management

The enterprise structure is created through the assignment of organizational levels to each other. A client may therefore contain several company codes. In turn, a company code may contain several plants. A plant can only ever belong to one company code however.



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

Several storage locations may be assigned to a plant, but a certain storage location can only belong to one plant only. Storage locations are defined especially for a plant and are thus assigned to this plant. The key of a storage location need only be unique within a plant. Within a client, the same key can be used for different storage locations, since when you specify a storage location you always have to specify the plant too.

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 the purchasing organization (plant-specific, company-code-specific, and cross-company-code) may occur within one enterprise.

A **purchasing group** is a key for a buyer or a group of buyers who is/are responsible for certain purchasing activities. Internally, the purchasing group is responsible for the procurement of a material or class of materials. Externally, it is the principal channel for an enterprise's dealings with its vendors. The purchasing group is not aligned to other units in the company structure.



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

The **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 conditions of purchase with vendors, and assumes responsibility for these transactions.

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

You can assign several purchasing organizations to one company code. However, a certain purchasing organization can only belong to one company code. You can decide not to assign the purchasing organization to a company code (cross-company-code purchasing). There is an m:n relationship between purchasing organizations and plants. In other words, you can assign several plants to one purchasing organization, and one plant to several purchasing organizations.

The different assignment options between company code, plant, and purchasing organization yield the following “categories” of purchasing organization.

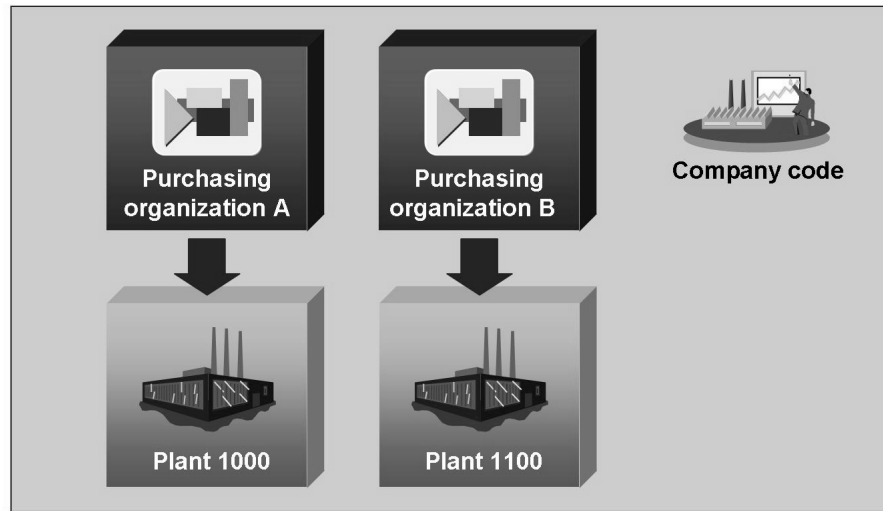


Figure 8: Plant-Specific Purchasing Organization

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



Note: In this case, you make the following assignments in Customizing for the *Enterprise Structure*:

- Assign the purchasing organization to a company code under *Assignment* → *Materials Management* → *Assign purchasing organization* to **one** company code.
- Assign **just one** plant of the company code to this purchasing organization under *Assignment* → *Materials Management* → *Assign purchasing organization to plant*.

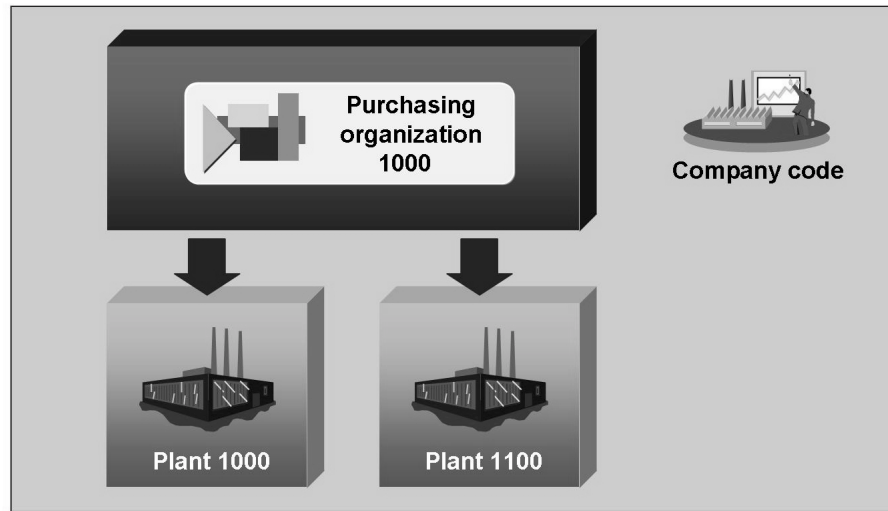


Figure 9: Cross-Plant Purchasing Organization

If a purchasing organization is to procure materials and services for several plants belonging to a company code, you can set up a cross-plant purchasing organization within the company code. To do so, you assign the purchasing organization to the desired company code. After this, you assign the plants for which the purchasing organization is to be responsible.



Hint: If the purchasing organization is to be responsible for all the plants of a company code, it is not enough to make this assignment between company code and purchasing organization alone. You must always assign the plants to a purchasing organization which procures for them.

However, assignment to a company code is not necessary (see below).

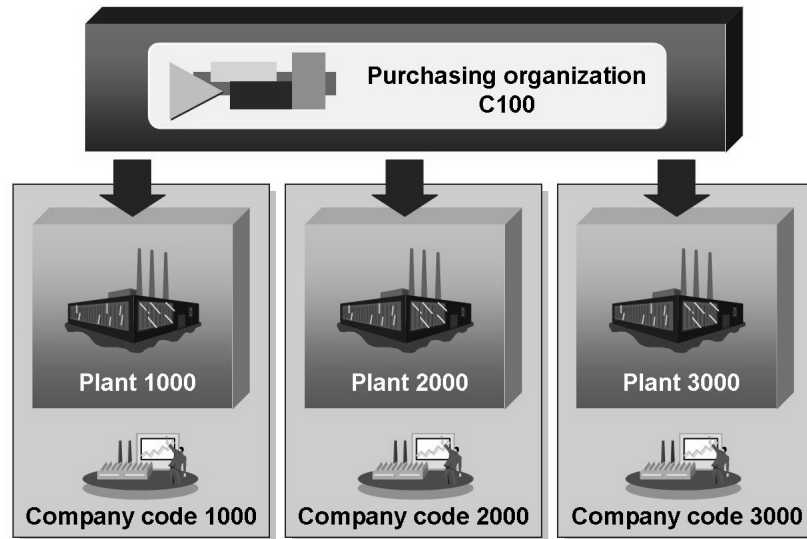


Figure 10: Cross-Company-Code Purchasing Organization

If you want to set up cross-company-code purchasing, you must not assign the purchasing organization to any company code(s) in Customizing. Then, 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 of IDES AGO. A brief introduction is a good idea as 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.

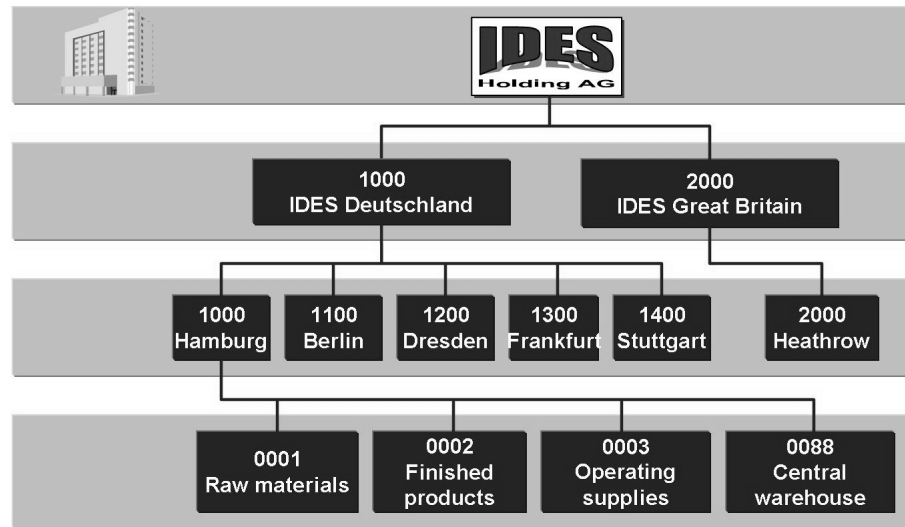


Figure: Overview of IDES Europe

IDES is the Internet Demo and Evaluation System. The IDES group includes several model enterprises that serve to replicate relevant standard business processes.

IDES is an international group with companies in Europe, Asia, and North America. In Europe, IDES has companies based in Germany and Great Britain. 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. The final assembly of the motorcycles takes place in the Hamburg plant. The Berlin plant manufactures the engine housings, the Dresden plant manufactures the gearboxes, the Frankfurt plant is responsible for producing the brake systems, and the electrical components are made in the Stuttgart plant.

IDES has four storage locations at its Hamburg plant, which allows differentiation between the various stocks of material held there.

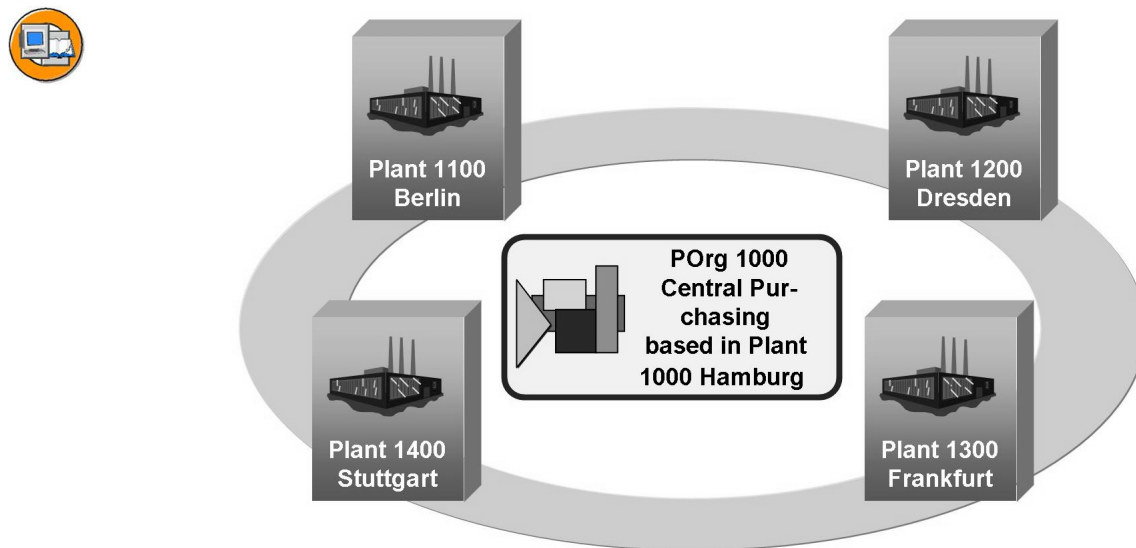


Figure: IDES Purchasing

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 German plants.



Facilitated Discussion

Optional: Discuss possible procurement processes with the participants.

Discussion Questions

Use the following questions to engage the participants in the discussion. Feel free to use your own additional questions.

How is your enterprise structured?

In addition, you can use the multiple-choice questions from the concluding test at the end of the unit to check participants' levels of knowledge.



Lesson Summary

You should now be able to:

- Describe the various external procurement processes.
- List the organizational levels relevant to the procurement process in the SAP system.
- Explain the relationships between these organizational levels

Lesson: Purchase Order Entry - Basics



17

Lesson Duration: 60 Minutes

Lesson Overview

This lesson introduces the purchase order as an important element of the external procurement process. It provides an introduction to both the structure and the creation and issue of purchase order documents in the SAP system.



Lesson Objectives

After completing this lesson, you will be able to:

- Name various documents to which you can make reference when creating a purchase order
- Name the most important elements of a purchase order
- 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 how to use this transaction. This includes the basic structure of a single-screen transaction and the navigation. The instructor should refrain from answering in detail any questions about topics that are covered later on in this course.

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

Business Example

In your company, materials must be procured from external vendors. As an employee in Purchasing, you need to know about the procurement process, in particular, the purchase order.

Purchase Order Details



The following figure “Basics of Procurement: Purchase Order” is to help the participants understand the procurement process covered in this unit. This slide is repeated in the other lessons in this unit, and the current step is highlighted. At the start of each lesson, display the stage you are at in the procurement process and what the essential contents are for the relevant lesson.

The following explains the first step of a simple procurement process. The process starts with the creation of a purchase order with the transaction ME21N (see graphic “Basics of Procurement: Purchase Order”). Here we can assume that the important data, such as vendor and material, already exist in the system.

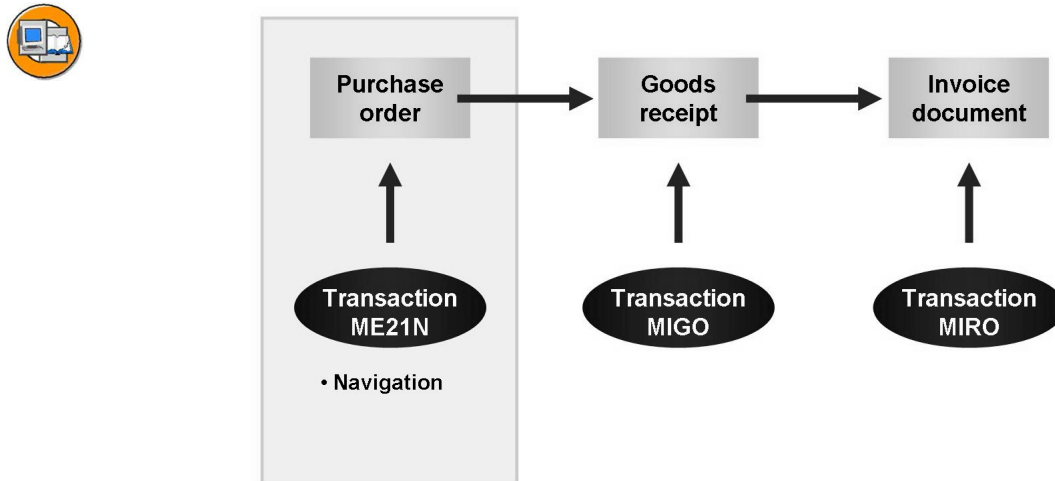


Figure 11: Basics of Procurement: Purchase Order



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

A purchase order is a formal request to a vendor to supply you with goods or services with the conditions stated in the purchase order. You specify in the purchase order whether the material is delivered 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 the purchase order.

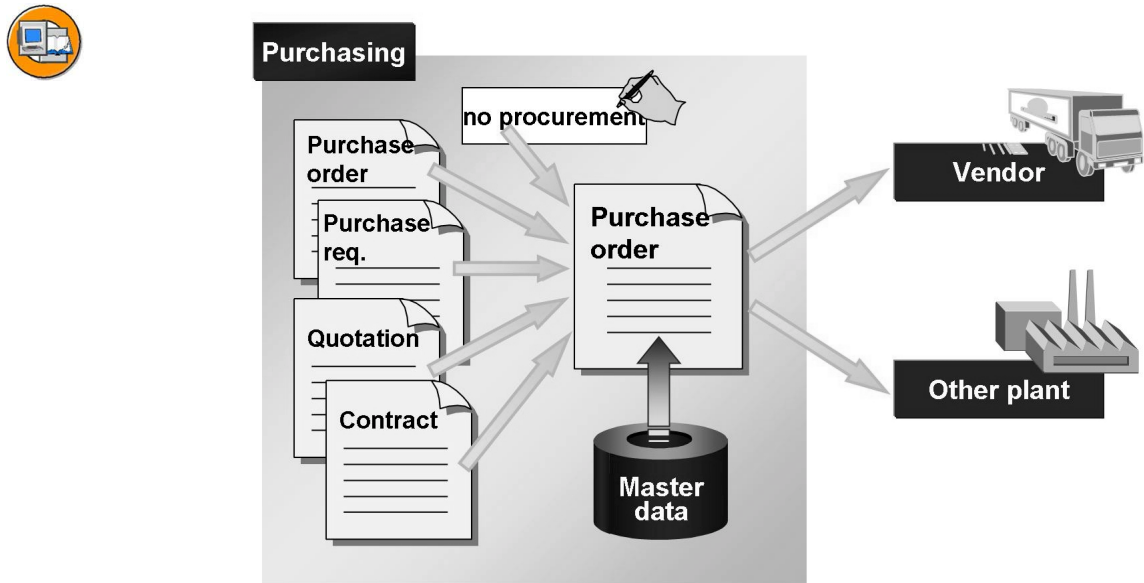


Figure 12: Purchase Order

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 reference to preceding documents in the system. When you enter the purchase order data, the system suggests default values. For example, it 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 is transferred automatically. If a purchasing info record already exists in the system, a price can be proposed for the purchase order.

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

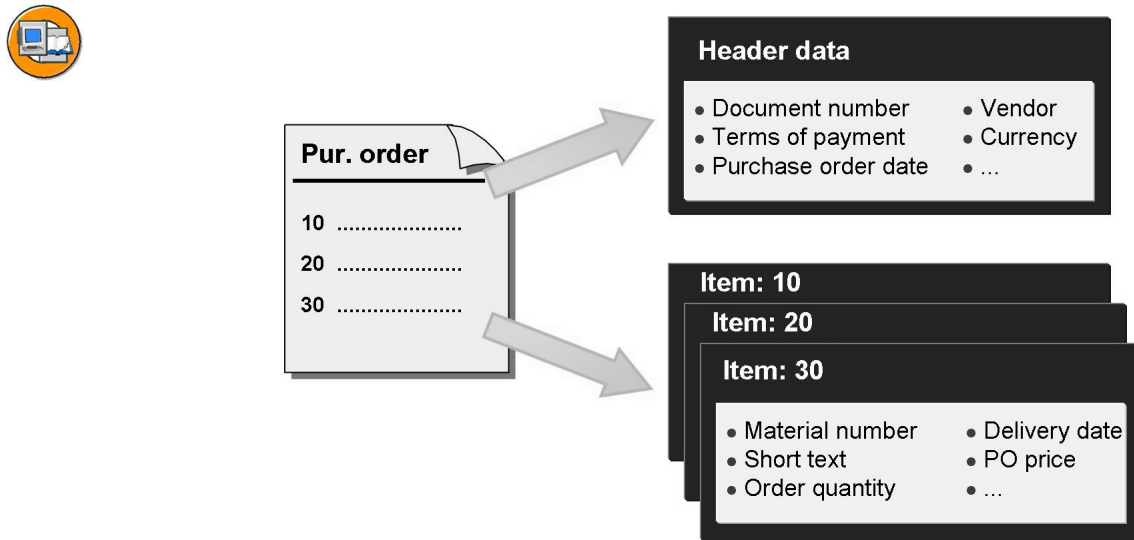


Figure 13: Purchase Order Format

Like other purchasing documents in the SAP system, the purchase order consists of a document header and one or more items.





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

The item part of the document contains data describing the materials or services ordered. You can maintain additional information for each item (for example, delivery schedules or item-based text).

In a purchase order, you can procure materials or services for all plants attached to your purchasing organization.



The two following graphics show in simplified form the purchase order transaction interface and how the individual screen areas can be opened and closed. After the theoretical discussion of these graphics, the instructor will introduce the Purchasing menu and ME21N.

1. In 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. Then choose *Purchase Order* → *Create Vendor/Supplying Plant Known*.
4. Show the individual screen areas and how to open and close them. Introduce the functions highlighted in the graphic “Purchase Order Transactions — ME21N / ME22N / ME23N”:
 -  *Create*
 -  *Display/Change*
 -  *Other Purch. Order*
 -  *Help*

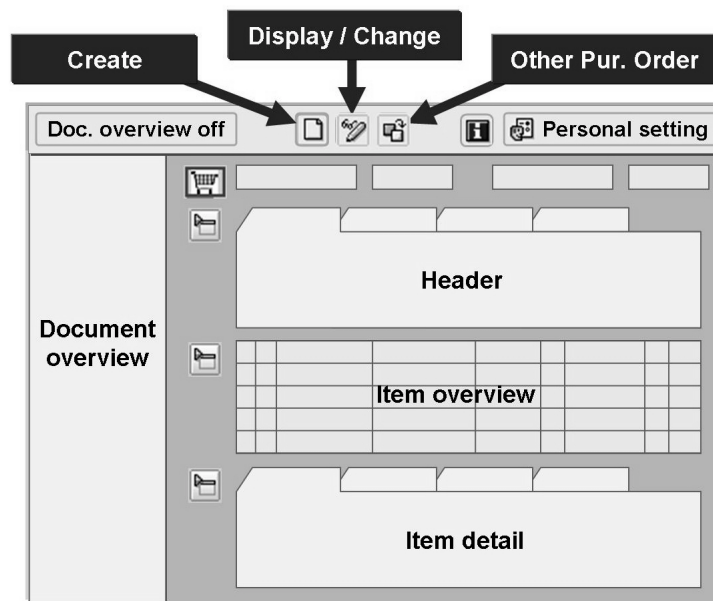


Figure 14: Purchase Order Transactions – ME21N, ME22N, ME23N

The purchase order transaction (ME21N) is a single-screen transaction, in other words, you can maintain all relevant data on a central screen. The single-screen transaction is divided into four screen areas:


- **Header:** This is where you enter all data relevant for the whole order, for example, the vendor address or the organizational levels.
- **Item overview:** In this list, you can enter the items with the data most important data, for example, material, quantity, delivery date, price and plant.




Hint: The integration of Web-based catalogs in purchasing has also been possible since mySAP ERP 2005. This means the item data can also be copied from a catalog.

Any number of OCI- (Open Catalog Interface) capable catalogs can be integrated, for example, the SAP catalog. For more information, see the SAP documentation under *SAP ERP Central Component* → *Logistics* → *Materials Management (MM)* → *Purchasing (MM-PUR)* → *Other Functions* → *Integrating Web-Based Catalogs in Purchasing*.

- **Item detail:** Here you enter additional data for a particular item, if required, such as additional text, account assignment specifications and confirmations.
- **Document overview:** In the document overview, you can display different purchasing documents, for example, purchase orders, requests for quotations and purchase requisitions.

With  **Personal settings**, the system considers user-specific requirements. Each user can set his or her own default values, or specify that the document overview is automatically set up when the transaction is started.

In addition, a **help function** can be displayed like the document overview. You can show and hide this help area with  *Help*. If the help function is open, you can work in the transaction at the same time.

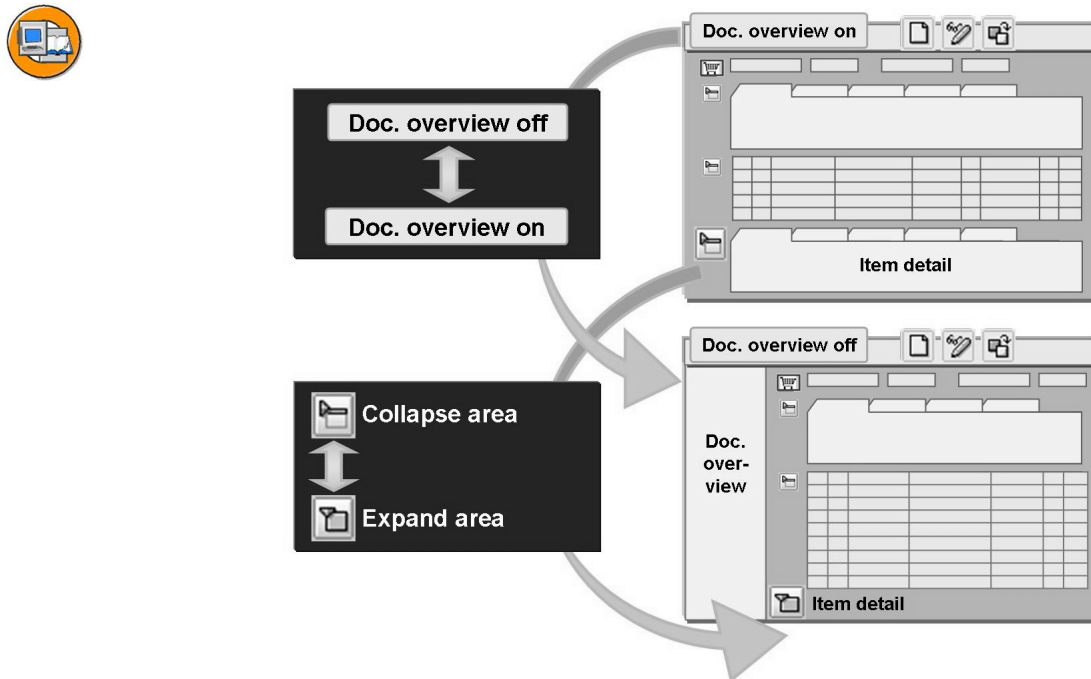





Figure 15: Purchase Order Transaction – Navigation

In the ordering transaction, you can open and close all screen areas individually, and thus influence the size of these screen areas. If you close the header and item detail, for example, the size of the item overview is then increased. The same goes for the purchase order header, item overview and the item details, and also for the document overview and the help function.

If you close and then reenter the ordering transaction, the screen is in the same format as it was when you left it. If the document overview and the header were closed and the item overview and item detail were open, this same screen format is displayed.

It does not matter which function you use to access the purchase order (*create, change, display*). With  *Create* or  *Display/Change*, you can switch between the functions. From the  *Other purchase order* icon, you can also go directly to another purchase order or purchase requisition.

Enter names instead of numbers

For some fields in the purchase order, you can use both names and keys. This is valid for the fields *Vendor, Material, Material group, Plant* and *Storage location*. If you enter part of the name, the system then proposes the corresponding data. If the system cannot determine the data uniquely, you will receive a list of the

possible entries to choose from. If, for example, you enter “mann” in the *Vendor* field, the system would propose vendors Kallmann, Hoffmann, Herrmann, and so on.



Hint: For the fields *Vendor* and *Material*, this intelligent search help can also be deactivated under *Personal settings* on the *Basic settings* tab page.



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



Demonstration: Creating a Purchase Order

Purpose

(Duration approx. 15 minutes)

With this demonstration, the participants should gain an insight into the use of transaction ME21N. Discuss the fields in which you make entries.



Caution: With this demonstration, you are setting the groundwork for all further exercises and lessons in which the purchase order plays a role. Therefore, make sure you give yourself enough time. Make sure that all participants can follow the demo.

CATT: ZT_SCM500

System Data

System:	Training System
Client:	8xx
User ID:	Own or SCM500-00
Password:	Ask the instructor
Set up instructions:	None

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

Field name	data
Vendor	1000
Document date	<Today's date>

Confirm your entries with *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.

3. Enter the following data on the *Org.data* tab.

Field name	data
Purchasing Organization	1000
Purchasing group	T00
Company code	1000


4. Enter the item data in the *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 name	data
Material	M-01 (Sunny Sunny 01)
Quantity	10
Plant	1000
Storage location	0001

Price and delivery date are proposed from the purchasing info record. Copy this data.

5. Choose  *Save*. Make a note of the purchase order number.



Demonstration: Creating a Second Purchase Order

Purpose


(Duration approx. 10 minutes)

In this demonstration, the personal default values are maintained before creating a purchase order. This shows that the workload for entry can be reduced.


CATT: ZT_SCM500

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions: None

1. Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.
2. Choose  *Personal setting*.
3. In the *Personal Settings* dialog box, choose the *Default values* tab.
4. On the *PO header* tab, enter the following data:


Field name	data
Purchasing organization	IDES Deutschland
Purchasing group	SCM500-00
Company code	IDES AG

5. Choose the *PO item* tab to show the possible default values. Enter plant **1000**.
6. Choose  *Save*.
7. Create a new purchase order with the following data:



Note: Instead of the vendor number, enter the name **C.E.B. Berlin**.

Field name	data
<i>Header data</i>	
Vendor	1000 (C.E.B. Berlin)
Document date	<Today's date>
<i>Item data</i>	
Material	M-01 (Sunny Sunny 01)
Quantity	10

8. Choose  *Save*. Make a note of the purchase order number.



Demonstration: Display the Purchase Order

Purpose


(Duration approx. 10 minutes)


- Introduce different options for displaying a purchase order
- Navigation in the purchase order
- Discuss other data in the purchase order

CATT: ZT_SCM500


System Data


System:	Training System
Client:	8xx
User ID:	Own or SCM500-00
Password:	Ask the instructor
Set up instructions:	None

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. Open the **Header data** and display the data on different tabs:
 - *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 person who entered the purchase order is displayed in the *title bar*.
6. Close the *Header data* and the *Item overview*.

7. Open the **Item details** and display the data on different tabs:
 - *Quantities/weights*: Weights are specified in the material master record. This data is copied into the purchase order.
 - *Conditions*: The price was copied from the purchasing info record.
 - *Texts*: Enter an item text. Choose  *Display/Change* so that you can create a text. Enter any text. Save this entry.

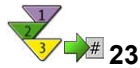
Point out that the *Purchase order history* tab is not yet displayed in the item details because no follow-on activities for the purchase order item have taken place yet.

8. Choose  *Print preview* to display the message.
9. Show another way of displaying a purchase order.

Choose  *Other purchase order* and enter the number of your second purchase order. Choose *Other purchase order* 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 1000 and purchasing group T00.



Create a Purchase Order

	Material	Shrt Txt	Quantity	B..	Del. date	Price	Crcy
10	M-01	Monitor	10	pc	12.09.06	1000	EUR
20	R-1130	Keyboard	15	pc	13.10.06	50	EUR

Figure 16: 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, maintain your *Personal settings* (as long as you have not already made corresponding entries in your user parameters).

In *Personal settings*, you can specify default values for the organizational data, for example, if the purchasing organization and the purchasing group can be filled in automatically. You can also specify default values for such items as the plant and the delivery date. Then you will not have to enter these values every time you create a purchase order. If you only want to change the default values for the items, then you can also call them using the *Default Values* button located below the item overview.

The personal settings take priority over the user parameters.

2. Choose the order type, for example, standard purchase order.


Continued on next page

3. Enter the vendor you want to order from.
4. In the header data on the *Org. data* tab, enter the organizational levels *Purchasing organization*, *Purchasing group* and *Company code*. The data can also be determined, as described above, from your default values or the user master record.
5. Enter the data for the individual items in the *Item overview*. You must also specify the material, quantity required, delivery date and the price. The plant that is to receive the goods must be entered at item level.

If there is a purchasing information record for the material and the vendors, 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 adopt a material from a catalog, choose *Catalog* to branch to a catalog. Navigation is dependent on the respective catalog.

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

Messages

You can issue all purchasing documents as messages. Each time you create an RFQ, a purchase order, a contract, or a scheduling agreement, the system creates a message from the document affected. This message is then placed in the message queue. The message queue contains all messages that have not yet been transferred to the vendors. To issue the message (by printing, 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, in other words, as soon as you save the document.

- Issue later

Either you schedule a background job (RSNAST00) that processes the message queue in determined intervals, or you start the issue directly from the purchasing menu. As a rule, you issue the messages using the background job and start the issue manually only as an exception (such as for rush orders).

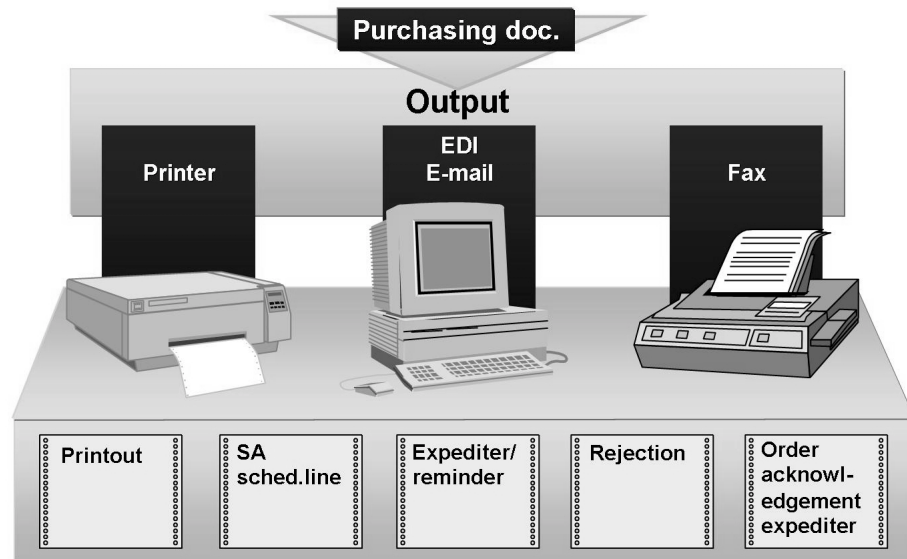



Figure 17: Issue a Message

For the message issue, you can specify which header texts and item-based texts the system issues. The header text is printed at the top of the purchase order and contains general information. Item texts describe a purchase order item in more detail. You can also include and issue standard texts. In the ordering transaction ME21N, you can display a document on your screen before printing it with  *Print preview*.



Note: For more information on issuing purchasing documents, see the SAP documentation under *SAP ERP Central Component (or SAP R/3 Enterprise Application Components) → Logistics → Materials Management (MM) → Purchasing (MM-PUR) → Entering Text, Printing and Transmitting Documents*.



Demonstration: Issue a Purchase Order

Purpose

Duration approx. 5 minutes

Send the message for a purchase order to a printer.

CATT: ZT_SCM500

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00

Password: Ask the instructor
Set up instructions: None

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

This takes you to the message selection screen.

2. Enter the selection criteria for the documents to be issued.

Field name	data
Vendor	1000
Purchasing organization	1000
Purchasing group	T00

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



Issue Message Manually for Purchase Order

Prerequisites

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

Procedure

1. From the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Message* → *Print/Transmit*.

This takes you to the message selection screen.

2. Enter the selection criteria for the documents to be issued.



Hint: If you want to select unprocessed messages, choose the processing status **0 = Not processed**.

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



Exercise 1: Purchase Order Entry: Basics

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create and process a purchase order
- Display and print the purchase order

Business Example

The process for procurement of stock material at your company generally includes creating a purchase order, posting the goods receipt, and processing the vendor invoice. The Purchasing department is responsible for procuring the various required materials. Familiarize yourself with purchase order processing for stock material.

System Data

System:	Training System
Client:	8xx
User ID:	SCM500-##
Password:	The password set by the participant
CATT:	ZT_SCM500
Set up instructions:	None

Task: Creating and Issuing a Purchase Order

The warehouse stock of standard taillights **T-M500A##** must be filled. Order 100 of these taillights from the vendor **Motolux GmbH Gr.##**.

1. 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:

Purchasing organization:	IDES Deutschland (1000)
Purchasing group:	SCM500-## (T##)
Company code:	IDES AG (1000)

Save your default values.

2. Create a purchase order

Continued on next page

Order **100 pieces** of the material **T-M500A##** (standard taillight-##) for immediate delivery from the 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.

PO number: _____

3. **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*.

4. **Issue a message**

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, you can print the purchasing document. The system automatically uses the output device you set in Customizing for Message Determination (for example, printer or fax).

5. **Maintain a list of favorites**

Because you work with purchase orders frequently, it is a good idea to include these transactions in a list of favorites. Include transaction ME21N in your favorites.

Solution 1: Purchase Order Entry: Basics

Task: Creating and Issuing a Purchase Order

The warehouse stock of standard taillights **T-M500A##** must be filled. Order 100 of these taillights from the vendor **Motolux GmbH Gr.##**.



1. 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:

Purchasing organization:	IDES Deutschland (1000)
Purchasing group:	SCM500-## (T##)
Company code:	IDES AG (1000)

Save your default values.

- Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known* (ME21N).
- Choose  *Personal settings*.
- Choose the *Default values* tab, and then *PO header*. Enter the default values.
- Choose  *Save* to save your personal default values. These default values are used in the purchase order until you change them again.
- Do not exit purchase order transaction ME21N after this step.

2. Create a purchase order

Order **100 pieces** of the material **T-M500A##** (standard taillight-##) for immediate delivery from the 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.

Continued on next page

PO number: _____

- a) Enter the following data:


Field name	Field value
Vendor	T-K500A##
<i>Item overview</i>	
Material	T-M500A##
Quantity	100
Delivery date	<Current date>
Plant	1000
Storage location	0001

- b) Choose , with the quick-info text *Save*, and make a note of the PO number.
- c) Do not exit purchase order transaction ME21N after this step.

3. 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 on the document number for your purchase order in the document overview.

4. Issue a message



Continued on next page

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, you can print the purchasing document. The system automatically uses the output device you set in Customizing for Message Determination (for example, printer or fax).

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Messages* → *Print/Transmit (ME9F)*.
- b) Adopt the selection criteria proposed by the system and choose  *Execute*.
- c) In the overview, select your document and choose *Display message*.
- d) Choose  *Back* to display the list of messages to be issued again.
- e) Then select your document again and choose *Output message*.

5. Maintain a list of favorites

Because you work with purchase orders frequently, it is a good idea to include these transactions in a list of favorites. Include transaction ME21N in your favorites.

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



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

- b) If you prefer another description for the favorite entries, you can change the text of the entry. Select the favorites affected and choose *Favorites* → *Change*.



Lesson Summary

You should now be able to:

- Name various documents to which you can make reference when creating a purchase order
- Name the most important elements of a purchase order
- Enter and issue a simple purchase order

Lesson: Goods Receipts Entry - Basics



Lesson Duration: 60 Minutes

Lesson Overview

This lesson deals with the entry of a goods receipt against a purchase order. In this context, you will be introduced to the term “movement type”.



Lesson Objectives

After completing this lesson, you will be able to:

- Explain the most important effects of a goods receipt against a purchase order
- Enter a simple goods receipt with reference to a purchase order
- Name the most important elements of a material document



As an introduction to this lesson, briefly review the procurement process (graphic “Basics of Procurement: Goods Receipt”) to show participants the step that is now to be discussed.

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 does not form part of course SCM500.

Business Example

In your company, materials are procured from external suppliers. As a member of the warehouse staff, you are examining how deliveries of ordered materials are entered in the SAP system and what effects these goods receipts have with regard to the purchase order. Delivered goods are usually put away in the warehouse.

Goods Receipt as Part of the Procurement Process



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) and say which updates are evidenced by these documents.

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

If this lesson is taking place as 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.

The second step of a simple external procurement process is the goods receipt. The latter results from the issue of a purchase order for the goods to a vendor. Like the ordering process, the process of goods receipt is replicated in the SAP system by means of a document.

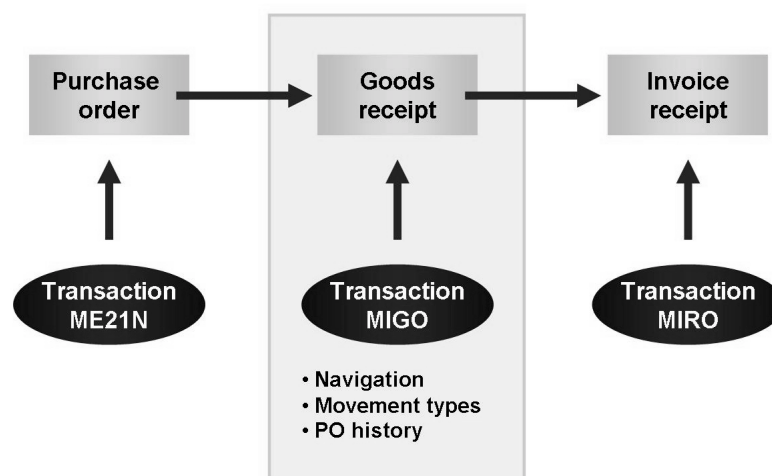


Figure 18: Basics of Procurement: Goods Receipt

When goods are delivered against a purchase order, it is important for all departments concerned that you enter this goods receipt with reference to the PO. When you record the receipt of goods, the system suggests all open items from the purchase order. This facilitates both the entry and checking of incoming goods. Among other things, you can check whether:

- The right material has been delivered
- The right quantity has been delivered or whether there has been over- or underdelivery
- Perishable goods are within their minimum shelf life (the shelf life expiration date check must be active in this case).

You can enter several goods receipt items against a purchase order item in one operation. This makes sense, for example, if the material is delivered in batches or distributed among several storage locations.

When you post a goods receipt with reference to a purchase order, the PO histories of the relevant purchasing document items are updated automatically. This enables the buyer to identify outstanding deliveries and urge the vendor to speed things up if necessary.

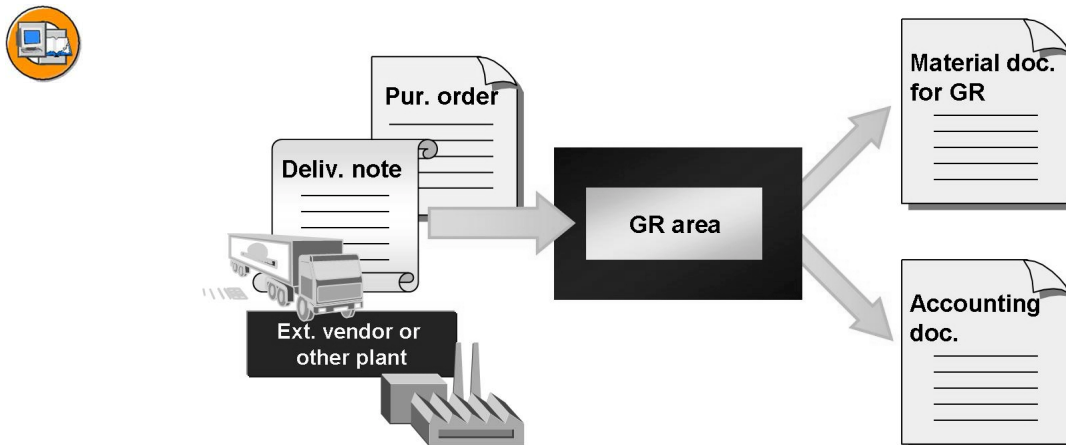


Figure 19: Goods Receipt

When you post the receipt of goods into the warehouse or stores, the system generates a **material document**. This document contains information on the material delivered and the relevant quantity. The system also records the plant storage location at which the material is put away (placed in storage). If the goods receipt is valuated, an **accounting document** is generated in addition. This contains details of the accounting effects of the material movement.

Goods Receipt



First explain the significance of the movement type for the entry of goods movements in general terms. Then discuss movement type 101 in some 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, production order).

Discuss a few other movement types and their uses:

- **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 first discuss the individual nodes. Then open the *Goods Movement* node. Explain that transaction MIGO constitutes a new function as of SAP R/3 4.6. The old transactions are still available from the menu.



Caution: When explaining transaction MIGO - and also in the subsequent demo - make clear that the document overview in MIGO cannot be compared with the document overview in the ordering transaction. Point out that the former is purely 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.

When entering a goods movement you must indicate a **movement type**. The movement type is a three-character key used to differentiate between goods movements. Examples of such goods movements are goods receipts, goods issues or transfer postings.



Figure 20: Movement Type Examples

The movement type assumes important control functions in inventory management. It plays a central role in automatic account determination in the SAP system. Together with other influencing factors, the movement type determines which stock or consumption accounts are updated in financial accounting (among other things). The movement type also determines the layout of the screen for document entry or the updating of the quantity fields.

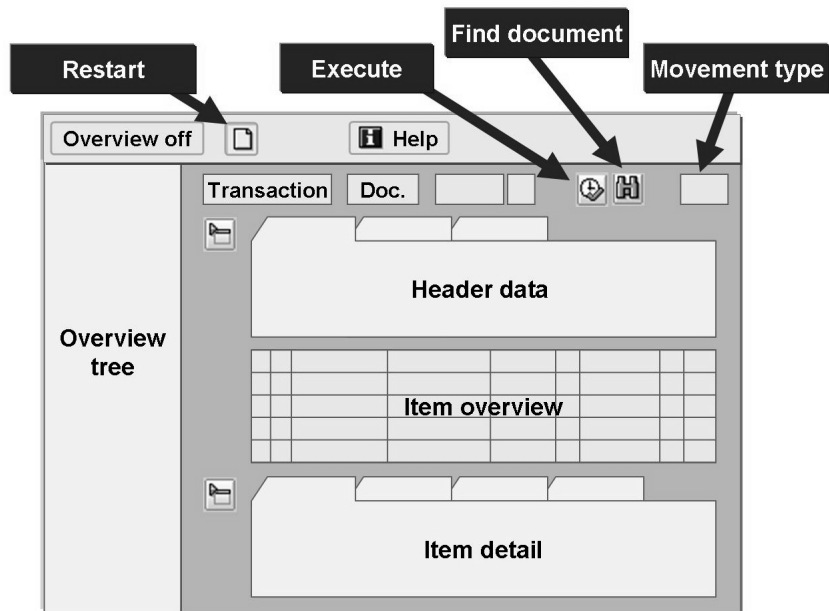



Figure 21: Goods Movements: Transaction MIGO

Transaction MIGO, for the entry of goods movements, is a single-screen transaction. It is subdivided into the screen areas overview tree, header data, item overview, and item detail data. In the header and detail areas, the information is grouped on individual tab pages.

- **Overview tree:** Your last ten documents are shown in this area (purchase orders, other orders, reservations, material documents and held data). The system automatically inserts these documents into the overview tree. These are documents (purchase orders, orders, reservations) that you referenced when posting a goods movement and the material documents generated in the process. You thus always have an overview of the activities you executed most recently. When working with the document overview, you should note that it 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 choose only **material documents** to be displayed.


- **Header data:** The header data includes information relating to the entire material document, such as document and posting date, the document header text, the enterer, and the date of entry. You also access the accounting document from the header data.
- **Item overview, item details:** The item overview provides you with a list of document items. By clicking on the number of an item in the overview, you open up the detail data for the item. The details include information on reference documents and the account assignment.

With the exception of the item overview, you can open and close the screen areas individually. You show or hide the overview tree using the *Show/Hide Overview* button. For the header data and item details, you use  *Header data* or  *Detail data* to open up the screen areas, and  with the quick-info text *Close Header Data*, or  with the quick-info text *Close Detail Data*, to close them. You can also open the detail data on an item by clicking the item number in the item overview.



Caution: Once you have opened the detail data on an item, changes to this item can only be made in the detail data, not in the item overview.

Opening or closing screen areas influences the size of other areas. If you close the header and detail data, for example, 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. Just choose , with the quick-info text *Restart*, and you can start again.

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

When you use transaction MIGO, first specify which action you wish to perform (*Transaction* field). If you are entering a goods movement, specify whether it is a goods receipt, a goods issue, a return delivery, or a transfer posting. If you wish to display or cancel the material document from a posting you have already made, you can also do this with transaction MIGO by choosing the transactions/events with the same name. Which documents you can reference, or whether a reference is unnecessary, depends on the transaction/event chosen. The following procedures describe the entry of a simple goods receipt against a purchase order, and how you can subsequently 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.



Demonstration: Transaction for Goods Movements: MIGO - Default Values


Purpose

(Duration approx. 5-10 minutes)

Introduction of transaction MIGO and the default values in this transaction.

System Data

System:	Training System
Client:	8xx
User ID:	Own or SCM500-00
Password:	Ask the instructor
Set up instructions:	None

1. Choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Movement (MIGO)*.
2. Choose *Settings* → *Default values* and explain the following fields:
 - *Storage Location/In Plant*: Default values are only pulled if no values can be determined from the reference document.
 - *Propose the OK Function in Future*: Indicator specifying whether an item is taken into account upon posting.
 - Default value for movement type in dependence on the action (= operation) and the reference document. You can also change this default value directly on the entry screen.
3. Enter *storage location 0001* and *plant 1000*.
4. Choose  *Transfer*.
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 setting the *Skip this in future* indicator.



Demonstration: Enter Goods Receipt for Purchase Order

Purpose

(Duration approx. 15 minutes)

Explanation of the procedure for entering a goods receipt against a purchase order.

CATT: ZT_SCM500

System Data


System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor

Set up instructions:



Caution: A prerequisite for this demo is the prior performance of the demo from the “Purchase Order Entry: Basics” lesson.

1. Choose the transaction *Goods Receipt* and *Purchase Order* as the reference document.
2. Check the default value for the movement type. The value must be **101**.

3. Choose , with the quick-info text *Search for PO*, and enter the following data:




Field name	Field entry
Vendor	1000
Material	M-01
Plant	1000

4. Choose  *Find*.

A separate screen area with the search result appears.



Note: Expressly 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 , with the quick-info *Adopt*. Then close the search result (, with the quick-info text *Close Search Result*).
6. Set the *OK* indicator for the item and display the movement type, plant, and storage location in the item.
7. Choose  with the quick info text *Post*.
8. Show that the number of the PO against which you have entered the goods receipt is now displayed in the overview.



Demonstration: Enter Goods Receipt for Second Purchase Order

Purpose

(Duration approx. 10 minutes)

In the case of this goods receipt, enter the number of the PO directly and display the material document.






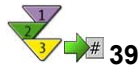
Caution: A prerequisite for this demo is the prior performance of the demo from the “Purchase Order Entry: Basics” lesson.

CATT: ZT_SCM500

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions: A prerequisite for this demo is the prior performance of the demo from the “Purchase Order Entry: Basics” lesson.

1. Transaction/event, reference document, and movement type remain unchanged.
 2. Enter the number of your second PO directly in the field provided (*Purchasing Document Number*).
 3. Choose  *Execute* to adopt the items from the purchase order.
 4. Set the *OK* indicator 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 , with the quick-info text *Execute*, to display the material document.
 7. Open up the header data and navigate via the individual tab pages. Explain which values are displayed.
 8. Open up the item details and navigate via 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 on the PO number.
 10. In the item details, choose the *Purchase Order History* tab page and explain the data.
 11. Choose  to go back to the material document.
 12. Display your first material document by double-clicking on it in the overview.
-




Enter Goods Receipt for Purchase Order


	Material	OK	Quantity	UoM	Storage location	MvT	Plant
1	Monitor	<input type="checkbox"/>	10	pc		101	1000
2	Keyboard	<input checked="" type="checkbox"/>	15	pc	Warehouse 1	101	1000

Figure 22: Enter GR Against a Purchase Order

1. From the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Movement (MIGO)*.
2. Choose the transaction *Goods Receipt* and *Purchase Order* as reference.
3. Check the default value for the movement type and, if necessary, change it to 101.
4. Enter the purchase order number.



Hint: You can also search for the purchase order. To do so, choose , with the quick-info text *Search for PO*.

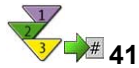
5. Choose  *Execute* to adopt the items from the purchase order.
6. Enter the document date and the vendor's delivery note number on the *General* tab page in the header data.
7. Select the items that were delivered using the *OK* indicator. If necessary, change the default quantities for the items and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

Continued on next page




Caution: Once you have opened the detail data on an item, changes to this item can only be made in the detail data, not in the item overview.

8. Finally, post the goods receipt.






Display Material Document and Associated Accounting Document

1. From the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Movement (MIGO)*.
2. Choose *Display* and *Material Document* as reference.
3. Enter the material document number and the document year. You can also search for the material document (, with the quick-info text *Search for mat. document*) or choose the material document number by double-clicking on one from the overview of your documents.



Caution: Selecting a material document by double-clicking on the material document number in the document overview only functions if you have chosen the transaction *Display* and *Material Document* as reference beforehand.

4. Choose , with the quick-info text *Execute*, to display the material document.
5. Optional: To display the accounting document, open up the header data and choose the *Doc. info* tab page. Choose  *FI Documents*. A dialog box appears, in which you can select the accounting document and display it with .



Exercise 2: Goods Receipt Processing - Basics

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Enter goods receipts against existing purchase orders
- Check the update of the purchase order as a result of the 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 up with the purchase order. When you enter the goods receipt, the system updates the purchase order history, thus allowing the buyer to get information on the status of the delivery directly from the purchase order.

System Data

System: Training System
Client: 8xx
User ID: SCM500-##
Password: The password set by the participant
CATT: ZT_SCM500
Set up instructions:



Caution: You can only do this exercise if you have already done the exercise from the lesson “Purchase Order Entry - Basics”.

Task: Enter Goods Receipt and Display Material Document

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 PO. Post the goods receipt to unrestricted-use stock at storage location 0001 (material stores) in plant 1000.

Continued on next page

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



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

Search for your PO number for vendor T-K500A## and material T-M500A##, for example.

Delivery note		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 23: Delivery Note LS-A1

Post the goods receipt.

Material document number: _____

2. **Display the material document.**

Display the material document for the goods receipt.

3. **Display the purchase order history**

Display the PO history for the purchase order against which you entered the goods receipt. Branch directly from the material document into the PO history. Check whether the PO history has been updated by the goods receipt. Compare the material document number from the PO history with your material document number from step 1.

4. **Extend list of favorites**

Include the transaction for goods movements in the list of favorites.

Solution 2: Goods Receipt Processing - Basics

Task: Enter Goods Receipt and Display Material Document

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 PO. Post the goods receipt to unrestricted-use stock at storage location 0001 (material stores) in plant 1000.

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



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

Search for your PO number for vendor T-K500A## and material T-M500A##, for example.


Delivery note		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 24: Delivery Note LS-A1




Post the goods receipt.

Continued on next page

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 , with the quick-info text *Search for PO*. Enter the following selection values:


Field name	Field entry
Vendor	T-K500A##
Material	T-M500A##
Delivery date	<yesterday to 7 days from today>

- d) Choose  *Find*.
A separate screen area with the search result appears.
- e) Select your purchase order and choose , with the quick-info *Adopt*.
Then close the search result (, with the quick-info text *Close Search Result*).
- f) Open the header data and enter **LS-A1##** in the *Delivery note* field on the *General* tab page.
- g) Set the *OK* indicator for the item. Note that you can set the indicator 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.

Continued on next page

Display the material document for the goods receipt.


- a) Choose the transaction *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.
- b) Choose , with the quick info text *Execute*.



Hint: You can choose another material document either by double-clicking on a document from the overview or via , with the quick-info text *Search for mat. document*.


3. Display the purchase order history

Display the PO history for the purchase order against which you entered the goods receipt. Branch directly from the material document into the PO history. Check whether the PO history has been updated by the goods receipt. Compare the material document number from the PO history with your material document number from step 1.

- a) Open up the item detail data (by clicking on the item number in the item overview, for example).
- b) Choose the *Purchase Order Data* tab page.
- c) Choose , with the quick-info text *History*, to display the PO history.
- d) The material document numbers match up.

4. Extend list of favorites

Include the transaction for goods movements in the list of favorites.

- a) Use one of the already familiar options:
 - Drag and drop
 - Right-hand mouse button
 -  in the tool bar
 - Transaction code



Lesson Summary

You should now be able to:

- Explain the most important effects of a goods receipt against a purchase order
- Enter a simple goods receipt with reference to a purchase order
- Name the most important elements of a material document

Lesson: Invoice Entry - Basics



49

Lesson Duration: 45 Minutes

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.



Lesson Objectives

After completing this lesson, you will be able to:

- Name the most important information given in an invoice
- Carry out a simple invoice verification process with reference to a purchase order
- Explain the most important effects of entering an invoice against a purchase order



This lesson should impart a basic understanding of the process of invoice verification. Logistics Invoice Verification was developed to fulfill requirements that, for technical reasons, it was impossible to satisfy with conventional invoice verification. For example, a material document and an accounting document are generated, as in inventory management, so that FI can run in a separate system.



Note: By conventional invoice verification, we mean the old invoice verification function within Materials Management, which can no longer be used from the Enterprise release onwards. This information may be of interest to participants who work with an *SAP R/3* system that was released before Enterprise.

Since *SAP R/3* 4.6C, Logistics Invoice Verification contains all the functions of conventional invoice verification plus many new ones.

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.

Invoice Receipt as Part of the Procurement Process



Logistics Invoice Verification 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 PO.

Only when the link to the PO has been established can the invoice be checked for correctness with regard to the material supplied (or service performed), the price charged, and arithmetical accuracy. Likewise, the system can only determine variances from the expected values if there is a link to the PO.

The entering of the invoice completes the procurement process which comprises purchase order and goods receipt.

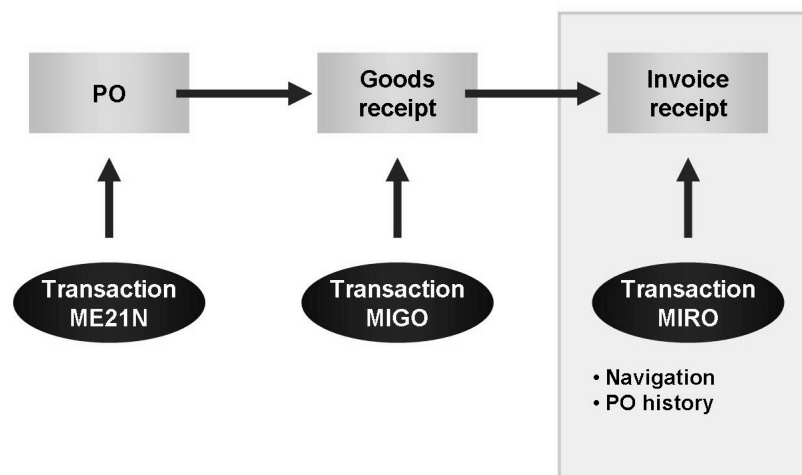


Figure 25: Procurement Basics: Invoice Receipt

Logistics Invoice Verification is part of Materials Management (MM). You use it to enter invoices and credit memos and check them for arithmetical correctness, and to make sure that you have been charged the right price for the right material or service. When you post the invoice, the data from the invoice is saved in the system and both an invoice document and an accounting document are generated. The system updates the saved data from the invoice documents in materials management (PO history, for instance) and in financial accounting.

Invoice verification does not include the payment or evaluation of invoices. The relevant information here is forwarded to other departments. Invoice verification therefore creates a link between materials management and external/internal accounting.

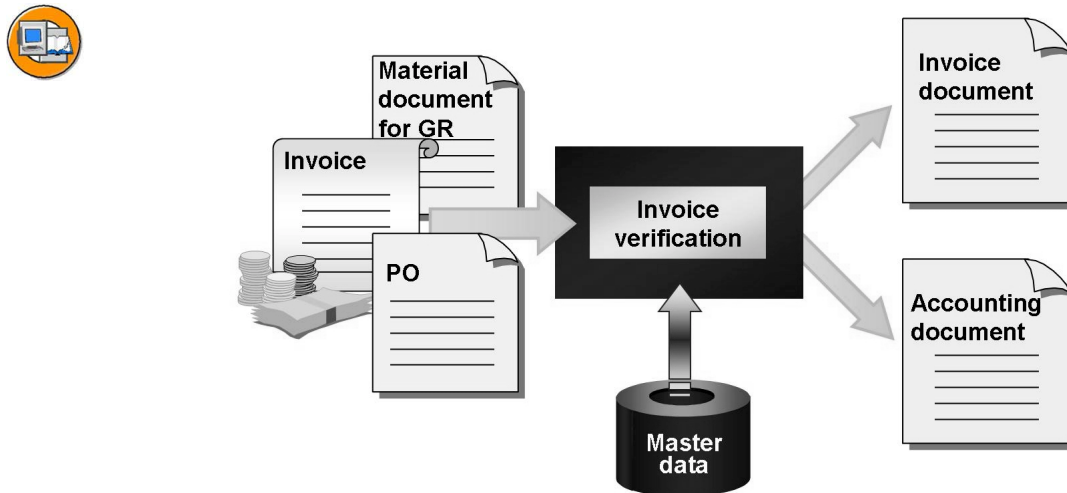


Figure 26: Invoice Receipt

When you enter an invoice with reference to a purchase order, the system suggests data from the purchase order and the goods receipts against the PO (for example, vendor, material, quantity still to be invoiced, expected amount per item, and terms of payment). You can overwrite these default values if the invoice actually submitted by the vendor contains other values. The system checks whether your input is allowed. 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 accordingly and, depending on the system settings, blocks the invoice so that it cannot be paid.



When you show participants the “Information in an Invoice” graphic, ask them which of the data has to be entered by the user and which appears in the system as default values.

Make it clear that the default values (such as quantities and amounts of the invoice item) may have to be brought into line with the data shown in the vendor's actual invoice if there are variances between the default values and the invoice. Only by entering the variant data is it possible for the system to determine the extent of the variance and block the invoice from being paid if necessary.

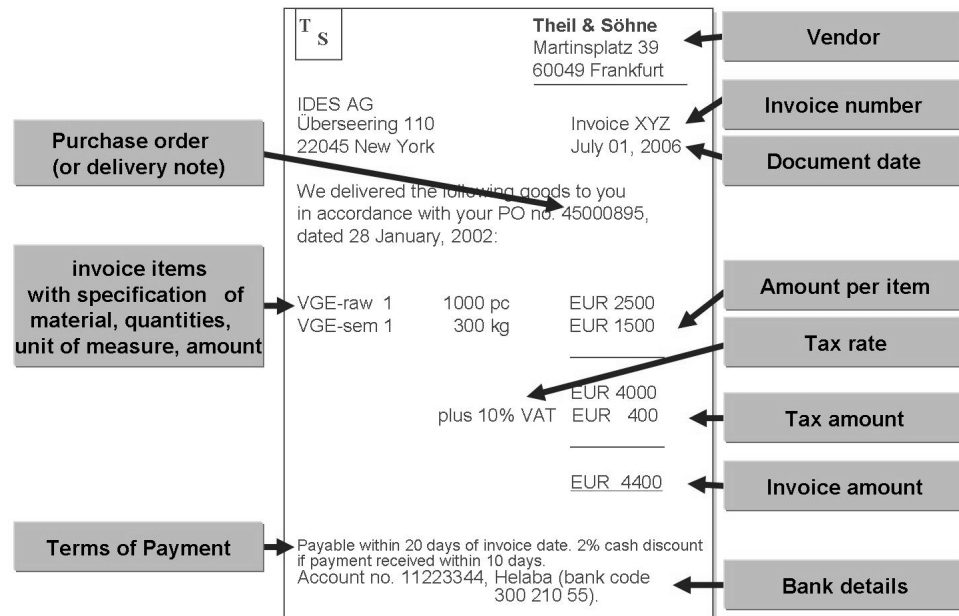


Figure 27: Information in an Invoice

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

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

Where possible, invoices should be posted with reference to a purchase order. This has the advantage that the system suggests the order prices from the purchase order document, and the goods receipt quantities from the GR documents relating to the purchase order.

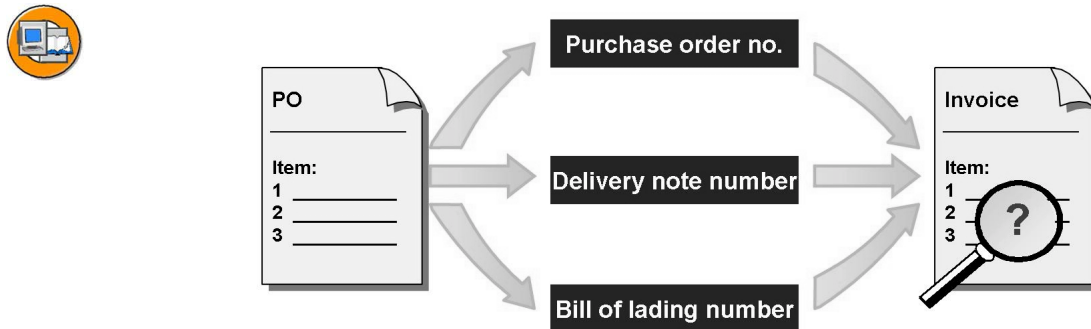


Figure 28: Invoice Verification with Reference to PO

You can also 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 an invoice is entered with reference to a purchase order, the items from the PO are suggested together with their quantities that are still to be invoiced. The system determines the quantities that are still to be invoiced as the difference between the quantity delivered and the quantity already invoiced. (For example, if 100 pc have been delivered and 60 pc already invoiced, 40 pc remain to be invoiced.) You can overwrite this default value and thus invoice the entire purchase order quantity upon receipt of partial deliveries, for example.

The system also suggests the expected value for the items. This is the product of the quantity to be invoiced multiplied by the order price. You can overwrite this value too.

If there are discrepancies between the invoice values and the expected values, the invoice is automatically blocked for payment if predefined tolerances are exceeded (for example, if the invoice price varies from the PO price).

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 in which the PO histories of the individual invoice items are displayed.

The work list is only to be used if invoices are parked or put on hold.

The transaction MIRO for entering invoices and credit memos in *Logistics Invoice Verification* is a single-screen transaction. In the case of this transaction too, data is divided into header and item data. The following figure “Invoice Entry - Transaction MIRO” shows the individual screen areas. They are described in more detail in the following.

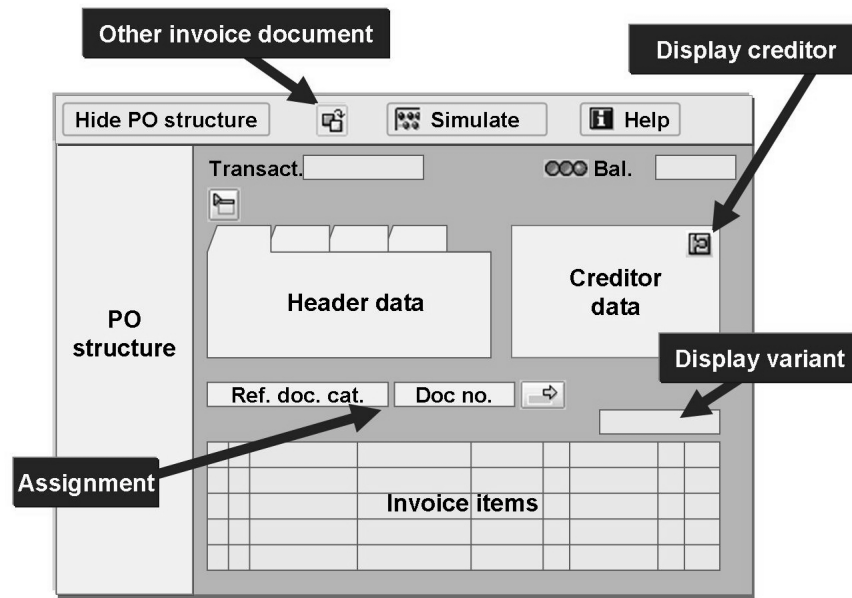



Figure 29: Invoice Entry – Transaction MIRO

- **Transaction:** In this field, you indicate whether you are entering an invoice, a credit memo, or a subsequent debit or credit.
- **Header data:** In this area you enter the header data of an invoice (for example, invoice number and date, the gross invoice amount and tax amount, the invoicing party, and the terms of payment).
- **Assignment:** Here you assign an ordering transaction (purchase order) to the invoice, so that the system suggests the invoice items to be processed.
- **Invoice items:** In this list you can check the suggested invoice items and change them in line with the vendor's actual invoice. You can change the columns displayed and their sequence via the **display variant**.
- **Vendor (creditor) data:** The detail data pertaining to the invoicing party derived from the vendor master record is shown here. Via , with the quick-info text *Display vendor*, you can 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:** The balance and the invoice status are displayed here. The status shows, for example, whether an invoice can be posted (green traffic light) or whether the invoice will be blocked for payment when it is posted (yellow traffic light).
- **PO structure:** In this area, the person entering the invoice can see the purchase order histories for the PO 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: With the following demos, you are preparing the ground for all further exercises and lessons in which invoice entry is involved. Therefore, make sure you give yourself enough time. Make sure that all participants can follow the demo.



Demonstration: Entering an Invoice

Purpose

(Duration approx. 15 minutes)

This demonstration introduces the course participants to the use of the transaction MIRO. Discuss the fields in which you make entries.

CATT: ZT_SCM500

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor

Set up instructions:



Caution: Before carrying out this demo, you should have already performed the demos in the “Purchase Order Entry: Basics” and “Goods Receipt Entry: Basics” lessons.

1. Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice (MIRO)*.

2. Enter the company code **1000**.



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. Check the transaction. You want to enter an *invoice*.
4. Enter the following data on the *Basic data* tab page:

Field name	data
Invoice date	<Current date>
Reference	IV-TRAINER-01
Amount	5500
Tax amount	500
Tax code	1I (input tax, training (10%))




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

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

Field name	data
Reference document category	Purch. order/sched. agmt
Purchasing document number	<Number of your first PO>



Note: If you do not know the number of the purchase order, use the F4 help on the *Purchasing Document Number* field. As selection values, enter vendor **1000**, plant **1000**, and material **M-01**. Start the search with , with the quick-info text *Execute*.

- After entering the PO number, confirm your input with *Enter*.


In the item list, the PO item is suggested with the amount 5000 EUR and the quantity 10 pc. The item has already been selected (this can be seen from the yellow color).



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

- Choose *Show PO structure*.

Compare the data from the item list with that displayed in the PO structure for the item. The data matches up. 10 pc are suggested for invoicing because 10 pc have been delivered but not yet invoiced.

- Point out that the balance is zero. This means that the invoice is arithmetically correct.
- Choose  with the quick info text *Post*. Make a note of the invoice number.



Demonstration: Display the Invoice Document

Purpose

(Duration approx. 5 minutes)



- Introduce various options for displaying an invoice.
- Navigation in the invoice
- Discussion of further data in the invoice

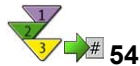
CATT: ZT_SCM500

System Data

System: Training System
Client: 8xx

User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions: Invoice entered must be available (see previous demo).

1. Choose , with the quick-info text *Other invoice document* in the 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 merely have to confirm with *Enter*.
 2. Choose the various tab pages in the header data and show some of the data:
 - *Payment*: Terms of payment that have been adopted from the purchase order.
 - *Details*: Invoicing party. More details on the invoicing party are shown on the right next to the tab pages in the *Vendor data* area.
 - *Contacts*: 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 doc..*
-



Invoice Entry

Transaction **Invoice** Balance 0,00 EUR

Basic data

Inv. date: 19.10.2006

Reference: RE 08/15

Amount: 825 EUR

Tax: 75 1l

Creditor 1000
C.E.B Berlin
Kolping Str. 15
D-12001 Berlin

Purchase order/scheduling agreement: 45000074

	Amount	Quantity	UoM	Material	Purchase order
1		10	pc	Monitor	45000074
2	750	15	pc	Keyboard	45000074

Posting OK

Figure 30: Enter Invoice Against Purchase Order


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



Note: If you are invoking the transaction for the first time, you must specify a company code in a dialog box.

2. Choose *Invoice*.
3. In the document header on the *Basic data* tab, enter the document date, the number of the vendor invoice (reference), and the gross invoice amount, as well as the tax amount with tax code.
4. Then specify the assignment to a procurement transaction. You can reference purchase orders or delivery notes relating to the goods receipts.
5. Enter the number of the document to which the invoice refers.



Note: You can also reference several documents. To do so, choose , with the quick-info text *More Assignment Criteria*. A dialog box then appears, in which you can enter several document numbers.

6. In the item list, the system suggests all purchase order items that satisfy the assignment criteria specified.

Continued on next page

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

This indicator 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. This is the case if the balance is zero.
8. Finally, post the invoice.



Exercise 3: Invoice Verification - Basics

Exercise Duration: 15 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Enter an invoice with the logistic invoice verification function and check it is correct.
- Explain the effects of invoice verification on the updating of purchase order data

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 set out in the vendor's invoice.

System Data

System:	Training System
Client:	8xx
User ID:	SCM500-##
Password:	The password set by the participant
CATT:	ZT_SCM500
Set up instructions:	



Caution: You can only carry out this exercise if you have already completed the exercises from the lessons “Purchase Order Entry - Basics” and “Goods Receipt Entry - Basics”.

Task: Invoice Entry

Vendor **T-K500A##** invoices you for delivery of the **standard taillights-##**. Enter the invoice using the Logistics Invoice Verification functionality.

1. Post vendor invoice

Enter the invoice for company code **1000**.

Take the necessary data from the vendor's invoice you have received. (Graphic Invoice RE-A1##).

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

Continued on next page



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-##	5,000 EUR
			Total net value:	5,000 EUR
			plus 10 % VAT	500 EUR
			Invoice amount	<u>5,500 EUR</u>
Subject to the agreed terms of payment.				
Kind regards, Motolux GmbH Gr.##				

Figure 31: Invoice RE-A1##

Post the invoice.

Invoice document number: _____

2. **Display 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 properly.

3. **Extend list of favorites**

Add the transaction for invoice entry to your favorites.

Solution 3: Invoice Verification - Basics

Task: Invoice Entry

Vendor **T-K500A##** invoices you for delivery of the **standard taillights-##**. Enter the invoice using the Logistics Invoice Verification functionality.

1. Post vendor invoice

Enter the invoice for company code **1000**.

Take the necessary data from the vendor's invoice you have received. (Graphic Invoice RE-A1##).

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

Invoice		Motolux GmbH Gr.## Sonnenweg 3 68145 Mannheim		
IDES Hamburg Plant Altersdorferstr. 13 22299 Hamburg		Invoice no.: Invoice date	RE-A1## [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-##	5,000 EUR
			Total net value:	5,000 EUR
			plus 10 % VAT	500 EUR
			Invoice amount	<u>5,500 EUR</u>
Subject to the agreed terms of payment.				
Kind regards, Motolux GmbH Gr.##				

Figure 32: Invoice RE-A1##

Post the invoice.

Invoice document number: _____


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

Continued on next page


Field name	Field value
Invoice date	<Current date>
Reference	RE-A1##
Amount	5500
Tax amount	500
Tax code	1I (input tax, training (10%))


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



Hint: If you want to search for the PO using the F4 help, enter the following selection values and then choose , with the quick-info text *Execute*.

Field name	Field value
Vendor	T-K500A##
Plant	1000
Material	T-M500A##


Select the purchase order in the results list and choose  *Adopt*.

- d) Choose , with the quick-info text *Enter*, for the system to suggest the data from the purchase order.

The default data agrees with that of the vendor invoice. The balance is zero.



Hint: The item is preselected by the system.



- e) Choose , with the quick info text *Post*, and note the number of the invoice document.

2. Display invoice document

Continued on next page

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

- a) You can display the invoice directly from the transaction Enter Invoice (MIRO) by choosing *Invoice Document* → *Display*.

However, you can also choose  with the quick-info text *Other invoice document*. In the *Choose Invoice Document* dialog box, the system suggests the last invoice you posted. Choose , with the quick-info text *Continue (Enter)*, to display the invoice.

When you exit MIRO, choose an invoice document to display.

Logistics → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* → *Display Invoice Document* (MIR4).

- b) Choose *Show PO structure* to display the PO history.

Or double-click on the PO number in the item overview. Then choose the *PO history* tab page in the purchase order (item details).

- c) The PO history now shows the invoice for 100 pc in addition to the goods receipt of 100 pc.

3. **Extend list of favorites**

Add the transaction for invoice entry to your favorites.

- a) Use one of the options you have already learned.



Lesson Summary

You should now be able to:

- Name the most important information given in an invoice
- Carry out a simple invoice verification process with reference to a purchase order
- Explain the most important effects of entering an invoice against a purchase order



Unit Summary

You should now be able to:

- Describe the various external procurement processes.
- List the organizational levels relevant to the procurement process in the SAP system.
- Explain the relationships between these organizational levels
- Name various documents to which you can make reference when creating a purchase order
- Name the most important elements of a purchase order
- Enter and issue a simple purchase order
- Explain the most important effects of a goods receipt against a purchase order
- Enter a simple goods receipt with reference to a purchase order
- Name the most important elements of a material document
- Name the most important information given in an invoice
- Carry out a simple invoice verification process with reference to a purchase order
- Explain the most important effects of entering an invoice against a purchase order



Test Your Knowledge

1. Which procurement process(es) end as a rule with the goods receipt and not with the invoice date?
Choose the correct answer(s).
 - A Procurement by another plants in company using a stock transfer order.
 - B Stock transfer of materials by means of subcontracting.
 - C Normal purchase of materials from a vendor without provision of components.
 - D Procurement of material by means of consignment.

2. List the organizational levels relevant to the procurement process.

3. A plant can be assigned to several company codes.
Determine whether this statement is true or false.
 - True
 - False

4. A purchasing organization can act for several plants.
Determine whether this statement is true or false.
 - True
 - False

5. A purchasing group must always be assigned to a purchasing organization.
Determine whether this statement is true or false.
 - True
 - False

6. A purchasing organization must always be assigned to a company code.
Determine whether this statement is true or false.
 - True
 - False

7. You can create a purchase order with reference to a purchase requisition.
Determine whether this statement is true or false.
- True
 - False
8. List four different screen areas in the order transaction ME21N.
- _____
- _____
- _____
- _____
9. Which organization levels do you have to indicate when entering a purchase order?
Choose the correct answer(s).
- A Client
 - B Company code
 - C Plant
 - D Storage location
 - E Purchasing organization
 - F Purchasing group
10. _____ and _____ are two possible message output types.
Fill in the blanks to complete the sentence.
11. To enter a goods receipt with reference to a purchase order, choose transaction _____. Then choose the transaction _____ and _____ as the reference document. The _____ for the movement type should be _____. Enter the _____ and choose *Execute*. Set the _____ for the items and enter a _____. Finally, save your input.
Fill in the blanks to complete the sentence.

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

Choose the correct answer(s).

- A The purchase order is deleted.
- B An accounting document can be generated.
- C A material document is generated for each item.
- D The PO 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.

13. You cannot enter a goods movement without indicating a _____.

Fill in the blanks to complete the sentence.

14. List at least five pieces of information that you can find in a vendor invoice.

15. When entering an invoice, you should reference a _____ or a _____.

As a result, the system is able to suggest _____ and amounts for each item. The invoice is checked to ensure

_____ and

_____.

Fill in the blanks to complete the sentence.

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

Choose the correct answer(s).

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



Answers

1. Which procurement process(es) end as a rule with the goods receipt and not with the invoice date?

Answer: A, D

With stock transfer using a stock transfer order, there is no invoice date as a rule if the receiving and issuing plant are assigned to a company code. With vendor consignment a liability only arises when a withdrawal is made from consignment stock but not when the goods in the consignment are delivered.

2. List the organizational levels relevant to the procurement process.

Answer: The following organizational levels are relevant to the procurement process:

- Client
- Company code
- Plant
- storage location
- Purchasing organization/group

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

Answer: False

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

4. A purchasing organization can act for several plants.

Answer: True

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

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

Answer: 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.

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

Answer: False

The assignment of a purchasing organization to a company code is optional and not mandatory.

7. You can create a purchase order with reference to a purchase requisition.

Answer: True

You can create a purchase order with reference to a purchase requisition in the same way as you can refer to an RFQ, a contract or another purchase order.

8. List four different screen areas in the order transaction ME21N.

Answer: Header data, item overview, item details, document overview and help

9. Which organization levels do you have to indicate when entering a purchase order?

Answer: B, C, E, F

Because you select the client when you log on to the SAP system, you do not need to enter the client in the purchase order. In the organizational data in the purchase order header, you must enter the 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.

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

Answer: Print, EDI

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

11. To enter a goods receipt with reference to a purchase order, choose transaction MIGO. Then choose the transaction Goods Receipt and Purchase Order as the reference document. The default value for the movement type should be 101. Enter the PO number and choose Execute. Set the Indicator OK for the items and enter a storage location. Finally, save your input.

Answer: MIGO, Goods Receipt, Purchase Order, default value, 101, PO number, Indicator OK, storage location

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

Answer: B, D, E

One material document and one accounting document are generated per goods receipt (exceptions: cross-company-code postings and non-valuated goods receipts).

The PO history for a PO 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 PO item.

13. You cannot enter a goods movement without indicating a movement type.

Answer: movement type

The movement type determines the kind of goods movement that is involved. It is also an important factor influencing the stock or consumption postings made in accounting.

14. List at least five pieces of information that you can find in a vendor invoice.

Answer: Among other things, a vendor invoice shows the 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.

15. When entering an invoice, you should reference a purchase order or a delivery note. As a result, the system is able to suggest quantities and amounts for each item. The invoice is checked to ensure that it covers the right quantities of the right materials and/or services, that the price is as agreed and that it is arithmetically correct.

Answer: purchase order, delivery note, quantities, that it covers the right quantities of the right materials and/or services, that the price is as agreed, that it is arithmetically correct

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

Answer: B, C, E

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 “subcontracting”. Subsequent delivery also counts as a goods movement.

Unit 2



Master Data



Following the introduction to the procurement process in the previous unit, two of the master data records used will be covered here. These are the vendor master record and the material master record. The data from a purchasing info record was also mentioned, but this master record is not discussed further until the unit on “Procurement of Stock Material”, regarding conditions.

To start this unit, you can create another purchase order using the data from the previous unit. If you have maintained the organizational levels in the default data, you need only specify the numbers of the vendor and material master records plus the quantity. The rest of the data is determined from the master records.

The mass maintenance unit is optional and does not have an exercise. An optional demonstration can be shown here.

Unit Overview

The focus of this unit is on maintaining the material and vendor master data. It also deals with the significance of the organizational levels with regard to this data.



Unit Objectives

After completing this unit, you will be able to:

- Explain the significance of vendor master records
- Create and maintain vendor master records
- Name the organizational levels that are important for the maintenance of vendor master records
- Explain the significance of material master records
- Create and maintain material master records
- Name the organizational levels that are important for the maintenance of material master records
- List the different entry aids for the maintenance of the vendor master record and material master record
- Outline the creation of a vendor master record with reference

- Create a material master record with reference material
- Use collective entry for storage location data in the material master record
- name the objects that can be processed using the mass maintenance function
- Outline the flow of mass maintenance

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Lesson: Vendor master record



Lesson Duration: 60 Minutes

Lesson Overview

This lesson introduces the vendor master record, which is of importance in both the ordering and invoice processing phases of procurement. It deals with the structure and maintenance (creation, changing, and display) of the vendor master record.



Lesson Objectives

After completing this lesson, you will be able to:

- Explain the significance of vendor master records
- Create and maintain vendor master records
- Name the organizational levels that are important for the maintenance of vendor master records



The vendor master record belongs to the most important master data in the procurement process. Without a vendor master record, you cannot create purchasing documents or enter incoming invoices.

Point out that the term "creditor" is also used in conjunction with invoice verification for "vendor."

Business Example

Your company has entered into a business relationship with a new vendor. Since you intend to place orders with this vendor frequently in future, you create a new master record for the vendor.

Master Data in the Procurement Process



To start this section, create a simple purchase order (transaction ME21N).

Field name	Field value
Vendor	1000
Purchasing organization	1000
Purchasing group	T00

Field name	Field value
Material	M-01
Quantity	1
Plant	1000

Explain that most of the data is derived from the master records (vendor, material, purchasing info record). Branch directly to the vendor master record by double-clicking on the vendor number.

Master data comprises data records that are stored in the database for a long period of time. These data records are stored centrally, and are used and processed on a cross-application basis. In this way, the multiple storage (redundancy) of data is avoided.

The vendor master record, the material master record, and the purchasing info record belong to the most important master data in the procurement process.

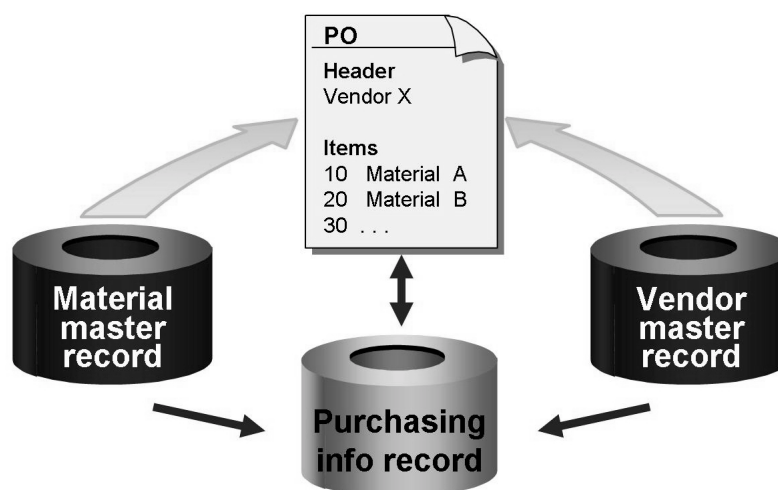


Figure 33: Master Data in the Procurement Process

When creating purchasing documents, data is transferred to the purchasing documents by default from existing master records. This lessens the effort required to enter the data.

Other data from the material master record, such as units of measure, material short text, and the PO text, is also adopted in the new document. The data in the vendor master record includes address and payment data. You can store vendor-specific data on a certain material (for example, delivery time and purchase price) in purchasing info records.

Vendor Master Data



After branching to 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 org. data*. You can explain the structure of the vendor master record. Explain the three data areas and the associated data in detail.

The vendor master record contains information on an enterprise's vendors. This information is stored in individual vendor master records. In addition to the vendor's name and address, a vendor master record contains data such as the following:

- Currency used in transactions with the vendor
- Terms of payment
- Names of important contacts (e.g. salespersons)

Since, for accounting purposes, the vendor is also a creditor of the enterprise, the vendor master record also contains accounting data such as the reconciliation account from the general ledger.

The vendor master record is therefore maintained by both purchasing and accounting. This is also the reason for the subdivision of the data in the vendor master record into different categories.

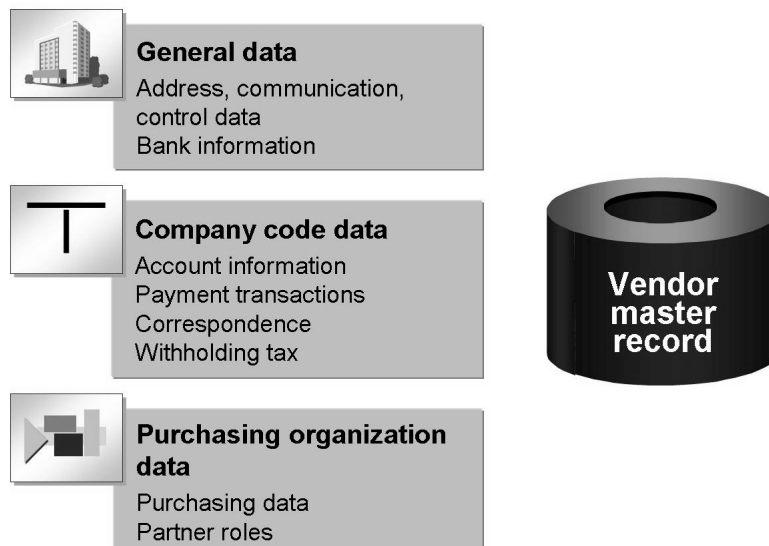


Figure 34: Vendor Master Data

The data in the vendor master record is subdivided into the following categories:

- **General data:**
This data is valid for the whole client. It includes the vendor's address and bank details, for example.
- **Accounting data:**
This is maintained at company code level. It comprises data such as the number of the reconciliation account and the payment methods for automatic payment transactions.
- **Purchasing data:**
This data is maintained for each purchasing organization. It includes the purchase order currency, Incoterms, and various control data pertaining to the vendor. You can also maintain different data for specific plants or for vendor subranges.

You can decide whether vendor master records are to be maintained centrally (that is, all data is maintained together), or on a decentralized basis (that is, the relevant departments each maintain their own data).

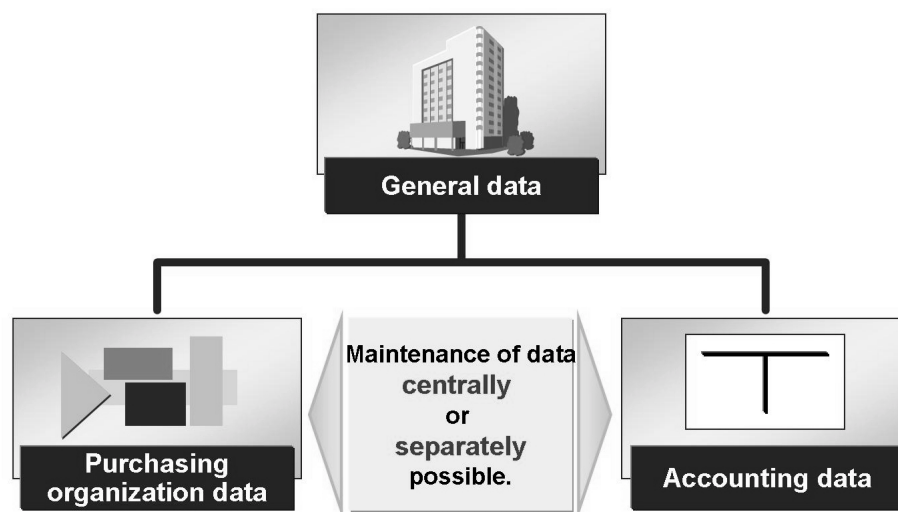


Figure 35: Vendor Master Record: Organizational Levels

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*), they will only be able to maintain the general address and control data and the purchasing-specific data. Accounting personnel must enter the payment transaction data and the company-code-specific data.

However, you can also give your staff authorization to maintain the vendor master data under the menu path *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Vendor* → *Central* → *Create/Change/Display* (transactions XK01, XK02, XK03). In this case, staff can maintain all the data in the vendor master record.



Hint: Before you can order anything from a vendor, you must have previously maintained the purchasing data. A precondition for invoice entry is the prior creation of the accounting data.

Account Group



Explain the control function of the account group.

If this lesson is part of SCM500, you should be aware that the topic of one-time vendors is dealt with again in a later lesson (RFQ/Quotation Processing). The instructor must decide how much detail to give on this topic in this lesson.

When creating a vendor master record, you must decide which account group you are going to assign to this vendor. The account group has control functions. When you maintain the vendor master record, for example, only the screens and fields that are needed for the relevant role of your business partner appear and are ready to accept user input. This is controlled by the account group.

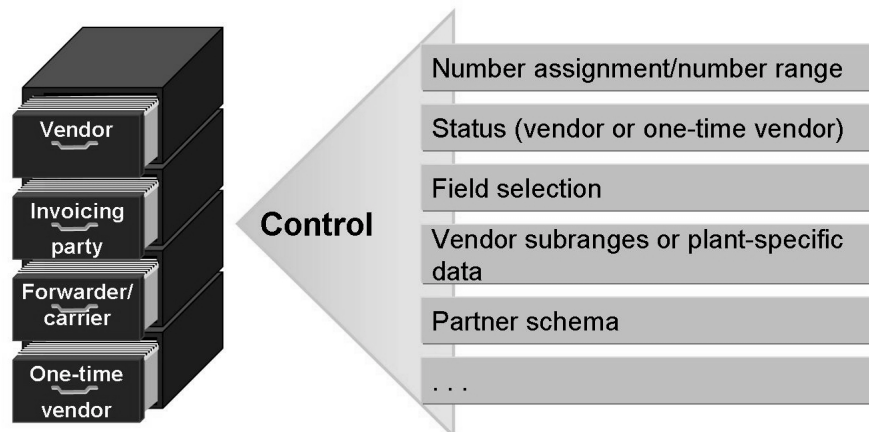


Figure 36: Account Group

Among other things, the account group determines:

- The type of number assignment (internal or external) and the number area from which the account number that the system uses to identify the vendor is to be assigned
- The field selection - which fields are ready for user input, which fields must be maintained, and which fields are hidden
- Which partner schemas are valid
- The status - whether the vendor is a one-time vendor (see below)



Note: You maintain the account groups in Customizing for *Logistics - General* under *Business Partner* → *Vendor* → *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 for what are known as CpD vendors (one-time vendors; CpD stands for Conto-pro-Diverse). A CpD vendor master record is always used in purchasing documents and invoices where no separate master record exists (or is to be created) for a vendor. This enables you to work without a vendor-specific master record if a material or a service is to be procured from a vendor only once.

Unlike with other master records, you can use a one-time-vendor master record for several vendors, which is why it is known as a collective master record. For this reason, no vendor-specific data such as an address or bank details are stored for one-time vendors. This data is recorded in the relevant document only. When a purchasing or accounting document featuring a one-time vendor is created, the system automatically invokes an additional data screen. This is where you enter the specific data, such as the vendor's name, address, and bank details.

Rec. Account

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

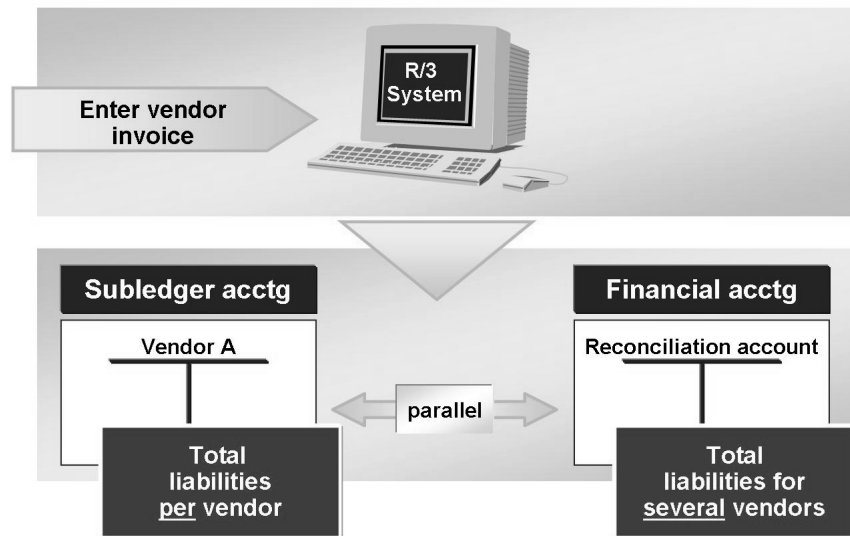


Figure 37: Reconciliation Account for Vendor Master Record

When creating a vendor master record, you must also maintain a reconciliation account. The reconciliation account is a G/L account in G/L accounting. It depicts a company's liabilities towards several 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

The business partner “vendor” can assume various roles in dealings with your enterprise. For example, during a procurement transaction, the vendor is first the order recipient, then the supplier of goods, and finally the invoicing party (invoice presenter).

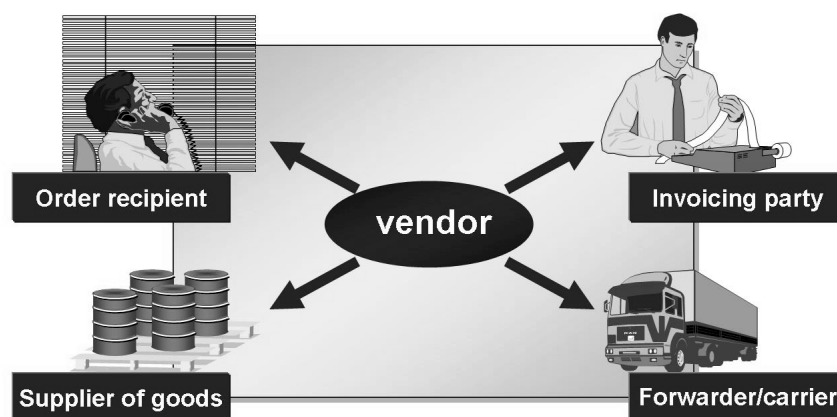


Figure 38: Partner Roles

The maintenance of partner roles in the vendor master record enables you to distribute one or more of these roles among different vendor master records. Using the partner role functionality, you can define a different creditor as a freight forwarder for a certain vendor, for example.

Blocking Vendors



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

In certain cases, you may wish to stop the procurement of goods from a certain vendor. This may be, for example, because the vendor has supplied you with products of inferior quality. In such a case, you have the option of blocking the vendor in the vendor master record. Once you have set the blocking indicator, purchase orders can no longer be placed with this vendor. The block applies until you deselect the indicator.



Hint: If you wish to prevent just one particular material from being procured from this vendor, block the vendor in the source list for the material, not in the vendor master record.

To block a vendor master record, choose from the *Purchasing* menu, *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.

You also have the option of setting the *Block for quality reasons*. The *Block for quality reasons* 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.



Demonstration: Displaying a Vendor Master Record

Purpose

(Duration approx. 10 min.)

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 not only to the display transaction but also to the change and create transactions.

System Data

System:	Training System
Client:	8xx
User ID:	Own or SCM500-00
Password:	Ask the instructor
Set up instructions:	None

1. Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Vendor* → *Purchasing* → *Display (Current)* (transaction MK03).
2. Discuss the subdivision of data into client-specific and purchasing organization-specific data:

- General data (valid client-wide)
- Purchasing organization data

Only the data relevant to purchasing is displayed.

3. Open a second session.
4. Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Vendor* → *Central* → *Display* (transaction XK03).
5. Discuss the subdivision of the data into three groups according to the dependency on the organizational levels:

- General data (valid client-wide); the payment transaction data is also displayed
- Company code data
- Purchasing organization data

All the data of the vendor master record is displayed.





Note: Arrange the two sessions so that they overlap, so that you can compare the existing “views” at a glance.

6. Display vendor 1000 **centrally**.

Enter the following data:

Field name	Field value
Vendor	1000
Company code	1000
Purch. organization	1000

Select all views and confirm your input with *Enter*.

7. Explain the navigation possibilities available under the *Goto* menu option and with  and .
8. Discuss the individual data in the various views.
9. Choose *Extras* → *Administrative data* to determine the account group and the user who entered the data.
10. Choose *Environment* → *Account changes* → *All fields* to display the log of changes.

Also display the changes for one of the listed fields (by double-clicking on the relevant entry).



Demonstration: Creating a Vendor Master Record

Purpose

(Duration approx. 15 minutes)

Creation of a vendor master record for purchasing and accounting.

System Data

System:	Training System
Client:	8xx
User ID:	Own or SCM500-00
Password:	Ask the instructor
Set up instructions:	None



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

Field name	Field value
Vendor	T-K500Y
Company code	1000
Purch. organization	1000
Account Group	ZTMM

Choose *Enter*.

3. Enter the following data:




Note: Choose , with the quick-info text *Enter*, to go to the next views, one after the other. Explain that you can also use *Enter* or .



Note: You do not have to enter data in all views.

<i>Address</i>	
Name	Quick Company
Search term	SCM500-00
Street/House number	Daimlerstraße 127
Postal code/City	69134 Heidelberg
Country	DE
Region	08 (Baden-Wuerttemberg)
Language	English
<i>Accounting information</i>	
Rec. Account	160000
<i>Payment transactions (Accounting)</i>	
Payment terms	0002
Payment methods	S (check)
<i>Purchasing data</i>	
Order currency	EUR
Terms of payment	0002
Incoterms	FOB Mannheim
Salesperson	Dolly Duck
Telephone	06221-986547

4. Choose , with the quick-info text *Save*.



Exercise 4: Vendor Master Record

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create vendor master records
- Change vendor master records

Business Example

Your company has entered into a business relationship with a new vendor. To be able to order from this vendor, approve invoices for payment, and carry out other processes, you must create a new vendor master record.

System Data

System:	Training System
Client:	8xx
User ID:	SCM500-##
Password:	The password set by the participant
CATT:	ZT_SCM500
Set up instructions:	No

Task: Maintain Vendor Master Data

The purchasing and accounting data for the new vendor **Highspeed Gr.##** is available. Since your enterprise will now procure from this source on a regular basis, create a master record for this vendor.

1. Organizational levels in the vendor master record

You already know that vendor master data is maintained depending on various organizational levels.

For which organizational levels do you enter data in the vendor master record?

2. Menu paths for the creation of vendor master data

What are the menu paths for creating a vendor master record in purchasing?
How do these approaches differ?

3. Create a vendor master record

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**. The following data is to be entered in the master record.



Hint: Note that in the following views no inputs are necessary:
Control, Payment Transactions - General, Correspondence
Accounting, Partner Roles.

Address

Title:	Company
Name:	Highspeed Gr.##
Search term:	SCM500-##
Street/House number:	Lincolnstraße 99

Continued on next page

Postal code/City	81549 München
Country:	DE
Region:	09 (Bavaria)
Language:	German

Accounting information

The reconciliation account in G/L accounting has the description *Trade Payables - Domestic*. Use the F4 input help to determine the number of the reconciliation account.

Number of reconciliation account: _____

Payment transactions (Accounting)

The following terms of payment apply to pure accounting transactions:

If the invoice is paid within 14 days of receipt, the vendor grants 3% cash discount. If the invoice is paid between 14 and 30 days, the cash discount is 2%. If no cash discount is claimed, the invoice has to be paid within a maximum of 45 days. Use the F4 input help to determine the relevant key for the payment terms.

Payment terms: _____

Purchasing data

The currency for purchase orders placed with the vendor is EUR.

The terms of payment for the purchasing department also apply to the accounts department.

The freight/shipping term is: "Free house". Maintain the Incoterms accordingly.

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

4. Change vendor master record

The vendor master data has already been created, and you have agreed with your vendor **T-K500Y##** that requisitions for certain materials procured from this vendor can be automatically converted into purchase orders. To facilitate this, you must 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 field: _____

Furthermore, the vendor has informed you that Mr. Fred Fisher is his contact person for purchasing. His telephone number is 089-123654. Enter this data in the relevant fields.

Continued on next page



Entries in the fields: _____

Solution 4: Vendor Master Record

Task: Maintain Vendor Master Data

The purchasing and accounting data for the new vendor **Highspeed Gr.##** is available. Since your enterprise will now procure from this source on a regular basis, create a master record for this vendor.

1. Organizational levels in the vendor master record

You already know that vendor master data is maintained depending on various organizational levels.

For which organizational levels do you enter data in the vendor master record?

Answer: You enter data for the organizational levels client, company code, purchasing organization, and possibly plant/subrange in the vendor master record.

2. Menu paths for the creation of vendor master data

What are the menu paths for creating a vendor master record in purchasing?
How do these approaches differ?

Answer: You can create vendor master data using the following menu paths:

a) *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Vendor* → *Central* → *Create (transaction XK01)*.

b) *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Vendor* → *Purchasing* → *Create (transaction XK01)*.

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

3. Create a vendor master record

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**. The following data is to be entered in the master record.



Hint: Note that in the following views no inputs are necessary:
Control, Payment Transactions - General, Correspondence
Accounting, Partner Roles.

Continued on next page

Address

Title:	Company
Name:	Highspeed Gr.##
Search term:	SCM500-##
Street/House number:	Lincolnstraße 99
Postal code/City	81549 München
Country:	DE
Region:	09 (Bavaria)
Language:	German

Accounting information

The reconciliation account in G/L accounting has the description *Trade Payables - Domestic*. Use the F4 input help to determine the number of the reconciliation account.

Number of reconciliation account: _____

Payment transactions (Accounting)

The following terms of payment apply to pure accounting transactions:

If the invoice is paid within 14 days of receipt, the vendor grants 3% cash discount. If the invoice is paid between 14 and 30 days, the cash discount is 2%. If no cash discount is claimed, the invoice has to be paid within a maximum of 45 days. Use the F4 input help to determine the relevant key for the payment terms.

Payment terms: _____

Purchasing data

The currency for purchase orders placed with the vendor is EUR.

The terms of payment for the purchasing department also apply to the accounts department.

The freight/shipping term is: "Free house". Maintain the Incoterms accordingly.


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

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Vendor* → *Central* → *Create (transaction XK01)*.
- b) Enter the following data on the initial screen:

Continued on next page

Field name	Field value
Vendor	T-K500Y##
Company Code	1000
Purchasing organization	1000
Account Group	ZTMM

Confirm your entries with *Enter*.

- c) Enter the following data on the individual data screens. In each case, choose , with the quick-info text *Enter*, to get to the next data screen.

<i>Address</i>	
Title	Company
Name	Highspeed Gr.##
Search term	SCM500-##
Street/House number	Lincolnstraße 99
Postal code/City	81549 Munich
Country	DE
Region	09 (Bavaria)
Language	German

<i>Control, Payment transactions, general</i>	
	No input necessary

<i>Accounting information</i>	
Rec. Account	160000


<i>Payment transactions (Accounting)</i>	
Terms of payment	0002

<i>Correspondence Accounting</i>	
	No input necessary

Continued on next page

<i>Purchasing data</i>	
Order currency	EUR
Terms of payment	0002
Incoterms	FH

<i>Partner Roles</i>	
	No input necessary

d) Choose , with the quick-info text *Save*.

4. Change vendor master record

The vendor master data has already been created, and you have agreed with your vendor **T-K500Y##** that requisitions for certain materials procured from this vendor can be automatically converted into purchase orders. To facilitate this, you must 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 field: _____

Furthermore, the vendor has informed you that Mr. Fred Fisher is his contact person for purchasing. His telephone number is 089-123654. Enter this data in the relevant fields.

Continued on next page

Entries in the fields: _____


- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Vendor* → *Purchasing* → *Change (Current) MK02*.
- b) Enter the following data on the initial screen:

Field name	Field value
Vendor	T-K500Y##
Purchasing organization	1000
Purchasing data	?

Confirm your entries with *Enter*.

- c) Enter the following data in the purchasing data view:

Field name	Field value
Salesperson	Mr. Fred Fisher
Telephone	089-123654
Automatic purchase order	?

- d) Choose , with the quick-info text *Save*.



Lesson Summary

You should now be able to:

- Explain the significance of vendor master records
- Create and maintain vendor master records
- Name the organizational levels that are important for the maintenance of vendor master records

Lesson: Material Master Record



Lesson Duration: 90 Minutes

Lesson Overview

In this lesson, the material master record is introduced as one of the central master records in logistics. The structure and maintenance (creation, extension, changing, and display) of the material master record is discussed.



Lesson Objectives

After completing this lesson, you will be able to:

- Explain the significance of material master records
- Create and maintain material master records
- Name the organizational levels that are important for the maintenance of material master records



This lesson introduces the material master record and examines its structure. 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 needed for the procurement process. In this respect, they should also be able to name the relevant organizational levels. However, you must also make clear that other data is entered depending on other organizational levels (such as sales and distribution data).

Business Example

Various departments in your enterprise access and use existing material master records. Check how such master records can be created and extended.

Material Master Record - Overview



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

You should emphasize the following points:

- All the data on a material that is independent of specific vendors, customers, or production routings, for example, should be stored in a central master record. Each user department does not have to create its own material master record as this would result in unnecessary data redundancy.
- In order for individual departments to be able to access the data relevant to their needs as easily as possible, the data should be grouped according to area of use. This can also mean that a piece of information (data field) is displayed in different views.

In addition, due to different requirements within the enterprise, you must be able to enter data depending on the organizational level

Example - materials planning: In plant A, the material is required for production purposes, whereas in plant B it is only used as a spare part. As a consequence, different MRP procedures must be used for the material, depending on the plant.

The material master record is an enterprise's main source of material-specific data. It is used by 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 data stored.

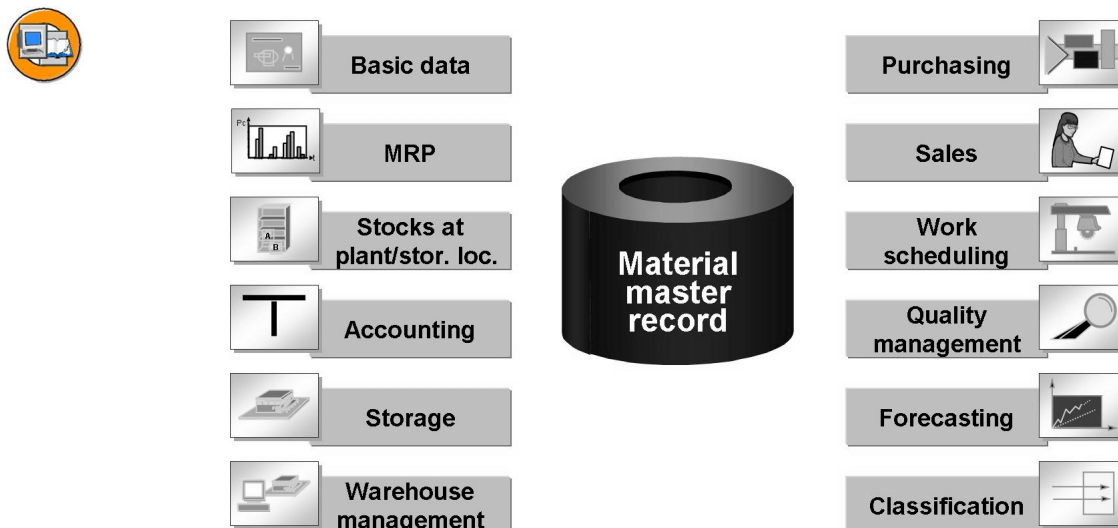


Figure 39: Material Master Data

The data stored in the material master record is required for many purposes, including the following:

- Purchasing data is required for ordering purposes
- Inventory management data is needed to post goods movements and carry out physical inventories
- Accounting data is required for material valuation
- Materials planning data is needed for material requirements planning

Since different user departments within an enterprise work with one material, and each department enters different information relating to it, the data in a material master record is subdivided according to area of use. Each user department thus has its **own view** of a material master record and is responsible for maintaining the data covered by this view.

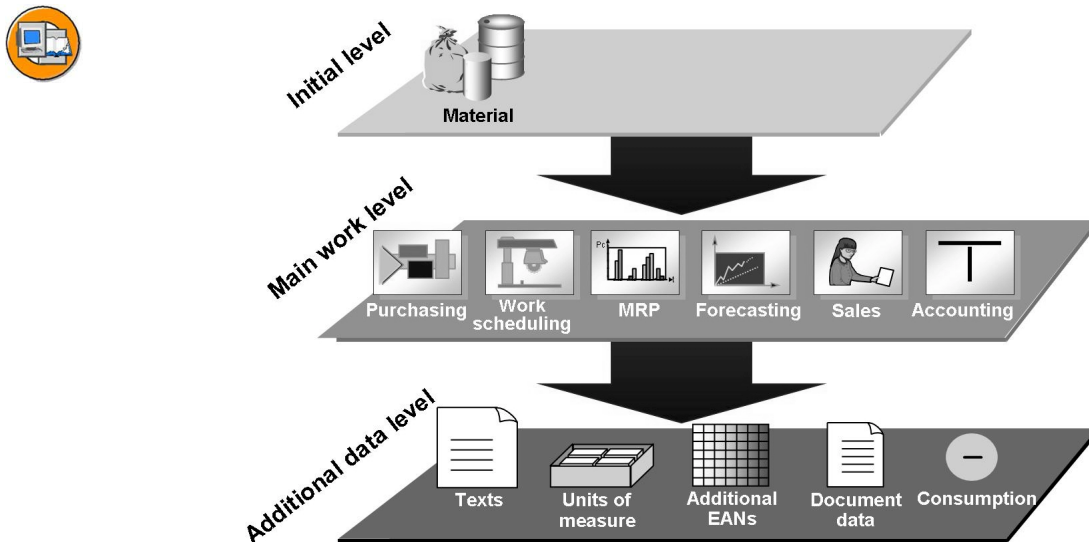


Figure 40: Data Screens in Material Master Record Maintenance

The data screens used to process material master records can be subdivided into the following types:

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

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

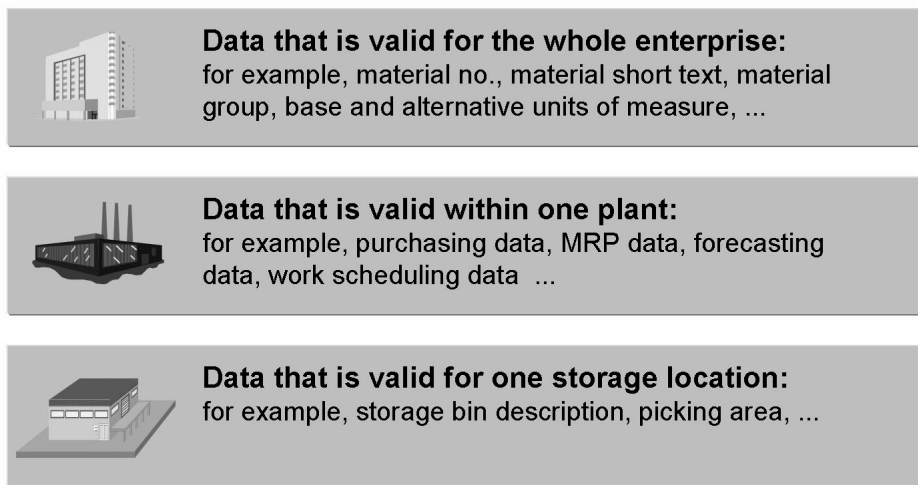


Figure 41: Material Master: Organizational Levels

Some material data is valid for all organizational levels, while some is valid for certain levels only. So that the material data can be administered centrally, without unnecessary load on the database due to redundant information, the material master is organized in such a way that it reflects the structure of an enterprise. For example, a distinction is made for:

- Data at client level:
General material data that is valid for the whole enterprise 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.


The above-mentioned organizational levels are relevant for the external procurement process. Client, plant, and storage location play a role 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 you must specify a warehouse number and storage type for the warehouse management data.

Create Material Master Record



Explain the standard screen sequence for maintaining a material master record by displaying 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.

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 Views* dialog box. 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 Views* dialog box. You can then enter the plant in the *Organizational Levels* dialog box.
6. **Do not** enter a plant. Display the basic data. All fields are displayed on the basic data screen.
7. Choose the purchasing data and display the individual data.
8. Then choose  *Organizational levels* and enter plant **1000**.

Now the plant-dependent purchasing data is also displayed.

The data for a material is structured by area of use and organizational level and is also apparent in material master record maintenance. When processing material master records, you have to negotiate several dialog screens before you can actually start to maintain data.

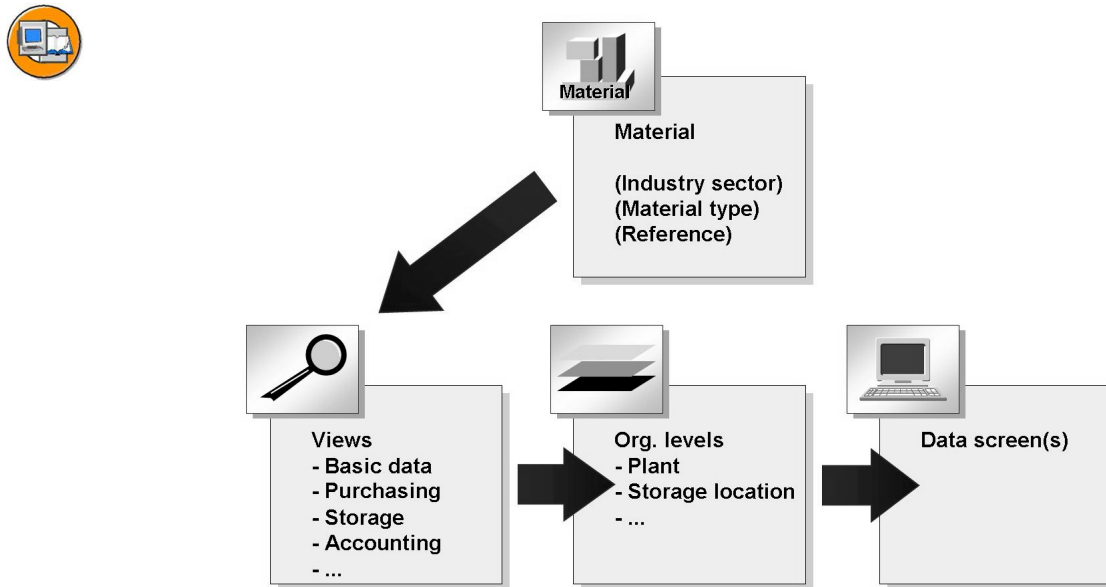


Figure 42: Maintain Material Master Record: Screen Sequence

On the initial screen, you will see two successive dialog boxes. In the first dialog box, you specify the views you want to process. In the second one, you specify the relevant organizational levels. After this, the data screens appear.

You can influence the standard screen sequence with presettings.



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

Some screens are not integrated in the standard screen sequence. You can only access these screens by choosing them specifically from the menu bar.

When creating a new material master record, you must choose a material type and an industry sector to which the material is to be assigned.

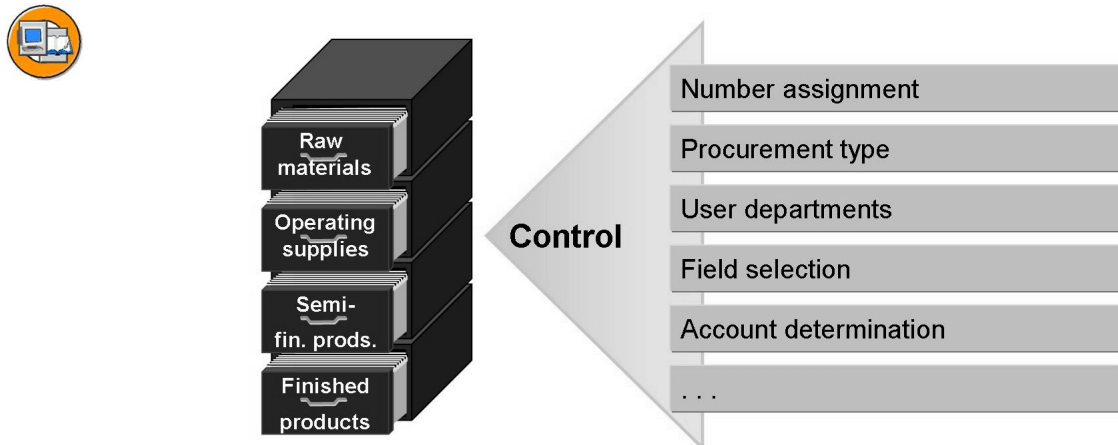


Figure 43: Material Type

Materials with the same properties are assigned to the same material type. Examples of material types are raw materials, semifinished products, and finished products.

Among other things, the material type controls:

- The type of number assignment (internal or external)
- The permissible number range intervals
- Which screens appear and in which order
- Which user-department-specific data is suggested for entry (in views)
- Which procurement type 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 a material's inventory management requirement (whether quantity changes are continuously recorded in the material master record and/or value changes in the stock accounts of financial accounting).

Furthermore, the material type determines which accounts are posted when a receipt of a material into (or an issue from) the warehouse is booked.

Various type of material are delivered as standard. If your enterprise needs additional material types, you can define these according to your requirements in Customizing.

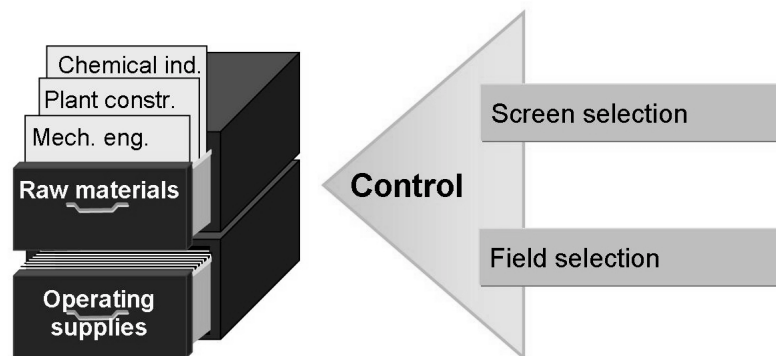


Figure 44: Industry Sector


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

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

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

The industry sector you assign to a material cannot subsequently be changed.

In Customizing, you can define new industry sectors and maintain the field reference for field selection control according to your enterprise-specific requirements.

Most data in the material master record can be maintained directly by the user. But some information is automatically updated by the system. When you enter goods movements, for example, the system updates the stock and consumption data. Statistical information, such as the date of original creation and that of the last change, can be invoked with , with the quick-info text *Information on material*.

Some data in the material master is used for information purposes only, for example, description, size, and dimensions.

Other material data has a controlling function in an application. For example, the MRP type controls the MRP procedure and the price control indicator determines which material valuation procedure is used.

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.

Note also the “Change” function 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 material function. The view selection does not offer additional views. Neither can you choose any additional organizational levels.

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

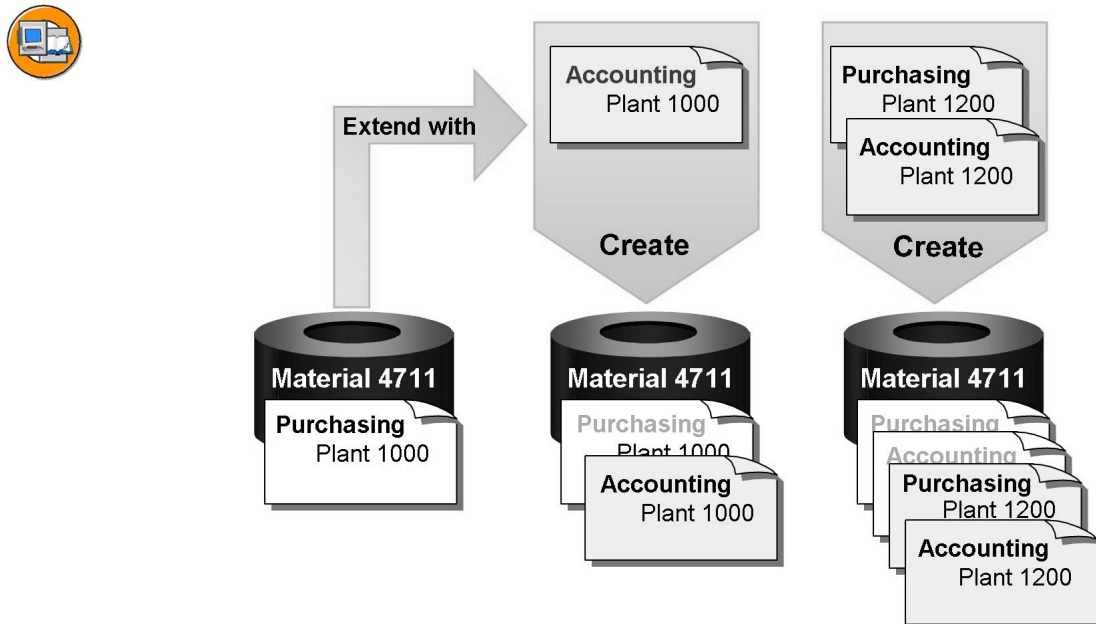


Figure 45: Extending a Material Master Record: Example

You use the transaction *Create* material master (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 already maintained views and organizational levels.

Any changes you make to data in a material master record (using the *Create* or *Change* transactions) are logged in a change document. This means that you can trace and verify the change history at any time.



Demonstration: Maintaining a Material Master Record

Purpose

(Duration approx. 20 minutes)

Creation of a material master record

System Data

System:	Training System
Client:	8xx
User ID:	Own or SCM500-00
Password:	Ask the instructor
Set up instructions:	None

1. Create a new material with the number **T-M500Y**. Carry out this demo in accordance with the data from the exercise. Use the group number ## = 00.
-



Exercise 5: Material Master Record

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create and maintain material master records
- Explain the influence of the organizational levels

Business Example

You are responsible for creating and maintaining material master records in your enterprise. Create a material master record for a new headlight.

System Data

System:	Training System
Client:	8xx
User ID:	SCM500-##
Password:	The password set by the participant
CATT:	ZT_SCM500
Set up instructions:	None

Task: Maintain Material Master Data

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 General Plant Data/Storage 1** views for **plant 1000** and **storage location 0001**.

Enter the following data on the specified views:

Basic data:


Continued on next page



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 also use the headlight in German-speaking countries, you also maintain the material description in German. The German description is: **Scheinwerfer Extrahell-##**.



Hint: You can enter short descriptions in other languages in the additional data. Choose  *Additional data* to see the additional data.

Purchasing:


Purchasing group **T##** is responsible for procuring the headlight. 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. The goods receipt processing time for this material is **1 day**.

Purchase order text:

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

Enter the purchase order text in German as well: "**Das gelieferte Material muss unsere technische Spezifikation Nr. 65432 erfüllen.**"



Hint: Choose , with the quick-info text *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 PO language. The material short text and the purchase order text are adopted from the material master record and outputted in the purchase order document in the PO language.

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.

Continued on next page

2. **Display material**

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

3. **Extend material master record by adding accounting data**

The accounting data has now 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 is **80 EUR**.

Solution 5: Material Master Record

Task: Maintain Material Master Data

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 General Plant Data/Storage 1** views for **plant 1000** and **storage location 0001**.


Enter the following data on the specified views:

Basic data:

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 also use the headlight in German-speaking countries, you also maintain the material description in German. The German description is: **Scheinwerfer Extrahell-##**.



Hint: You can enter short descriptions in other languages in the additional data. Choose  *Additional data* to see the additional data.

Purchasing:

Purchasing group **T##** is responsible for procuring the headlight. 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. The goods receipt processing time for this material is **1 day**.


Purchase order text:

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

Continued on next page

Enter the purchase order text in German as well: **"Das gelieferte Material muss unsere technische Spezifikation Nr. 65432 erfüllen."**



Hint: Choose , with the quick-info text *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 PO language. The material short text and the purchase order text are adopted from the material master record and outputted in the purchase order document in the PO language.


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:

Material	T-M500Y##
Industry sector	Mechanical Engineering
Material type	Raw material


Then choose , with the quick-info text *Enter*.

- c) Select the following views on the *Select Views* screen:
 - *Basic Data 1*
 - *Purchasing*
 - *Purchase order text*
 - *General Plant Data/Storage 1*

Choose , with the quick-info text *Continue*.

- d) Enter the following data in the *Organizational Levels* dialog box:


Plant	1000
Storage location	0001


Choose , with the quick-info text *Continue*.


- e) Enter the following data on the *Basic data* screen.

Continued on next page


Basic data	
Material description	Headlight ExtraBright-##.
Base unit of measure	pc
Material group	003
Gross weight	4
Net weight	3,8
Unit of weight	KG

- f) Then choose  *Additional data*. Enter the language **DE** and the short text **Scheinwerfer Extrahell-##.**


Choose  *Main data* to return to the main data.

- g) Enter the following data in the remaining views selected. To get to the next view in each case, choose , with the quick-info text *Enter*.

Purchasing	
Purchasing group	T##
Purchasing value key	1
GR processing time	1

Purchase order text	
English	Text, see above.
Choose  <i>Create Text</i> with quick info (bottom left of screen in the <i>Purchase order text</i> area).	
German	Text, see above.

Plant Data/Storage 1, Basic data	
Storage bin	BL-01

- h) Choose , with the quick-info text *Save*.

Continued on next page

2. **Display material**

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

Answer: Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current (MM03)*. Enter the material number **T-M500Y##** and choose *Select Views*.

The system suggests the following views:

Basic Data (1 and 2), purchasing views (Purchasing, Foreign Trade: Import Data, Purchase Order Text), General Plant Data/Storage 1 and 2, Plant Stock, and Storage Location Stock.

3. **Extend material master record by adding accounting data**

The accounting data has now been provided for material **T-M500Y##**.

Extend the material master record by adding the accounting data for plant **1000**.


Continued on next page





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 is **80 EUR**.


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

Material	T-M500Y##
Industry sector	Mechanical Engineering (optional)
Material type	Raw material (optional)

Then choose , with the quick-info text *Enter*.

- c) Select the *Accounting 1* view in the *Select Views* dialog box.
Choose , with the quick-info text *Continue*.
- d) Enter plant **1000** in the *Organizational Levels* dialog box.
Choose , with the quick-info text *Continue*.
- e) Enter the following data in the *Accounting 1* view:

Valuation class	3000 (raw materials 1)
Price control	V
Moving average price	80

- f) Choose , with the quick-info text *Save*.



Lesson Summary

You should now be able to:

- Explain the significance of material master records
- Create and maintain material master records
- Name the organizational levels that are important for the maintenance of material master records

Lesson: Entry Aids



Lesson Duration: 45 Minutes

Lesson Overview

For master data maintenance, different functions can be used to simplify the data entry. This lesson covers entry aids for the vendor master record and the material master record. Mass maintenance is also explained with a simple example.



Lesson Objectives

After completing this lesson, you will be able to:

- List the different entry aids for the maintenance of the vendor master record and material master record
- Outline the creation of a vendor master record with reference
- Create a material master record with reference material
- Use collective entry for storage location data in the material 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.

Business Example

In your company, you must often process material and vendor master records. As a responsible employee you test which entry aids are provided for these master records.

Entry Aids for Vendor Master Record



An entry aid for maintaining the vendor master record is copying the data from a vendor master record. This is valid for extending a master record with additional organizational levels, and for the creation of a new vendor master record.

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

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

To help you create a vendor master record, you can use an existing vendor as a reference. The system copies the master data from the reference. However, the system does not copy all data, such as the address.

The system prompts you to maintain the data (for example, address). The control data is copied from the reference, but you can overwrite it.

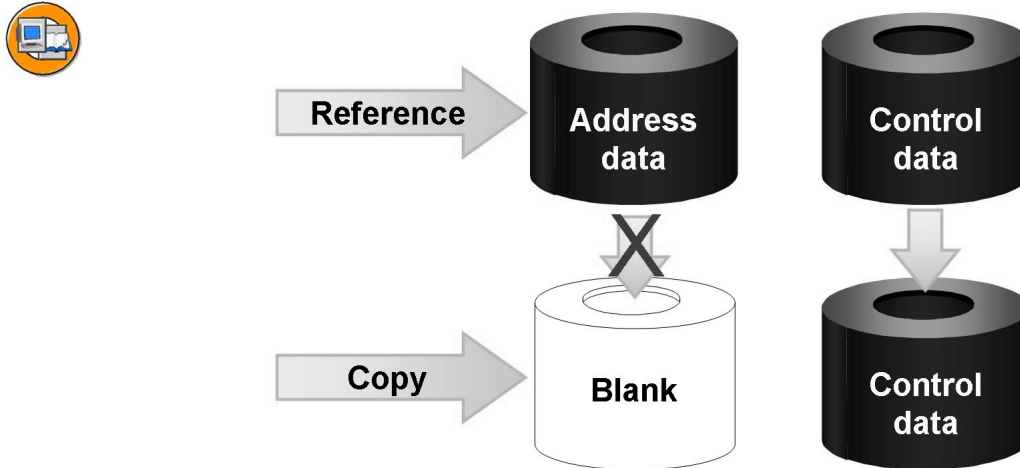


Figure 46: Creating a Vendor Master Record with Reference

The transfer depends on several factors:

- The system copies only data that is not vendor-specific. The address and blocking indicator are therefore not copied from the reference.
- The transfer of reference data depends on the data you have already entered for your vendor. It is generally true that maintained data is not overwritten by the reference data. This means that the following happens:
 - If you have already created the general data (name, address and phone number), only the company code data is adopted when you enter the company code data. You must also specify the reference company code. When you create the data for the purchasing organization, the system adopts only the corresponding data from the reference.
 - If you have not yet created the general data, the system adopts only the language and country from the reference address data.
- In addition, you should specify the areas to be adopted from the reference. For example, if you do not specify a purchasing organization, the system does not adopt the purchasing data.

Entry Aids for Material Master Record



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

When you maintain material master records, different functions are available to simplify and accelerate your work.

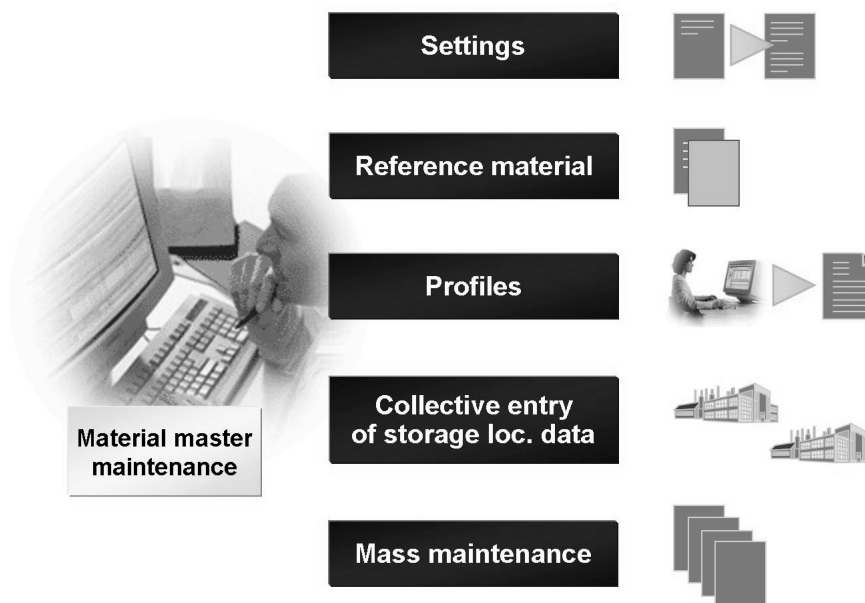


Figure 47: Entry Aids in Material Master Maintenance

The following entry aids facilitate material master maintenance:

Settings

Many presettings can be used to avoid entering or selecting the same data more than once. You can preset the views that you are responsible for in the *Select Views* dialog box. You can also decide whether the dialog box is displayed only if you specifically request it. Similar presettings are also possible for the *Organizational Levels*.

In the transaction *Create material MM01*, you can choose *Defaults* → *Industry sector* to specify the industry and then hide this field.



Note: The default values specified like this are user-specific and can be overwritten or reset at any time.

Reference material

When you create a material master record, you can also adopt the data from an existing master record. On the initial screen, enter the number of the reference material in the corresponding field. On the dialog box for entering the organizational levels, you will then receive additional fields to specify the organizational levels of the reference material. If you want to copy the purchasing data for a material, determine the following:

- Whether only purchasing data that is valid cross-client is to be copied from the reference. In this case, do not enter a plant for the reference.
- Whether the plant-specific data of a particular plant is also to be copied from the reference. In this case, you specify a plant (for which the reference material is created).

Profiles

If a material is to be automatically planned or forecasted, you must create data in the material master record. To simplify entry of this data, you can use MRP and forecast profiles. A profile is a key you can use to store MRP or forecast parameters independently of the material master record. This means that a profile is a collection of information for the configuration of material master records. The information stored in a profile is standard information that is required for maintaining different materials again and again in the same or a similar constellation.

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

Collective entry of storage location data

One material can be stored in different 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, it can be extended manually or automatically with the storage location-specific data:

- **Manually:** Here you 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:** Here the system automatically extends the material master record with the storage location data after 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

With a special mass change function, you can change several material master records at the same time (for example, if existing data has to be changed due to new circumstances). However, only experienced users should execute this function.



Demonstration: Settings as an Entry Aid

Purpose

(Duration approx. 5 minutes)

Demo of presettings for industry, view selection and organizational levels.

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor

Set up instructions:



Caution: Before carrying out this demo it is essential that the demo from the “Material Master Record” lesson has been performed.

1. Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current (MM03)* .
2. Enter material **T-M500Y**.
3. Choose *Defaults* → *Industry sector ...* or *Defaults* → *Views ...* or *Defaults* → *Organizational levels....* Choose the views *Purchasing* and *Accounting I*. For the organizational level, enter plant **1000**.

Explain the meaning of the indicators *View selection only on request* and *Org.levels/profiles only on request*.

4. Then choose *Enter* 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.



Demonstration: Reference Material as an Entry Aid

Purpose

(Duration approx. 5-10 minutes)

Demo to create a material with reference.

Extend material **T-M500Y** with the purchasing data, the accounting data and the general plant data/storage for plant **1200** and storage location **0001**. Copy the data from plant 1000, storage location 0001.

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions:



Caution: Before carrying out this demo it is essential that the demo from the “Material Master Record” lesson has been performed.

1. Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create (General)* → *Immediately (MM01)*.
2. Enter the following data on the initial screen:

Material	T-M500Y
Copy from material	T-M500Y

Choose  *Enter*.

3. Select the following views
 - *Purchasing*
 - *General Plant Data/Storage 1*
 - *Accounting1*



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

Choose  *Continue*.

4. Enter the following data in the *Organizational Levels* dialog box:





Note: Explain why you create organizational levels for the reference. If no organizational levels are specified for the reference, then only the data that is valid cross-client is copied and no plant or storage-location-specific data.

		Copy from
Plant	1200	1000
storage location	0001	0001

Choose  *Continue*.

5. Adopt the data from views *Purchasing* and *General Plant Data/Storage 1*.
6. Change the data on the *Accounting 1* view as follows:

Valuation Class	3001 (Raw materials 2)
Price Control	S
Moving Price	<delete>
Standard Price	80

7. Choose  *Save*.
8. Check whether the material was created correctly for the second plant.
To do so, choose *Logistics* → *Materials Management* → *Material Master* → *Other* → *Materials List* (MM60).
9. Enter material **T-M500Y** as the only selection value and choose , with the quick-info text *Execute*.



Demonstration: Collective Entry of Storage Locations as an Entry Aid

Purpose

(Duration approx. 5 minutes)

Demo for creating storage location-specific data using collective entry.

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions:



Caution: Before carrying out this demo it is essential that the demo from the “Material Master Record” lesson has been performed.


1. To do this, choose *Logistics* → *Materials Management* → *Material Master* → *Other* → *Enter Storage Locations* (MMSC).
2. Enter the following data on the initial screen:

Material	T-M500Y
Plant	1200

Choose  *Enter*.

3. Enter the following data:

storage location	Bin
0002	LP-02
0003	LP-03

4. Choose  *Save*.



Exercise 6: Entry Aids

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Copy material master records
- Use collective entry for storage location data

Business Example

You are responsible for creating and maintaining material master records in your company. Use data from another plant to enhance the material master record for the headlights. As a reference, use the data of the material that you have already entered for plant 1000.

System Data

System: Training System
Client: 8xx
User ID: SCM500-##
Password: The password set by the participant
CATT: ZT_SCM500

Set up instructions:



Caution: You can do this exercise only if you have already done the exercises from the “Material Master Record” lesson.

Task: Entry Aids for Material Master Record

The headlight is now also used in plant 1200. You must therefore 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**.

Continued on next page

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



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



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 changes should be valid 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 80 EUR**.

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.

storage location	Bin
0002:	BL-02
0003:	AB-10

5. Materials list

Check whether your material has actually been created for plants 1000 and 1200. Display the material list for material **T-M500Y##** and plants **1000** and **1200**.

Continued on next page

It is particularly important to check that 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.

Solution 6: Entry Aids

Task: Entry Aids for Material Master Record

The headlight is now also used in plant 1200. You must therefore 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 set the *Create views selected* indicator in the **Select Views** dialog box. If you set this indicator, it has the advantage that you can save your data immediately from the view copied first. Then you do not have to confirm each of the selected views with *Enter*.




Caution: Remember to enter the organization levels (plant 1000, storage location 0001) as a reference.

Continued on next page

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) Enter the following data on the initial screen:

Material	T-M500Y##
Copy from material	T-M500Y##

Choose  *Continue*. If necessary, confirm the message that the material type and industry sector will be copied from the material master record using *Enter*.

- c) Select the following views:
- *Purchasing*
 - *General Plant Data/Storage 1*
 - *Financial Accounting 1*



Caution: Set the *Create views selected* indicator.

Choose  *Continue*.

- d) Enter the following data in the *Organizational Levels* dialog box:



Caution: Do not forget the entries for the reference.

		Copy from
Plant	1200	1000
storage location	0001	0001

Choose  *Continue*.

- e) Choose  *Save*.




2. Change material master record

Change the purchasing and accounting data for material **T-M500Y##** for plant **1200**. The changes should be valid 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 80 EUR**.

Continued on next page

Save your entries after the change.

- a) Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Change* → *Immediately (MM02)*.
- b) Enter material **T-M500Y##** on the initial screen and choose , with the quick info text *Next*.
- c) Select the following views:
 - *Purchasing*
 - *Accounting1*
 Choose  *Continue*.
- d) Enter plant **1200** in the *Organizational Levels* dialog box.
Choose  *Continue*.
- e) Enter the following data on the views:

<i>Purchasing</i>	
Post to inspection stock	<input checked="" type="checkbox"/>

<i>Financial Accounting 1</i>	
Valuation Class	3001 (Raw materials 2)
Price Control	S
Moving Price	<delete>
Standard Price	80

- f) Choose  *Save*.

3. Display change documents for a material



Find out when the accounting data for material **T-M500Y##** in plant **1200** was last changed.

Continued on next page

Date: _____

- a) Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display Changes* → *Active Changes* (transaction MM04).
- b) Enter the following data on the selection screen:

Material	T-M500Y##
Plant	1200

- c) Choose  with the quick info text *Execute*.
- d) To display the details for a change, select the desired line and choose , with the quick-info text *Select*.

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.

storage location	Bin
0002:	BL-02
0003:	AB-10

- a) To do this, choose *Logistics* → *Materials Management* → *Material Master* → *Other* → *Enter Storage Locations* (MMSC).
- b) Enter the following data on the initial screen:

Material	T-M500Y##
Plant	1200

Choose  *Continue*.

- c) Enter the following data:

storage location	Bin
0002	BL-02
0003	AB-10

- d) Choose  *Save*.

Continued on next page

5. Materials list

Check whether your material has actually 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 that 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:

Material	T-M500Y##
Plant	1000 to 1200

- c) Choose  with the quick info text *Execute*.
- d) 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 80 EUR. In plant 1200, however, the material should be valued with a standard price of 80 EUR.



Lesson Summary

You should now be able to:

- List the different entry aids for the maintenance of the vendor master record and material master record
- Outline the creation of a vendor master record with reference
- Create a material master record with reference material
- Use collective entry for storage location data in the material master record

Lesson: Mass Maintenance (Optional)



Lesson Duration: 20 Minutes

Lesson Overview

Cross-application mass maintenance provides a tool with which many objects can be changed simultaneously. These objects include, material and vendor master data, info records, and purchasing documents. An overview of the functions of mass maintenance is provided in this lesson and it is explained using a simple example of the process.



Lesson Objectives

After completing this lesson, you will be able to:

- name the objects that can be processed using the mass maintenance function
- Outline the flow of mass maintenance



In this lesson, the central tool for maintaining master data and documents, (mass maintenance) transaction MASS, will be described briefly. The trainer may wish to point out that this function should only be used by users who have very good knowledge of the respective application or of the object to be changed. The users should have knowledge of the respective tables and field names and possible dependencies.

Business Example

If you restructure your purchasing department, the dependencies of the individual buyers change. To document these new dependencies for the procurement of materials correctly, the purchasing group in the purchasing data must be changed in many material master records. This change must be carried out using the mass maintenance tool.

Overview of Mass Maintenance

Mass maintenance is a generic (cross-application) tool that can be used to change large data quantities or to create new data.



Caution: With mass maintenance, you can change many objects at the same time. This tool should therefore be used only by users with the corresponding experience. These people must also have knowledge of the field names and tables used in the SAP system.

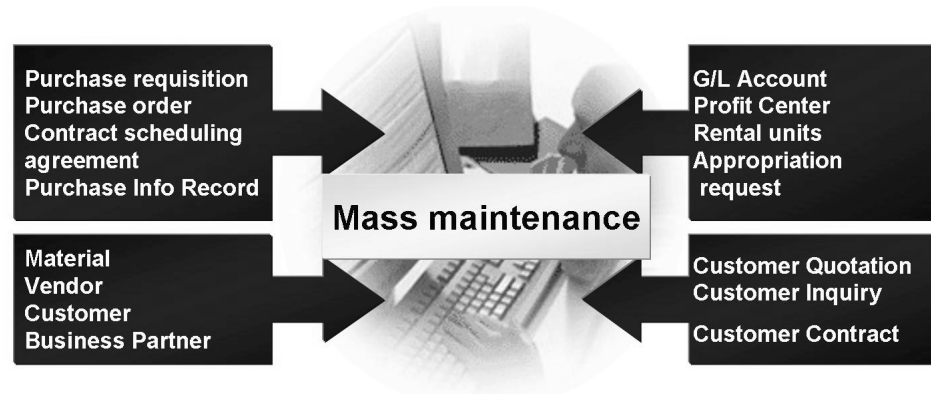


Figure 48: Mass Maintenance for Data Objects

This tool can be used by, amongst others, the applications listed in the graphic “Mass Maintenance for Data Objects”.

For example you can change the data in the material master records quickly and easily in one simple step. You have the option of changing the purchasing group or adjusting the GR processing time in particular materials.

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 system strain. In this case, the system issues a log with the changes executed 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



Optional: Show a demo according to the entries in the “Perform Mass Maintenance” figures, 1 to 3.

You can find the mass maintenance tool under *Logistics* → *Central Functions*. You use the object type to decide which application you want to use it for. If you access mass maintenance from the menu of an application, the correct object type appears automatically (for example, *Logistics* → *Materials Management* → *Material Master* → *Material* → *Mass Maintenance*).

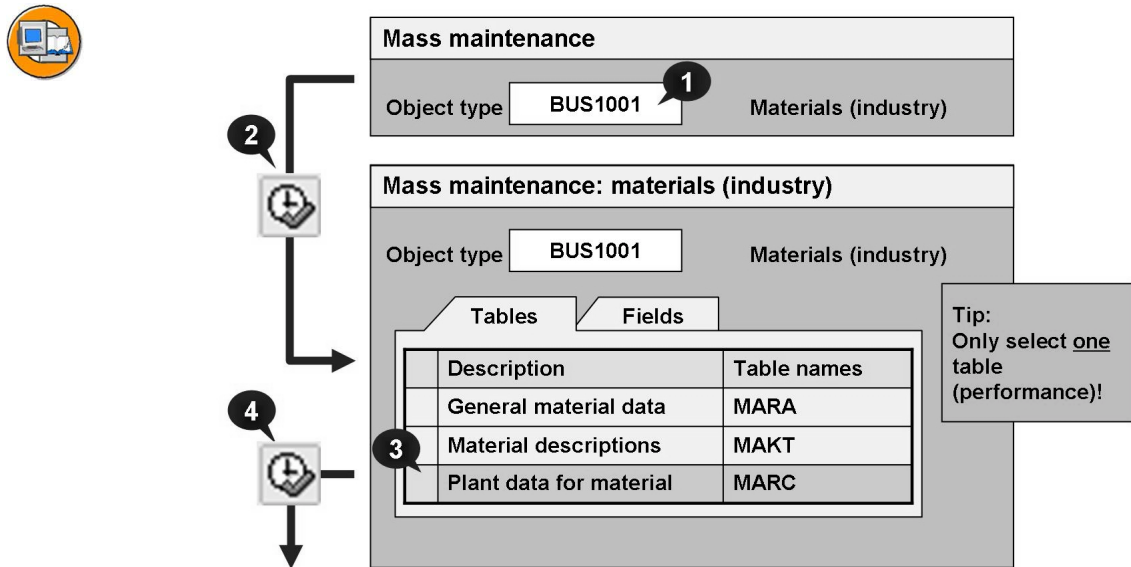


Figure 49: Perform Mass Maintenance (1)

When you have selected the object type, the system displays the relevant tables and fields. Select the tables in which you want to change data. Select several tables only if you want to make the changes in all tables at the same time to keep the data consistent. Otherwise, edit the tables one at a time to avoid poor system performance.

You can select the fields with values you want to change immediately on the initial screen or on one of the screens that follow.

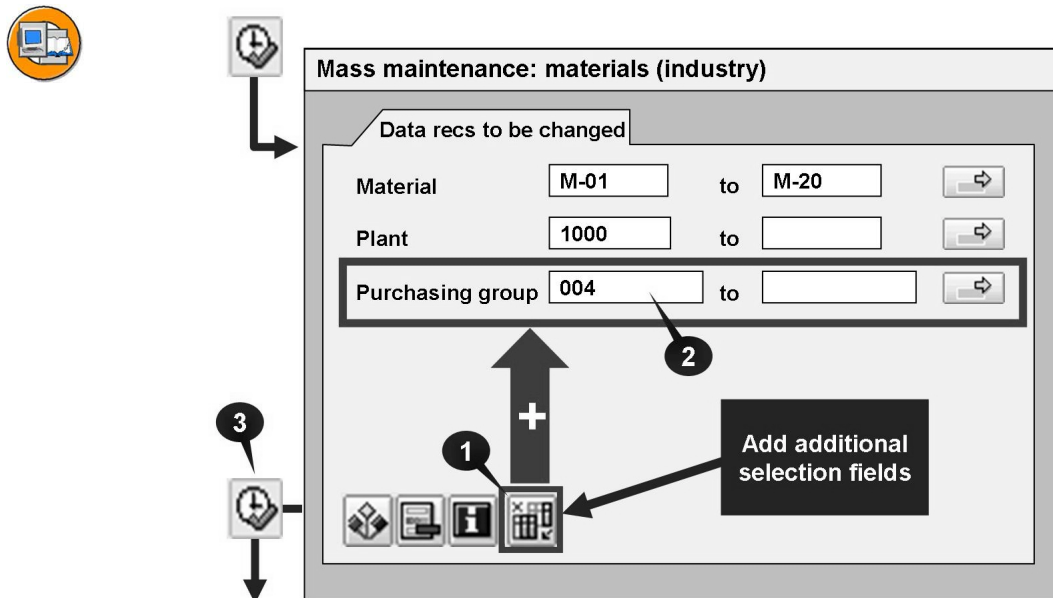




Figure 50: Perform Mass Maintenance (2)

To limit the number of objects to change, enter your required selection criteria. With  *Choose selection fields*, you can select further fields. With , with the quick-info text *Execute*, you start the selection of data records. Depending on the number of selected data records, the system asks if you want to execute the changes online or in the background.

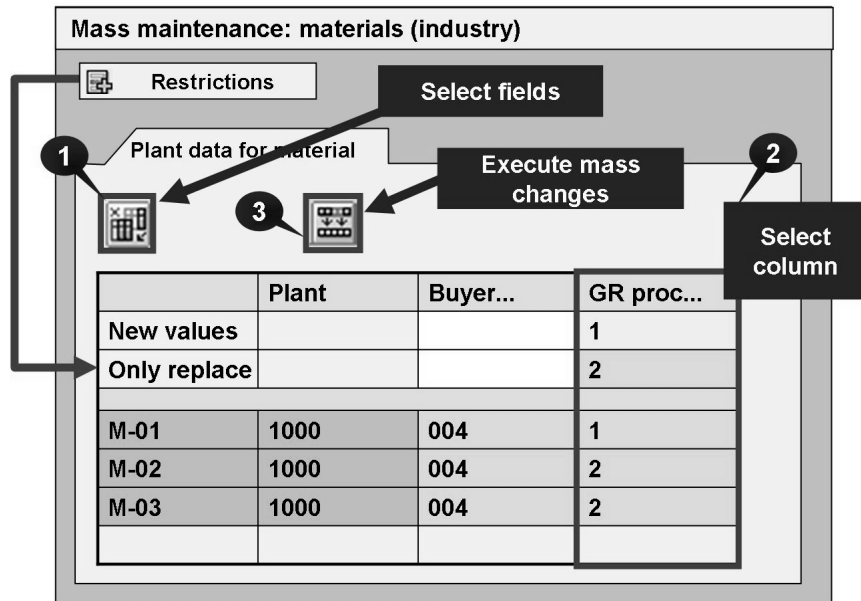





Figure 51: Perform Mass Maintenance (3)

Then choose the fields you want to change using , with the quick-info text *Choose fields*, and enter the new values in the corresponding columns. Select the column header and the data records to change, and choose , with the quick-info text *Perform mass change*.

You also have the option of changing a field entry only when it has a particular value. To do this, choose  *Restrictions* and enter the new value in the first line and the value to be replaced in the second line.

Save the changes. The system performs a consistency check.



Facilitated Discussion

Discussion Questions

Use the following questions to engage the participants in the discussion. Feel free to use your own additional questions.

Which possible applications can you see for mass maintenance



Lesson Summary

You should now be able to:

- name the objects that can be processed using the mass maintenance function
- Outline the flow of mass maintenance

Related Information

-



Unit Summary

You should now be able to:

- Explain the significance of vendor master records
- Create and maintain vendor master records
- Name the organizational levels that are important for the maintenance of vendor master records
- Explain the significance of material master records
- Create and maintain material master records
- Name the organizational levels that are important for the maintenance of material master records
- List the different entry aids for the maintenance of the vendor master record and material master record
- Outline the creation of a vendor master record with reference
- Create a material master record with reference material
- Use collective entry for storage location data in the material master record
- name the objects that can be processed using the mass maintenance function
- Outline the flow of mass maintenance



Test Your Knowledge

1. Which organizational levels play a role in the maintenance of vendor master data?

Choose the correct answer(s).

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

2. 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

3. When creating a vendor master record, you have to specify an _____ . This key has _____ properties for _____ selection and _____ assignment, for example. To be able to enter invoices submitted by this vendor, you must at least specify the _____ in the _____ data.

Fill in the blanks to complete the sentence.

4. The material master record represents the _____ source of material-specific data for an enterprise. The integration of all material data in a single database object eliminates the problem of _____ . The stored data can be used jointly by all _____ .

Fill in the blanks to complete the sentence.

5. You wish to create a master record for a material you intend to procure externally for stock. Which views must you create (as a minimum) in order to be able to handle this procurement process in the system?

6. When creating a material master record, you have to specify a material type. Among other things, the material type controls:

Choose the correct answer(s).

- A The type of number assignment
- B The permissible length of the material's short description (short text)
- C Whether a material may be ordered
- D Which views (user-department-specific data) can be maintained
- E Whether a material may not be procured from certain vendors

7. Client, _____, and _____ are examples of organizational levels that play a role in the maintenance of material master records.

Fill in the blanks to complete the sentence.

8. If you wish to extend a material master record by adding a view, you must make a **change** to the master record.

Determine whether this statement is true or false.

- True
- False

9. List at least three different entry aids that you can use for processing material master records.

10. When creating a vendor master record with reference, you can decide whether or not the address data is to be adopted from the reference.

Determine whether this statement is true or false.

- True
- False

11. If you use another material master record with reference when creating a material, the data is always adopted from the reference.

Determine whether this statement is true or false.

- True
- False



Answers

1. Which organizational levels play a role in the maintenance of vendor master data?

Answer: A, B, C, E

In the vendor master record, a distinction is made between data that is valid client-wide and data that is specific to company codes and purchasing organizations. In addition, you have the option of entering data at the plant and vendor subrange levels.

2. When you create a master record for a vendor, you must enter all relevant data for purchasing and accounting in one single step.

Answer: False

You can use what is known as decentralized maintenance for vendor master records. In this case, the purchasing and accounting departments each maintain their relevant data using a separate transaction. This means that the vendor data does not all have to be entered in a single step.

3. When creating a vendor master record, you have to specify an account group. This key has controlling properties for field selection and number assignment, for example. To be able to enter invoices submitted by this vendor, you must at least specify the reconciliation account in the company code data.

Answer: account group, controlling, field, number, reconciliation account, company code

4. The material master record represents the central source of material-specific data for an enterprise. The integration of all material data in a single database object eliminates the problem of data redundancy. The stored data can be used jointly by all user departments.

Answer: central, data redundancy, user departments

5. You wish to create a master record for a material you intend to procure externally for stock. Which views must you create (as a minimum) in order to be able to handle this procurement process in the system?

Answer: Before you can procure the material, you must have created at least the purchasing data and accounting data. You can post a goods receipt even without creating the general plant/storage data if the appropriate setting has been made in Customizing.

6. When creating a material master record, you have to specify a material type. Among other things, the material type controls:

Answer: A, C, D

You use the material type to group your materials (for example, under the headings raw materials, finished products, operating supplies). The type of material has important control functions. It determines the type of number assignment and the permissible number range interval, as well as the allowed procurement types and the views that you can maintain. Furthermore, the material type also plays an indirect role in account determination insofar as it determines which stock accounts are found for these materials.

7. Client, plant, and storage location are examples of organizational levels that play a role in the maintenance of material master records.

Answer: plant, storage location

Data at client level: General material data that applies to the entire enterprise is stored at client level (for example, the short description).

Data at plant level: All data that is valid for a plant and to all storage locations that belong to it is stored at plant level (for example, the purchasing group).

Data at storage location level: All data that is valid for a certain storage location is stored at storage location level (for example, the storage bin).

8. If you wish to extend a material master record by adding a view, you must make a **change** to the master record.

Answer: False

To extend a material master record by adding new views, you must **create** these views for the material. This also applies if you need a view for a new organizational level.

9. List at least three different entry aids that you can use for processing material master records.

Answer: The following are examples of entry aids for processing the material master record:

- presettings for industry sector, views and organizational levels
- collective entry of storage location data
- use of reference material
- use of profiles
- Mass maintenance

10. When creating a vendor master record with reference, you can decide whether or not the address data is to be adopted from the reference.

Answer: False

Vendor-specific data is never adopted from the reference into the new vendor master record.

11. If you use another material master record with reference when creating a material, the data is always adopted from the reference.

Answer: False

The system adopts only the data about the selected views and the organizational levels specified for the reference from the reference material.

Unit 3



Procurement of Stock Material



The participants are now familiar with the most important master data and the basic procurement process. In this unit, we will run through another procurement process. At the same time, new topics from each area (purchasing, inventory management, and invoice verification) will be covered. The process starts with the issue of RFQs and the processing of the ensuing quotations.

- **Purchasing:** Conditions, RFQ/quotation processing, document overview in the purchase order, create PO with reference, purchasing info record.
- **Inventory management:** Valuation of goods receipt, (valuation according to moving average price versus valuation according to standard price), stock in quality inspection, transfer posting.
- **Invoice verification:** Entry of unplanned delivery costs, valuation following invoice receipt.

In order that participants do not lose the thread, in this unit it is very advisable to summarize key aspects of the process and some of the topics on a flip chart. Visualize the process as an introduction to the unit and set out the overview on the flip chart. Then repeatedly refer back to this overview when going through the individual lessons.

Unit Overview

In this unit, the procurement process starts with the creation and issue of a request for quotations in order to determine the most favorable price for a material. The purchase order is then created with reference to the lowest quotation received. How vendor-dependent prices and information on a material can be stored in the system on a long-term basis is the subject of the lesson on purchasing info records.

A further key topic in this unit is material valuation. Taking stock material as an example, material valuation and the postings that take place upon goods and invoice receipt are discussed in detail.



Unit Objectives

After completing this unit, you will be able to:

- Name documents and master data in which conditions are used
- Explain the difference between time-dependent and time-independent conditions
- Create several RFQs for an RFQ activity
- Enter the incoming quotations for your RFQs
- Execute a price comparison for your quotations
- Use the document overview in transaction ME21N
- Create a purchase order with reference to an RFQ
- List the organizational levels relevant for purchasing info records
- List the ways in which purchasing info records can be created
- Maintain a purchasing info record
- Explain the significance of the valuation area
- Describe the function of the valuation class
- Explain material valuation with the moving average price
- Explain material valuation with the standard price
- Display the stock overview
- List the stock types
- Enter a goods receipt in the quality inspection stock
- List the documents created during goods movements posting and explain their meaning
- Analyze the postings during goods receipt into the warehouse
- Enter an invoice with unplanned delivery costs in Logistics Invoice Verification
- Display the accounting document for an invoice
- Explain the postings in the invoice

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Lesson: Conditions



Lesson Duration: 30 Minutes

Lesson Overview

This lesson will give you a first insight into condition technique.



Lesson Objectives

After completing this lesson, you will be able to:

- Name documents and master data in which conditions are used
- Explain the difference between time-dependent and time-independent conditions



Introduce the objectives and the business scenario. Explain what conditions are, what types of conditions there are (for example, surcharges/discounts, freight, customs) and in which documents and master data the conditions are used. Mention that conditions can be specified absolutely, depending on the percentage or quantity, and that you have to distinguish between time-dependent and time-independent conditions.

Business Example

The prices negotiated with your vendors often consist of several components, for example, the material price, discounts and freight costs. As a member of the project team, find out whether the SAP system can process different conditions.

Conditions in Purchasing

Conditions are agreements with vendors about prices, surcharges and discounts, and so on. Conditions can be maintained when entering quotations, info records, outline agreements (contracts, scheduling agreements) and purchase orders. The net and effective prices in a purchasing document are determined based on these conditions. You can also store general conditions at vendor level. The system then pulls these conditions for price determination.

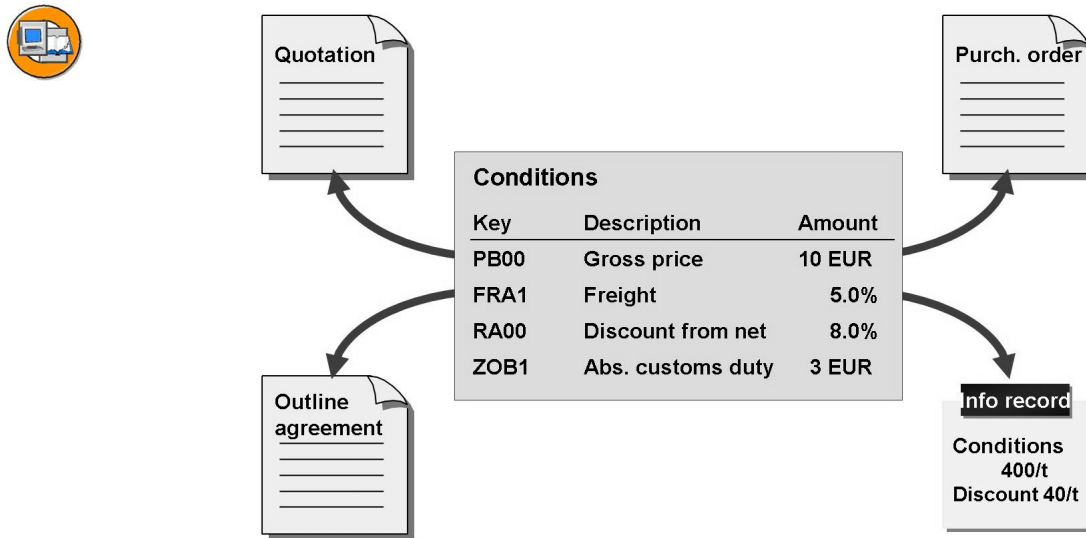


Figure 52: Conditions

The following types of conditions are used in Purchasing:

- Conditions in a contract apply to all contract release orders created with reference to this 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 enter general conditions in *Purchasing* under *Master Data* → *Conditions*.

Time Dependency of Conditions

You must decide whether conditions are **time-dependent** or **time-independent**. Time-dependent conditions are valid during a particular time period. With time-independent conditions, you cannot determine a validity time period; the validity corresponds with that of the particular purchasing document.

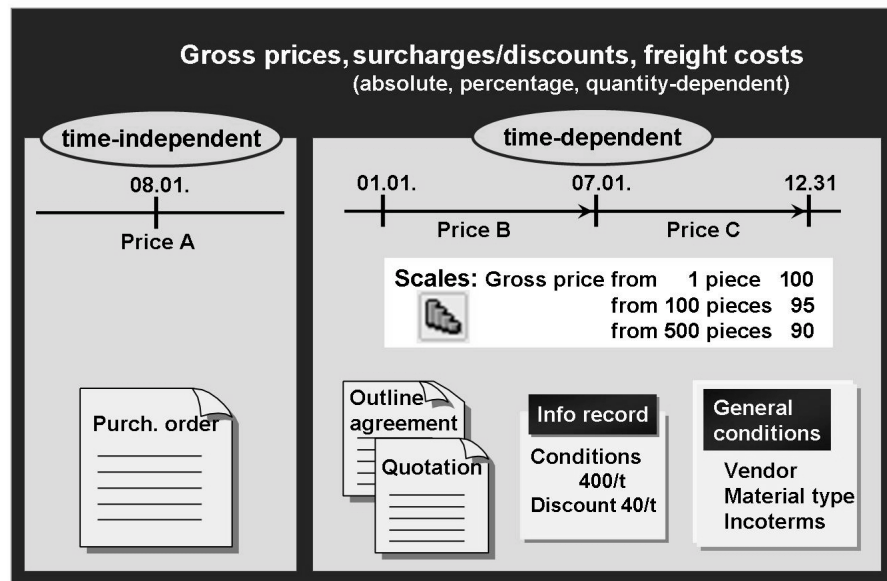


Figure 53: Conditions – Time Dependency

Conditions in info records, contracts and general conditions are **time-dependent conditions**. However, conditions in purchase orders are always **time-independent conditions**.

With the document type, you can control whether time-dependent conditions are available for quotations and scheduling agreements. In Customizing, you must have set the *Time-dependent conditions* indicator for the particular document type.

You can define both time-dependent and time-independent conditions at header and item levels. Header conditions apply to all items in the document. However, item conditions apply only to the respective item.



Hint: If the conditions show an exception in the info record, they are stored at info record level.

For time-dependent conditions, you can create price scales and therefore display the dependency of the price on the quantity.

Condition Type and Calculation Schema

The different “price factors” such as gross price, discounts, freight costs, customs and taxes are represented with condition types. The condition type determines how the price factor is calculated. You can choose between absolute, percentage, or quantity-dependent. The reference magnitude for price scales is also defined by the condition type. The scale can refer to the quantity, the item value, or the weight.

An access sequence can be assigned to a condition type. The access sequence is a search strategy used to define the sequence in which condition records for a condition type are read.

The condition types that play a role in the price determination are grouped together in a calculation schema. The calculation schema provides a framework for price determination. It determines the sequence in which the condition types are taken into account.



Level	Counter	Cond.type	Description	From	...	
1	1	PB00	Gross price			
10	1	RB00	Absolute discount			
...				
10	9	ZA01	Surcharge % of gross	1		
...				
20	0	Net value incl. discounts				
...				
31	1	FRA1	Freight %	20		
...				
35	1	SKTO	Cash discount	20		
40	0	Effective price				

Figure 54: Calculation Schema

The calculation schema determines the following:

- the subtotals



Hint: For time-dependent conditions, no subtotals are formed (net price, effective price).

- the extent to which manual processing of the price determination is possible
- the basis on which (reference level) the system calculates surcharges and discounts in percentages
- the prerequisites that have to be filled so that a particular condition type is taken into consideration

You can define different calculation schemes, for example, for the individual purchasing organizations and vendors.



Demonstration: Conditions in the Purchase Order

Purpose

(Duration approx. 10 minutes)

For a better understanding, create a purchase order with conditions.

CATT: ZT_SCM500

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions: None

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

Field name	Data
Vendor	1000
Document date	<Current date>

Confirm your entries with *Enter*.

3. Enter the following data on the *Org.data* tab.

Field name	Data
Purchasing organization	1000
Purchasing group	T00
Company code	1000

4. Enter the item data in the *Item overview*:


Field name	Field value
Material	M-02 (Sunny Xa1)
Quantity	10
Plant	1000

5. Open the item details and choose the *Conditions* tab.
6. Enter the following conditions:



Note: The 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.

Condition type	Amount
PBXX (Gross Price)	400
FRB1 (Freight (Value))	100
MM00 (Minimum Quantity (Amount))	20

7. Explain that the conditions are listed according to the calculation schema in the list of conditions.
8. Ask the participants whether the conditions are time-dependent and explain the answer. (Conditions in the purchase order are time-independent.)
9. Choose , with the quick-info text *Save*.



Facilitated Discussion

With this discussion, the instructor can give a brief insight into the options of condition technique in the SAP system.

Discussion Questions

Use the following questions to engage the participants in the discussion. Feel free to use your own additional questions.

Which special price and condition forms are used in your company?



Lesson Summary

You should now be able to:

- Name documents and master data in which conditions are used
- Explain the difference between time-dependent and time-independent conditions

Lesson: Request for Quotation Management / Quotation Processing



Lesson Duration: 45 Minutes

Lesson Overview

This lesson covers the transactions for entering RFQs and quotations. You will also learn how to request quotations from a vendor that does not have a specific master record in the system.



Lesson Objectives

After completing this lesson, you will be able to:

- Create several RFQs for an RFQ activity
- Enter the incoming quotations for your RFQs
- Execute a price comparison for your quotations



Introduce the objectives and the business scenario. Show and discuss the RFQ/quotation processing.

The RFQ/quotation processing consists of two steps:

- RFQ creation and issue
- Quotation entry, comparison, and, if necessary, the issue of rejections

You will also find this breakdown 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 conditions, solicit requests for quotation from several vendors before you procure materials for the first time. As a responsible employee in Purchasing, you would also like to test the RFQ / quotation processing.

Procurement with RFQ and Quotation

This lesson introduces the first step of a procurement process, and the vendor is determined at the start. For this purpose, send requests for quotation (RFQs) to different vendors and enter the incoming quotations in the system to compare the conditions of the individual vendors.



Note: Further on in the procurement process, use the data from the quotations already entered. You can create the purchase order with reference to one of the quotations, but also update conditions from the quotation in a Purchasing info record.

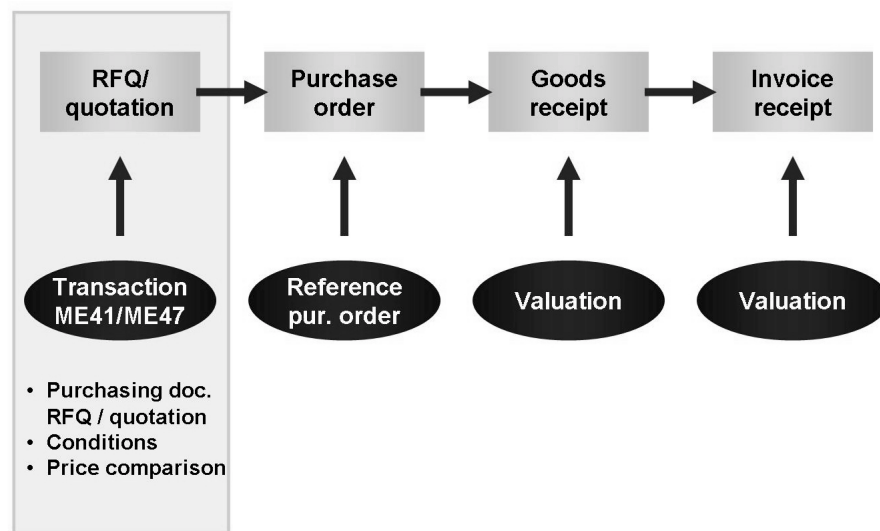


Figure 55: Stock Material Procurement: RFQ and Quotation

As a buyer, you have the task of converting requirements of materials or services into purchase orders.

An RFQ action with various vendors is a means of determining a source of supply.

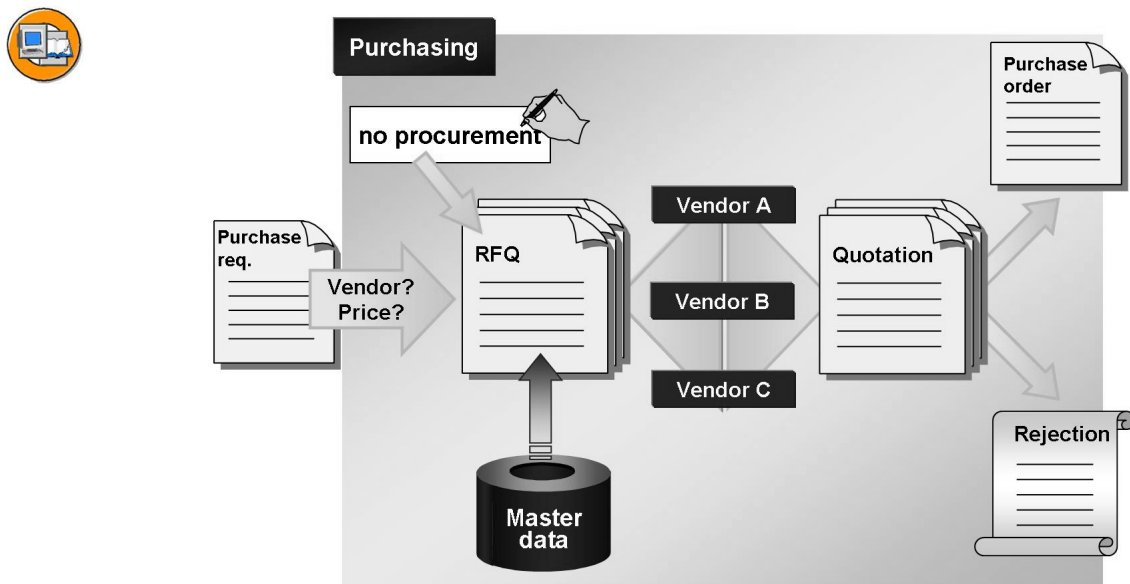


Figure 56: RFQ and Quotation

First, you enter a request for quotation for the material to be procured or for the required service. You can create RFQs manually, copy another RFQ, or use a purchase requisition or outline agreement as an entry template. Using template documents has the advantage that you do not have to enter all data manually, but can copy it from the template. You send the RFQs to the selected vendors.

The vendors send their quotations or rejections. The rejections of prices, conditions, and delivery dates are entered directly in the original RFQ in a transaction for quotation maintenance. In this way an RFQ becomes a quotation.

You can determine the most favorable items or quotation using a quotation comparison. You can also save the conditions for quotations in which you are interested as purchasing info records.

Collective Number

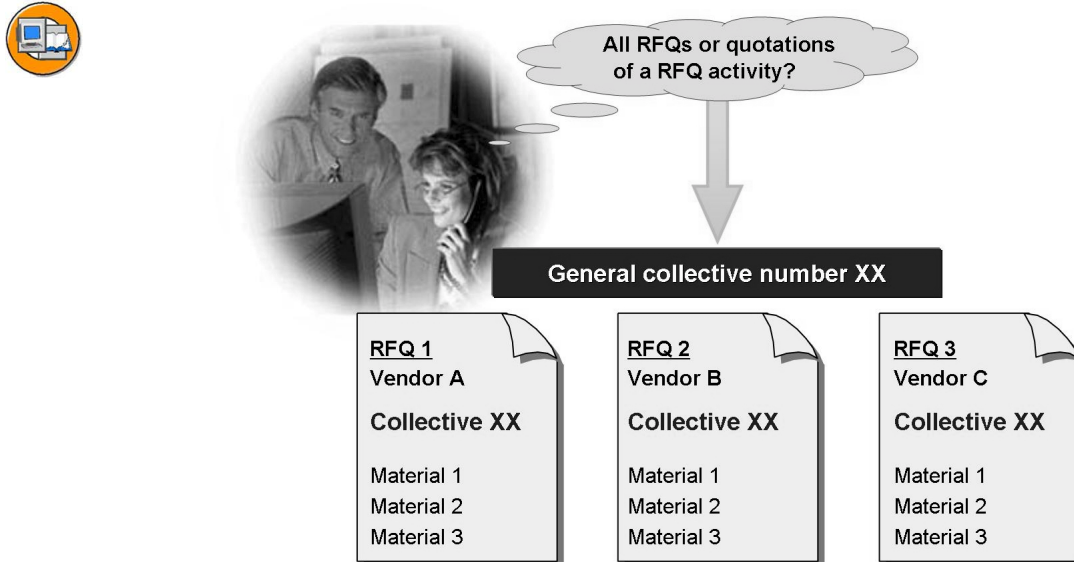


Figure 57: Collective Number

You can link several RFQs that belong together using a collective number. You enter the collective number in the header data of the RFQ. You can select your RFQs and quotations with the collective number (for example, for the price comparison or other analyses).

The collective number can have a maximum of ten characters and can be alphanumeric.

One-Time Vendor



In this lesson, you 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 “Vendor Master Record” lesson. The instructor must decide which information is important for the participants.

You can create special master records for vendors from whom you only procure a material or issue RFQs once or very rarely. This concerns one-time vendor master records.

Unlike other master records, a one-time vendor master record is used for several vendors to avoid creating many unnecessary master records. In the master record for one-time vendors, you cannot therefore save vendor-specific data. You use a one-time account group when creating a one-time vendor master record. With this account group, the vendor-specific fields are hidden in the material master.

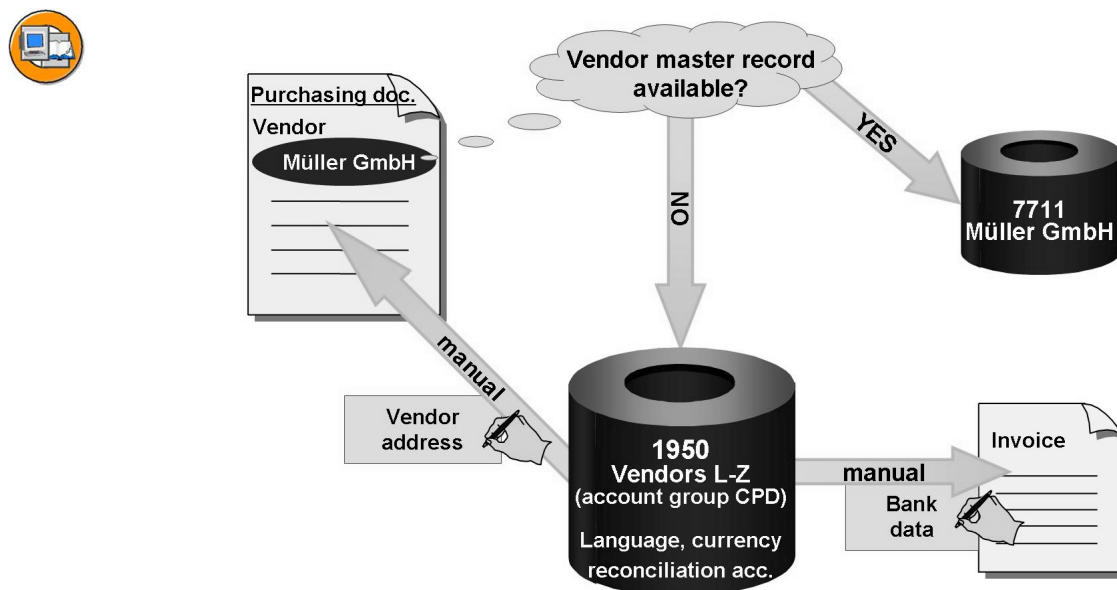


Figure 58: One-Time Vendor

When creating a purchasing document with a one-time vendor, you must maintain the vendor address. If you enter an invoice with a one-time vendor as the creditor, you have to enter information such as missing bank data manually.

The vendor-specific data that you entered manually is saved only in the relevant documents (and not in the one-time vendor master record). But you can still execute evaluations for one-time vendors. For this, use the vendor name as the search term.



First discuss the figure that shows the procedure for “Creating RFQs” and then show the demo.



Demonstration: Creating and Printing RFQs

Purpose

(Duration 20 minutes)

Explain the procedure for creating an RFQ.

CATT: ZT_SCM500

System Data

System: Training System

Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions: None

1. Show a demo according to the entries from task 1 (RFQ processing) of the exercise. Use the data with group number ## = 00.
-



Creating RFQs

Use

If you request quotations from several 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, collective RFQs). Then you enter the vendor assignment.

The following figure, “Function Flow: Creating RFQs,” displays the most important steps for creating an RFQ manually.

Procedure

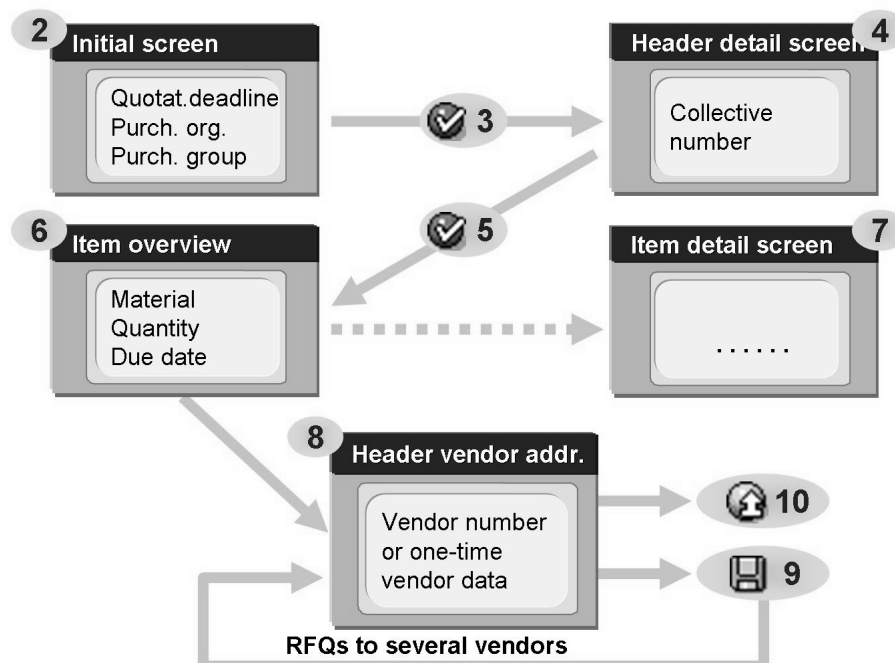


Figure 59: Function Flow: Creating RFQs

1. From the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Request for Quotation* → *Create (ME41)*.

This takes you to the initial screen.

2. Enter the RFQ type, quotation deadline, purchasing organization, and purchasing group. You can also enter default values for the items (if you enter, for example, the delivery date, this date appears as the default value for each item). (You can change the default value at any time).

Continued on next page



Caution: If you want to request quotations for materials across plants, then ensure that you have not specified a plant in the default values for the items.

3. Choose *Enter*.

This takes you to the *Header detail* screen.



Note: If the collective number is not set as a required field, this will take you directly to the *Item overview*.




4. Enter a collective number.
5. Choose *Enter*.

This takes you to the *Item overview*.

6. For each item, enter the desired material with quantity and delivery date.



Note: You can request quotations for materials both with and 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. Optional: If you want to check or add to the detail data of an item, first select this item and then choose *Item → Details* or choose the  *Item details* button.
8. Choose *Header → Vendor address* or the  *Vendor address* button.
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 yourself.
9. Save the RFQ so that it is created for the relevant vendors.
For every other vendor to receive the RFQ, enter the corresponding vendor number and save the document.
10. To end the RFQ creation, choose  *Exit*.

Quotation Entry and Price Comparison List



Explain the quotation entry and the price comparison list. Emphasize the fact that the price comparison list - as the name suggests - **compares the prices**. Information such as the delivery date for individual vendors is not displayed. To determine further information about the quotation, see the quotation.

The quotation contains a vendor's prices and conditions for the materials or services specified in the RFQ. RFQ and quotation are the same document in the system.

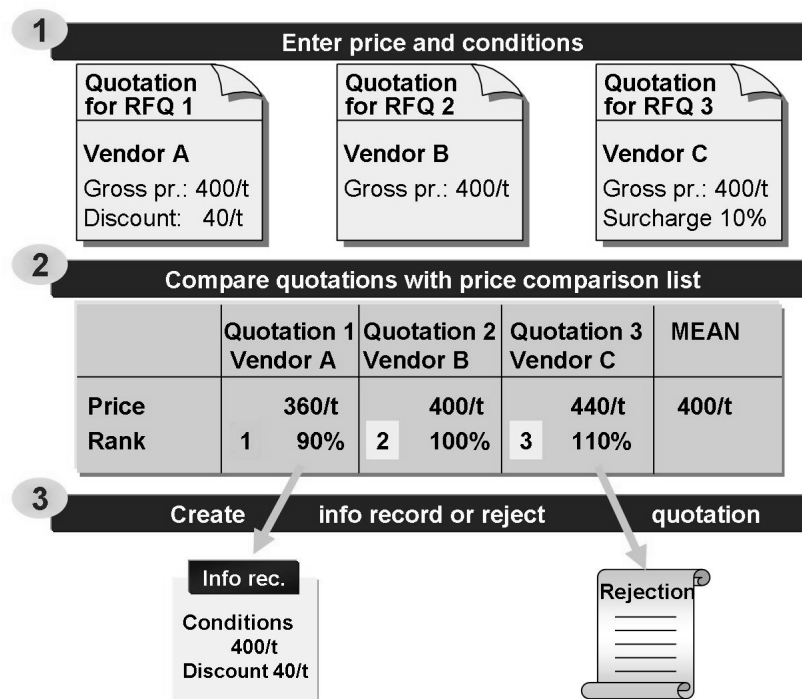


Figure 60: Quotation Processing

You can enter and compare the quotation prices in a quotation price comparison list. The quotation price comparison list displays the best quotation for each material. The system also determines the best overall quotation.

You can save useful quotation data for a material in a purchasing info record. The info record can be created automatically by setting the *Info update* indicator during quotation maintenance in the item detail.

You can set a rejection indicator for quotation items that do not interest you. The system then generates a rejection letter for the vendors.



Demonstration: Entering Quotations

Purpose

(Duration 15 minutes)

Explain the procedure for entering quotations.

CATT: ZT_SCM500

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions: Prerequisite for this demo is the previous demo "Creating and printing RFQs".

1. Show a demo according to the entries from task 2 (quotation processing) of the exercise. Use the data with group number ## = 00.

Optional: 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 simplifies entry.



Entering Quotations

Use

You have created RFQs in the system and sent them to vendors. Now you will receive the vendor quotations in response to your RFQs. You enter the prices in the RFQ documents.

Procedure

1. From the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Quotation* → *Maintain (ME47)*.

This takes you to the initial screen for maintaining quotations.

2. Enter the number of the RFQ and choose *Enter*.

This takes you to the RFQ item overview.

3. You can enter the vendor price directly in the item overview or for each item on the item detail screen. If the price is composed of different condition types such as gross price, discount and freight, choose *Item* → *Conditions* to get to the condition screen.



Hint: Whether or not you can enter time-dependent conditions in the quotation depends on the document type of the RFQ.

4. If necessary, enter more data (such as the delivery date) from the vendor quotation.
5. Save your entries.



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Exercise 7: Request for Quotation and Quotation Processing

Exercise Duration: 40 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create RFQs for master and one-time vendors
- Maintain and compare quotations in the system
- Display and print RFQs and rejections

Business Example

You have added a new material to your product range. Because you do not yet know from which vendor you can procure the material at the best price, start an RFQ/quotation activity.

System Data

System:	Training system
Client:	8xx
User ID:	SCM500-##
Password:	The password set by the participant
CATT:	ZT_SCM500
Set up instructions:	None

Task 1: RFQ Processing

To get the best purchase price for the universal backlight ##, California, send RFQs to several vendors.

1. Create RFQs

Create RFQs for a base quantity of **100 pieces** of material **T-M500B##** for three different vendors: Enter the RFQs under 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 PO 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 a RFQ only if you want to procure the material for this plant.

Continued on next page

You have heard about a prospective new vendor, with whom you have never had any business dealings. 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 this vendor, use the 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:

RFQ date:	Current date
Quotation deadline:	Current date + 2 weeks
Purchasing organization:	1000
Purchasing group:	T##
Delivery date:	Current date + 1 month
Plant:	Do not specify a plant

First vendor: 1950 (one-time vendor)

Enter any name and address for the one-time vendor.

RFQ number: _____

Second vendor T-K500A## (Motolux Ltd Group##)

RFQ number: _____

Third vendor T-K500B## (Rasch Group##)

RFQ number: _____

2. Display and print RFQ

Print your three RFQs as messages. Select all messages for the RFQs in your purchasing group **T##**. Before you print the messages, display the RFQ for the main vendor **T-K500A##** as a print preview on your screen.

Task 2: Quotation Processing

You have received the quotations for your RFQs. Maintain the quotations in the system, according to requirements.

1. Entering quotations

The vendors gave you the following information about prices and delivery times for the universal backlight **##**, California. Enter the data in the RFQ/quotation document for the particular vendors.

One-time vendor:

Continued on next page

Material costs:	Gross price (PB00):	79 EUR/PC
Conditions:	Discount % on gross (RA01):	3%
	Freight (Value) FRB1:	100 EUR
Delivery date:	Current date + 6 weeks	

Vendor T-K500A## (Motolux Ltd Group##):

Material costs:	Gross price (PB00):	90 EUR/PC
Conditions:	Discount % on gross (RA01):	15%
Delivery date:	Current date 4 weeks	

Vendor T-K500B## (Rasch Group##):

Material costs:	Gross price (PB00):	82 EUR/PC
Conditions:	Discount % on gross (RA01):	10%
Delivery date:	Current date 4 weeks	

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 select the effective price for the price calculation.

Determine the most reasonable quotation.

Vendor with the most reasonable quotation: _____

Effective price of the most reasonable quotation: _____

3. Change quotation

Vendor **T-K500A##** has just informed you that the delivery time is **6 weeks** rather than 1 month, due to demand. Change the quotation. To do this, branch directly from the price comparison list to the quotation and maintain the delivery date.

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, set the rejection indicator.

Continued on next page

Send the two rejection letters. Select message type **ABSA** and your purchasing group **T##**. Look at the letter on the screen for vendor T-K500A## before you print it. Is the letter marked as a rejection letter?

Solution 7: Request for Quotation and Quotation Processing

Task 1: RFQ Processing

To get the best purchase price for the universal backlight ##, California, send RFQs to several vendors.

1. Create RFQs

Create RFQs for a base quantity of **100 pieces** of material **T-M500B##** for three different vendors: Enter the RFQs under 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 PO 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 a RFQ only if you want to procure the material for this plant.

You have heard about a prospective new vendor, with whom you have never had any business dealings. 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 this vendor, use the 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:

RFQ date:	Current date
Quotation deadline:	Current date + 2 weeks
Purchasing organization:	1000
Purchasing group:	T##
Delivery date:	Current date + 1 month
Plant:	Do not specify a plant

First vendor: 1950 (one-time vendor)

Enter any name and address for the one-time vendor.

RFQ number: _____

Second vendor T-K500A## (Motolux Ltd Group##)

Continued on next page



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 name	Field value
RFQ date	<Current date>
Quotation deadline	<Current date + 2 weeks>
Purchasing organization	1000
Purchasing group	T##
Delivery date	<Current date + 1 month>
Plant	<No entry>

- c) Choose  *Continue*.
- d) On the *Header Data* screen, enter the *collective number GR##*.
- e) Choose  *Continue*.
- f) Enter the following data on the *Item Overview* screen:

Field name	Field value
Material	T-M500B##
RFQ quantity	100

- g) Choose *Header* → *Vendor address*.
- h) Enter *vendor 1950* and any address.
- i) Choose  *Save* and note the RFQ number.
- j) Repeat steps h) and i) for vendors **T-K500A##** and **T-K500B##**. For these vendors, the system copies over the address from the master record.
- k) Choose  *Exit* to leave the transaction.




2. Display and print RFQ

Continued on next page

Print your three RFQs as messages. Select all messages for the RFQs in your purchasing group T##. Before you print the messages, display the RFQ for the 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 name	Field value
Document Number	<delete>
Purchasing organization	1000
Purchasing group	T##

- c) Choose  with the quick info text *Execute*.
- d) Select the entry in the list for vendor T-K500A## and choose *Display message*.
- e) In the print preview, choose  *Back*.
- f) Choose  *Select all* and then *Print message*.

Task 2: Quotation Processing

You have received the quotations for your RFQs. Maintain the quotations in the system, according to requirements.

1. Entering quotations

The vendors gave you the following information about prices and delivery times for the universal backlight ##, California. Enter the data in the RFQ/quotation document for the particular vendors.

One-time vendor:

Material costs:	Gross price (PB00):	79 EUR/PC
Conditions:	Discount % on gross (RA01):	3%
	Freight (Value) FRB1:	100 EUR
Delivery date:	Current date + 6 weeks	



Continued on next page

Vendor T-K500A## (Motolux Ltd Group##):

Material costs:	Gross price (PB00):	90 EUR/PC
Conditions:	Discount % on gross (RA01):	15%
Delivery date:	Current date 4 weeks	


Vendor T-K500B## (Rasch Group##):

Material costs:	Gross price (PB00):	82 EUR/PC
Conditions:	Discount % on gross (RA01):	10%
Delivery date:	Current date 4 weeks	

- Choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Quotation* → *Maintain (ME47)*.
- On the initial screen, enter the RFQ number for the one-time vendor from the previous exercise (for vendor master record 1950) and choose  *Next*.
- Change the *delivery date* to **<Current date + 6 weeks>**.
- Select the item and choose  *Item conditions*.



Hint: If necessary, confirm the message for the statistically relevant delivery date using *Enter*. The statistically relevant delivery date is relevant for the vendor evaluation.

- Enter the conditions specified above for the one-time vendor.
- Choose  *Save*.
- 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 select the effective price for the price calculation.

Determine the most reasonable quotation.


Continued on next page

Vendor with the most reasonable quotation: _____

Effective price of the most reasonable quotation: _____


- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Quotation* → *Price Comparison (ME49)*.
- b) Enter the following data on the selection screen:

Field name	Field value
Purchasing organization	1000
Collective RFQ	GR##
Mean value quotation	✓
Determine effective price	✓


- c) Choose  with the quick info text *Execute*.
- d) From the *quotation price comparison list*, you can see that vendor T-K500B## has the most reasonable quotation with an effective price of 71,59 EUR.

3. Change quotation

Vendor **T-K500A##** has just informed you that the delivery time is **6 weeks** rather than 1 month, due to demand. Change the quotation. To do this, branch directly from the price comparison list to the quotation and maintain the delivery date.

- a) To branch directly from the price comparison list to a quotation, double-click the corresponding quotation number.
- b) There are several ways to change the quotation:
 - Choose  *Quotation*.
 - Choose *Edit* → *Maintain quotation*.
 - Double-click the quotation number or item.

The system branches to the quotation and you can change the delivery date to **current date + 6 weeks**.


- c) Choose  *Save*. After saving, the system automatically returns to the quotation price comparison list.

4. Print rejection letters




Continued on next page

After you have checked the quotations again, select the most reasonable quotation. For the two quotations that you do not require, set the rejection indicator.

Send the two rejection letters. Select message type **ABSA** and your purchasing group **T##**. Look at the letter on the screen for vendor T-K500A## before you print it. Is the letter marked as a rejection letter?

- a) Branch again from the price comparison list to the quotation for vendor T-K500A## by double-clicking on the corresponding quotation number.
- b) Double-click the item in the quotation to branch to the *item detail*.
- c) Set the *Rejection letter*.
- d) Choose  *Save*.
- e) Repeat steps a) to d) for the one-time vendor quotation.
- f) Choose *Logistics* → *Materials Management* → *Purchasing* → *RFQ/Quotation* → *Request for Quotation* → *Messages* → *Print/Transmit (ME9A)*.
- g) Enter the following selection values:

Field name	Field value
Document Number	<delete>
Purchasing organization	1000
Purchasing group	T##
Message type	ABSA

- h) Choose  with the quick info text *Execute*.
- i) Select the entry in the list for vendor T-K500A## and choose *Display message*. The message is marked as “Rejection for RFQ.”
- j) In the print preview, choose  *Back*.
- k) Choose  *Select all* and then *Print message*.



Lesson Summary

You should now be able to:

- Create several RFQs for an RFQ activity
- Enter the incoming quotations for your RFQs
- Execute a price comparison for your quotations

Lesson: Create Purchase Order with Reference



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Lesson Duration: 60 Minutes

Lesson Overview

This lesson describes how to create a purchase order with reference to another document. For this purpose, the selection and layout in the document overview of the order transaction are covered in detail.



Lesson Objectives

After completing this lesson, you will be able to:

- Use the document overview in transaction ME21N
- Create a purchase order with reference to an RFQ



Introduce the objectives and the business scenario. Give yourself enough time to explain how to use the document overview in the purchase order. If this lesson is held in SCM500, you have the opportunity to select according to RFQ, because the purchase order is to be created with reference to an RFQ.

Business Example

In your company, it often happens that you enter a purchase order with data that you copied from another document, for example, from an RFQ or an old purchase order. As a buyer, you test the possibility of using the document overview of the order transaction to simplify this process.

Create Purchase Order with Reference

The procurement process generally consists of at least three steps: purchase order, goods receipt and invoice receipt. However, more steps can occur before the purchase order. Thus purchase requisitions and the determination of a source of supply in an RFQ/quotation can precede the purchase order.

This lesson uses the process shown in the figure “Stock Material Procurement: Purchase Order.”

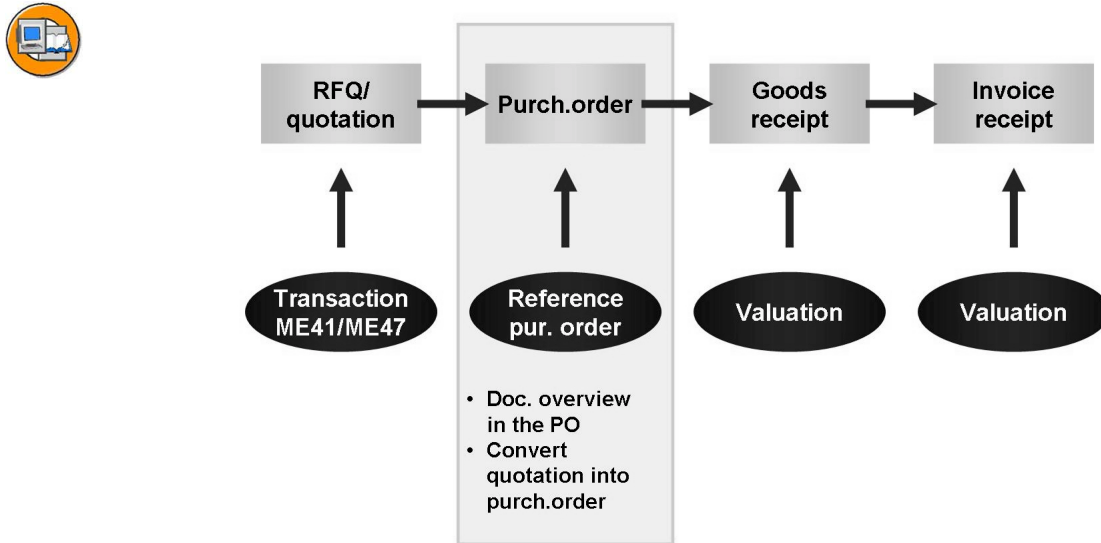
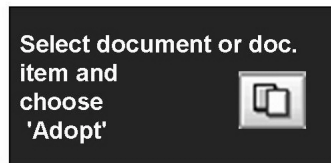


Figure 61: Stock Material Procurement: Purchase Order

If you have a procurement process with preceding documents for the purchase order, you should create the purchase order with reference to one of these preceding documents. If reference is made to a purchase requisition, an RFQ or a contract (in this case, a *release order*), item data and any existing header data is copied from the preceding document to the purchase order. This reduces the entry effort required and therefore reduces possible entry errors. You can change most of the copied data in the purchase order, if necessary.

You also have the option of copying an existing purchase order by using it as a template.



or

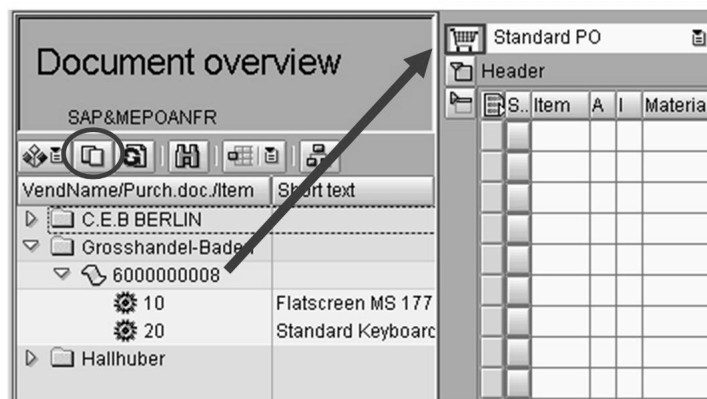
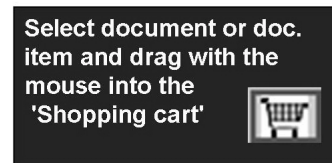


Figure 62: Create Reference Purchase Order (ME21N)

In the order transaction ME21N, the document overview makes it very easy to create a reference purchase order.

If you have selected the preceding documents, then select the document or the 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 (not 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 you included document items when creating the order item reference, and if so, which ones. You can find information about reference documents for each 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 the number of the item directly in the item overview in the corresponding field of the purchase order.

Document Overview in the 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) but also in the purchase requisition (item overview).



Note: Until 4.6B, the description for the layout was “display variant.”

In the document overview, you can display the different purchasing documents that you need every day, for example, purchase orders, purchase requisitions, requests for quotations, and scheduling agreements. At the same time, you can process a purchase order or purchase requisition in the right screen area.

To display a purchase order or purchase requisition from the document overview, simply double-click the relevant item. Other purchasing documents (RFQ, scheduling agreement, contract) cannot be displayed in the document overview.



The screenshot shows the SAP Document Overview interface. It features a table with columns for Vendor Name, Plant, Short text, Purch. doc., Quantity, O., Net value, and C.. The table lists various purchasing documents, including purchase orders and requisitions. Three callout boxes provide additional information:

- Selection variant:** A list of document types (Purchase orders, RFQs, Contracts, Sched. agreements, Gen. purchasing docs, Pur. requisitions) with a question: "Which documents are to be displayed in the doc. overview?"
- Layout:** Options to select or change the layout, with a question: "Which data from the selected documents is displayed?"
- Change breakdown:** A question: "How are the docs grouped?"

Figure 63: Document Overview in ME21N (and ME51N)

You use the **selection variant** to decide which documents to select. On the selection screen, you can restrict, for example, vendor, material and time period of the document creation. If you want to select only the purchase orders or purchase requisitions that you created yourself, you can use the selection variants “My purchase orders” or “My purchase requisitions.” You do not have to enter any other selection values. Specify the selection time period for these two variants in your *Personal settings*.

In the **breakdown**, specify the criteria to be used for sorting the selected documents.

Then you can use the **layout** to determine the data to be displayed for the documents (until 4.6B, layout was known as display variant). This is described in the following in more detail.



Figure 64: Layout in the Document Overview

Use the layout to change the document overview display. You can then display additional fields from the column set or hide unwanted fields from the column selection. You can also put the fields in any order you choose.

You have the option of saving these changes as your own layout. You can create your own cross-user or user-specific layouts. With the “Manage layout” function, you can define **one** layout as a default setting. This layout is automatically used when you open the document overview.




Hint: The layouts differ according to whether they are layouts for purchasing documents (purchase orders, requests for quotations, contracts and scheduling agreements) or for purchase requisitions.




Configure the Document Overview

1. From 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 the document “category” that you want, for example, RFQs.

You will see the selection screen on which you can limit the selection of documents using different 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**. In 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 layout.**

Click the dropdown list to the right of  to see 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*.

Copy your selection with  *Transfer*.

6. **Save layout.**

Click the dropdown list to the right of  to see the context menu for the layout and choose *Save layout*.

Continued on next page

Enter a key and a description for the new layout and decide whether the layout is to be created specific to a user or cross-user. The key for a cross-user layout must start with the special character “/”.



Hint: You need the correct authorization to create cross-user layouts.

Choose  *Save*.



Demonstration: Create Purchase Order with Reference

Purpose

(Duration approx. 25 minutes)

Configure the document overview, create a purchase order with reference to an RFQ.

The system also displays the effects of a change to a purchase order that has already been issued as a message.

CATT: ZT_SCM500

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor

Set up instructions:



Caution: A prerequisite for this demo is the performance of the demo from the “Request for Quotation/Quotation Processing” lesson.

1. Give a demo according to the data from the exercise. Use the data with group number ## = 00.

Optional: Show the **dynamic selection** after the collective number when selecting RFQs.



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Exercise 8: Purchase Order Processing

Exercise Duration: 25 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create a purchase order with reference to a quotation

Business Example

After an RFQ/quotation activity, you want to order the requested material from the supplier with the most favorable price. To minimize data-entry time, you reference the vendor's quotation when you create the purchase order. Use the document overview in the purchase order transaction to do this.

System Data

System:	Training System
Client:	8xx
User ID:	SCM500-##
Password:	The password set by the participant
CATT:	ZT_SCM500
Set up instructions:	



Caution: You can do this exercise only if you have already done the exercise from the "Request for Quotation/Quotation Processing" lesson.

Task: Purchase order entry

Order the universal taillight-##, California, from vendor Rasch Gr.##. The RFQ activity proved this to be the best supplier. When creating a purchase order, you 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 your purchasing group **T##** and purchasing organization **1000**. Save this selection as selection variant **T##**.

Group your RFQs according to vendor and purchasing document. Also display the material numbers. Save these settings as layout **L##**.

2. Create purchase order with reference to RFQ

For plants **1000** (Hamburg) and **1200** (Dresden), you require **100 pieces** of material **T-M500B##** (Universal taillight-##, California).

Continued on next page

Create a purchase order for purchasing organization 1000 and purchasing group T## with two items. For each item, refer to the RFQ of vendor T-K500B##. The system proposes data, excluding the plant, such as quantities and conditions from the quotation.

Save your purchase order.

PO number: _____

3. **Determine the status of the message**

Display the purchase order and determine whether the purchase order has already been issued as a message. If the message has not yet been sent, print the document and then check the status of the message again.

4. **Change the purchase order**

The sales employee responsible at vendor **T-K500B##** has informed you by phone that the price has been reduced further. The gross price for material **T-M500B##** in this purchase order is **80 EUR**. The remaining conditions are unchanged. Change the conditions for **both** order items accordingly. Save these changes.

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?

What has been changed?

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?

6. **Display and issue the changed purchase order as a message**

Display a print preview (message) on your screen of the change to the purchase order, and issue the message.

Continued on next page

Is the message flagged as a change message? Are the changes listed in the document?

Solution 8: Purchase Order Processing





Task: Purchase order entry

Order the universal taillight-##, California, from vendor Rasch Gr.##. The RFQ activity proved this to be the best supplier. When creating a purchase order, you 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 your purchasing group **T##** and purchasing organization **1000**. Save this selection as selection variant **T##**.

Group your RFQs according to vendor and purchasing document. Also display the material numbers. Save these settings as layout **L##**.

- 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 *RFQs*.
- d) Enter purchasing organization **1000** and purchasing group **T##** and delete all other values from the selection.
- e) Choose , with the quick-info text *Save as Variant* As the variant name, enter **T##** and a description. Then choose  *Save*.
- f) Choose  *Execute* to execute the selection.

Your RFQs are displayed in the document overview for the purchasing group **T##**.

- g) Choose  *Change breakdown*. Select **Vendor** (column set) and **Purchasing document** (sort criterion) and choose  *Add sort criterion*. Then choose  *Transfer*.
- h) Choose the button (small list) on the right, next to  and then *Change layout*. Select **Material** (column set) and choose  *Show selected fields*. Then choose  *Transfer*.
- i) Choose the button (small list) on the right, next to  and then *Save layout*. As the layout, enter **L##** and a description. Choose  *Save*.

2. Create purchase order with reference to RFQ



For plants **1000** (Hamburg) and **1200** (Dresden), you require **100 pieces** of material **T-M500B##** (Universal taillight-##, California).

Continued on next page

Create a purchase order for purchasing organization 1000 and purchasing group T## with two items. For each item, refer to the RFQ of vendor T-K500B##. The system proposes data, excluding the plant, such as quantities and conditions from the quotation.

Save your purchase order.




PO number: _____

- a) Item for plant 1000: Select the RFQ of vendor **T-K500B##** in the document overview and choose  *Adopt*. Enter plant **1000** for this item in the item overview.
- b) Item for plant 1200: Repeat step a). Enter plant **1200** for this item.
- c) Choose , with the quick-info text *Save*, and make a note of the PO number.

3. **Determine the status of the message**

Continued on next page

Display the purchase order and determine whether the purchase order has already been issued as a message. If the message has not yet been sent, print the document and then check the status of the message again.

- 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 already been sent as a message.
- c) For more detailed information on the message development, choose *Goto → Message*. 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. Double-click on , with the quick-info text *Exit*.
- e) Choose *Logistics → Materials Management → Purchasing → Purchase Order → Messages → Print/Transmit (ME9F)*.
- f) Adopt the selection criteria proposed by the system and choose  *Execute*.
- g) Select your document and choose *Issue message*.
- h) To check the status of the message again, display the purchase order again and choose *Goto → Message*. The message has now been processed.


4. Change the purchase order

Continued on next page

The sales employee responsible at vendor **T-K500B##** has informed you by phone that the price has been reduced further. The gross price for material **T-M500B##** in this purchase order is **80 EUR**. The remaining conditions are unchanged. Change the conditions for **both** order items accordingly. Save these changes.

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Change (ME23N)*.

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 (PB00) to **80 EUR**.
d) Switch to the second item and change the gross price (PB00) for this item to **80 EUR**.
e) Choose  *Save*.

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?

What has been changed?

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?



Continued on next page

-
- a) In the title bar, you can see which user created the purchase order.
 - b) If you need more information on the changes made to the order items, select the required items and choose *Environment* → *Item changes*. Using , with the quick-info text *Next item* or with *Goto* → *Next item*, you will 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. No goods receipts or invoices have been entered for this purchase order item.

6. Display and issue the changed purchase order as a message

Display a print preview (message) on your screen of the change to the purchase order, and issue 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) Adopt 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 change document. The vendor is informed which information has changed for each item.
- d) In the print preview, choose  *Back*.
- e) Select your document and choose *Issue message*.



Lesson Summary

You should now be able to:

- Use the document overview in transaction ME21N
- Create a purchase order with reference to an RFQ

Lesson: Purchasing info records



Lesson Duration: 60 Minutes

Lesson Overview

This lesson covers another master record for purchasing, the purchasing info record. The purchasing info record helps to define vendor-specific information for a material. The different options for creating and updating a purchasing info record receive particular attention.



Lesson Objectives

After completing this lesson, you will be able to:

- List the organizational levels relevant for purchasing info records
- List the ways in which purchasing info records can be created
- Maintain a purchasing info record



In this lesson, you, the instructor, should explain the purchasing info record, the data included in it, and the options for maintaining info records. In particular, make sure the following is worked out:

- If data is updated with the *Info update* indicator from a quotation into an info record, the conditions are adopted in the info record.
- If data is updated with the *Info update* indicator from a purchase record into an info record, then **none** of the conditions are adopted in the info record.

The exercises from 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:

1. **Exercise - RFQ/quotation processing:** *Info update* is **not** set in the quotation, therefore no update of conditions in an info record.
2. **Exercise - Purchase order with reference to quotation:** Conditions from the quotation are copied into the purchase order and then changed. If the *Info update* indicator is set in the purchase order item (default value), an info record is created with reference to the purchase order, but **without** conditions
3. **Exercise - Purchasing info records:** Display and evaluate info records; then change quotations and set *Info update*; conditions from quotations are therefore updated in the info records. Evaluate info records again.

Business Example

The purchasing department in your department saves data on material-vendor relationships. This is necessary as a material may be procured from more than one vendor and the vendors will have different prices, freight costs and terms of delivery. As a buyer you can test the functionality of the purchase info record and the automatic update of conditions using the *InfoUpdate* indicator.



Demonstration: Introduction to Info Records

Purpose

(Duration approx. 10-15 minutes)

Introduction to the info record topic.

You can show this demo at the start of the segment, but after the discussion of the theoretical part.

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions:



Caution: A prerequisite for this demo is the performance of the demo from the “RFQ/Quotation Processing” and “Create a Reference Purchase Order” lessons.

1. Create a new purchase order with the following data:

Vendor	T-K500A00
Material	T-M500B00
Quantity	10

Confirm your entries with *Enter*. You cannot determine a price so the system issues the corresponding error message.

End the purchase order entry without saving.

2. Create a new purchase order with the following data:




Caution: Vendor is now T-K500B00.

Vendor	T-K500B00
Material	T-M500B00
Quantity	10

Confirm your entries with *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.
Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Info Record* → *List Displays* → *By Material (ME1M)*.
Enter material **T-M500B##** and purchasing organization **1000** and choose  with quick-info text *Execute*.
 4. Discuss the data displayed in the list. Explain the meaning of the *infotype* and the possible characteristics (standard, subcontracting, pipeline, consignment).
There should not yet be any conditions in the info record, just the reference to the last purchase order.
 5. Display the info record and discuss the structure. The data is divided into general data (cross-client) and purchasing organization data.
Explain the navigation with *Goto* → ..., *Extras* → *Conditions* and *Goto* → *Extras* → *Administrative data*. Briefly discuss the most important data on the individual screens.
Pay particular attention to the *References* area under *Purchasing organization data 2*. Use *Environment* → *Last Document* to branch to the purchase order.
 6. Then discuss the theoretical part.
-

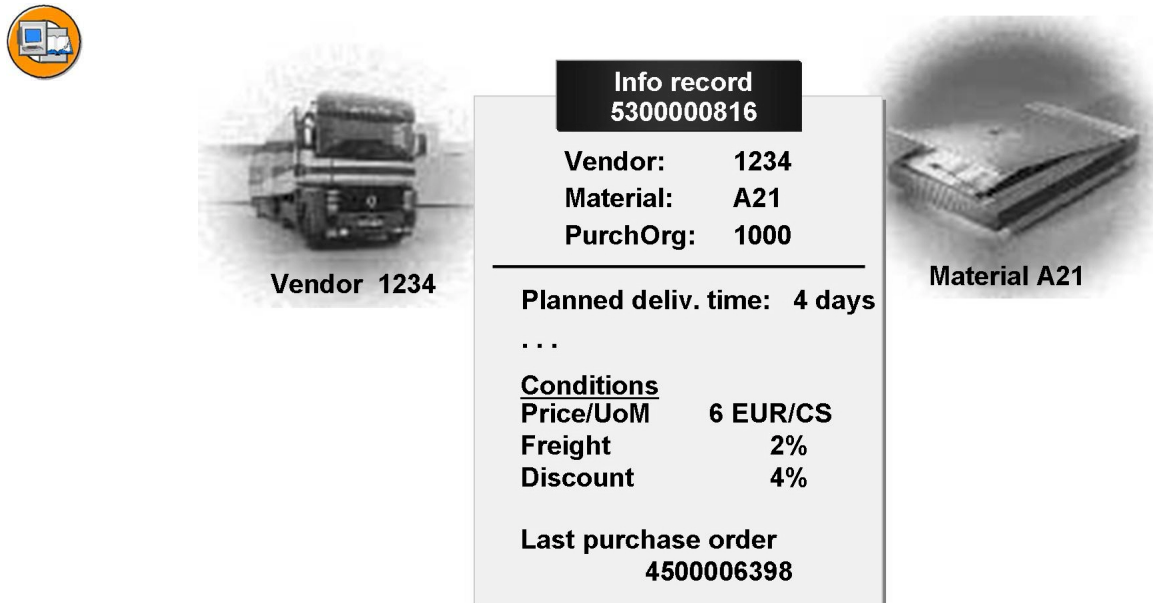


Figure 65: Purchasing info records

The purchasing info record (info record) provides the option of storing information about a vendor and a material as the master data at purchasing organization and plant level. You can define the following information in info records:

- Current and future prices and conditions (for example, freight and discounts)
- Delivery data (for example, planned delivery time and overdelivery and underdelivery tolerances)
- Vendor data (for example, contact person) and vendor-specific data about the material (such as the vendor subrange to which the material belongs, description of material at vendor)
- Number of the last purchase order
- Texts.

The following type of texts are set in the purchasing info record:

- Internal info memo record: This is an internal comment that is copied to the purchase order item. This text is not printed.
- PO text in the purchasing info record: This is used to describe the PO item. It is copied to the purchase order item and printed.

The purchasing info record is an important source of information for the buyer. When creating the purchasing documents, the data from the info record is copied into the document as default values.

You can also use the list displays for the info records to determine which vendors offer a particular material or which materials can be procured from a particular vendor.

A purchasing info record can be valid at both purchasing organization level and plant level. It also includes general data that is valid cross-client for every purchasing organization or every plant.

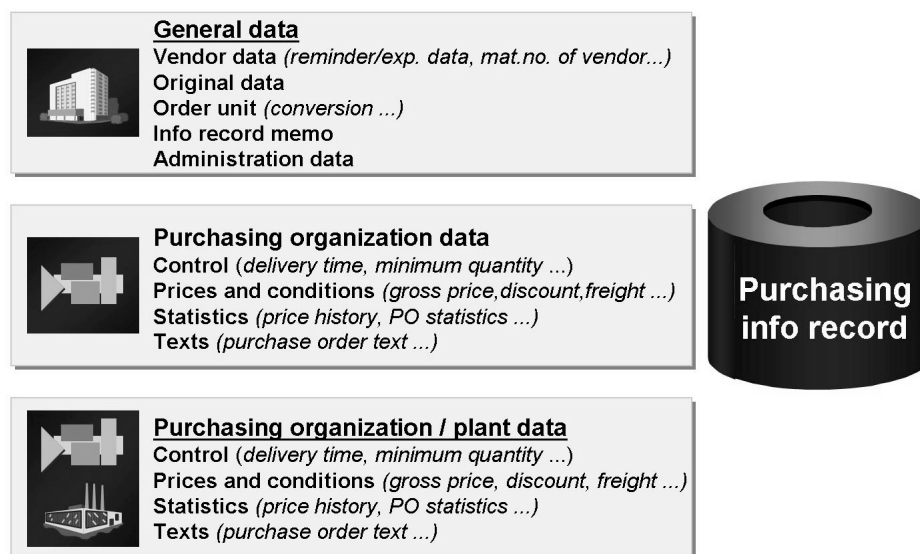


Figure 66: Purchasing Info Record: Structure

From the "Purchasing Info Record: Structure" graphic, you can see which data can be entered at which organization level.



Hint: To save conditions at plant level, this must have been specified in Customizing for *Materials Management* under *Purchasing* → *Conditions* → *Define Condition Control at Plant Level*.

Purchasing Info Record Maintenance

You have various options when creating a purchasing info record.

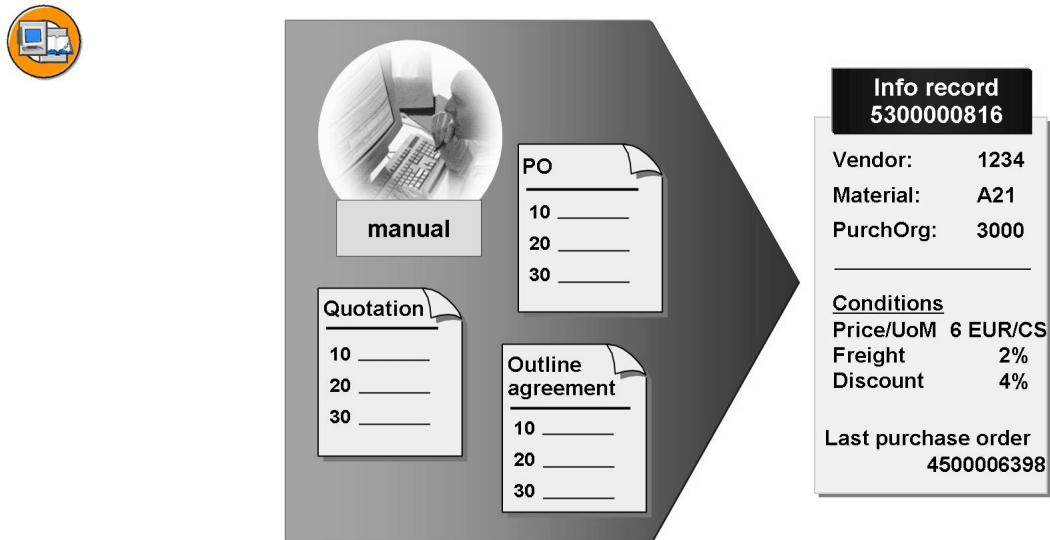


Figure 67: Options for Maintaining Info Records

You can manually create or change an info record for a purchasing organization or plant. In the purchasing menu, choose *Master Data* → *Info Record* → *Create (or Change)*. On the initial screen, you must then enter vendor, material, and the organizational levels you want (purchasing organization or purchasing organization/plant). On the following data screens, enter the necessary data manually, for example, planned delivery time, gross price and conditions.

Purchasing info records can also be created or updated automatically by setting the *Info update* indicator when maintaining a quotation, purchase order or outline agreement.



After discussing the figure “Info Record: Automatic Update,” 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 *Info update* indicator is set in the PO item. This is why there is a reference to this purchase order.

- Why are there no conditions in the info record?

Answer: No conditions have been copied from the purchase order to the info record.

- What do you have to do to copy the conditions from the purchase order to the info record?

Answer: You can enter the conditions in the info record manually only.

- Can the conditions from the quotation be updated in the info record, and if so, how?

Answer: The *Info update* indicator must be set in the quotation item.

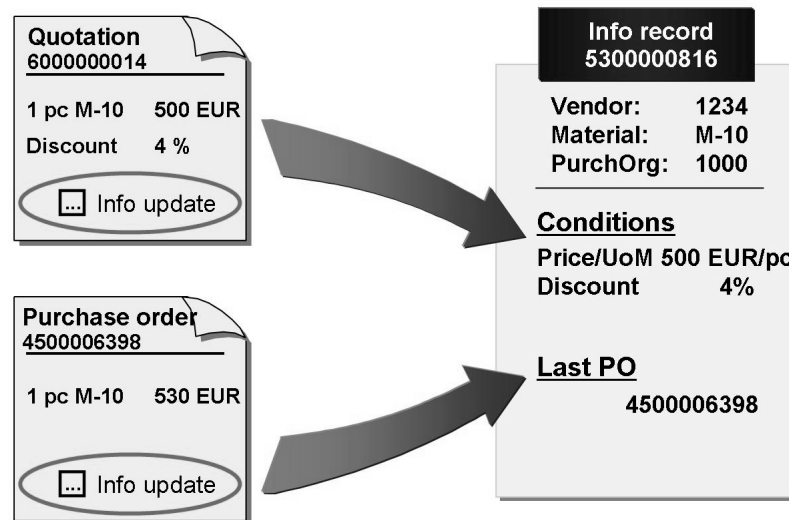


Figure 68: Info Record: Automatic Update

The type of purchasing document determines which updates are triggered by the *Info update* indicator.

- Time-dependent conditions from the **quotations** are copied to the info record.
- From a **purchase order**, a **contract release order** or a **scheduling agreement**, the document number is updated as the last document.
- For the **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 no info record exists for the combination of vendor, material, and organizational level. If an info record already exists, there are no updates in the info record.



To understand the different characteristics of the *Info update* indicator, it is necessary to 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/**plant** level. You can set this option in Customizing.

If valid conditions exist for a plant, the system always proposes the more important plant conditions if orders are placed for this plant.

The characteristics of the *Info update* indicator for updating the info record vary in the different purchasing documents. Regardless of the purchasing document, the Customizing settings for the conditions are always important during the update. In Customizing for *Materials Management* under *Purchasing* → *Conditions* → *Define Condition Control at Plant Level*, per plant, you can specify:

- Whether conditions are allowed with or without plant
- Whether only plant-related conditions are allowed (plant available)
- That no plant-related conditions are allowed (plant ban)

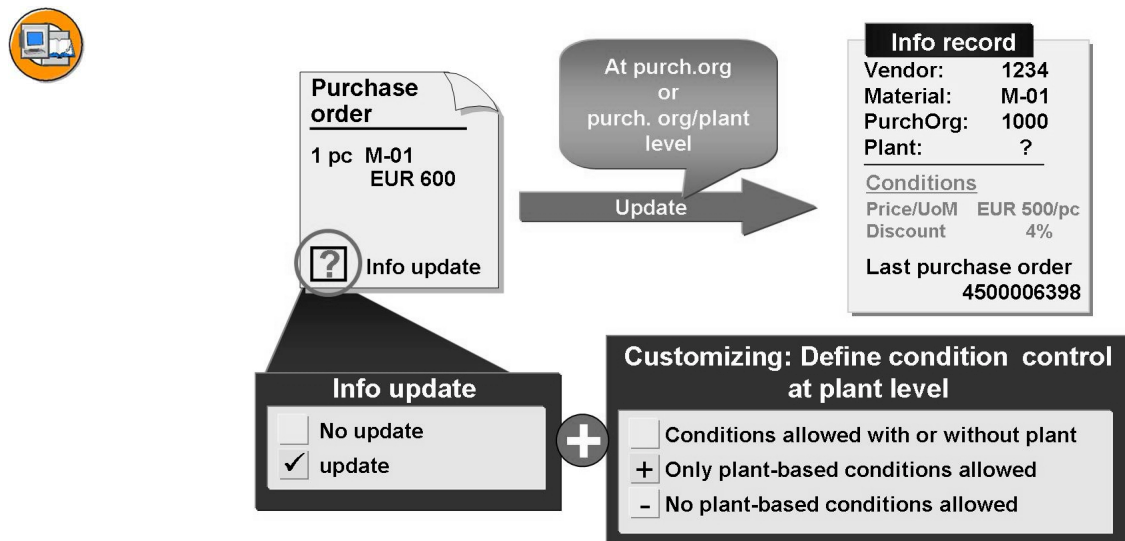


Figure 69: Info Update Indicator: Purchase Order (ME21N)

In the purchase order (transactions ME21N, ME22N and ME23N), the *Info update* indicator has two characteristics for updating the info record, that is, it controls whether an info record is updated or created or not.

If the indicator is set, the following cases are possible:

- An info record exists either on purchasing organization level only or on purchasing organization level and plant level only (“exactly one” info record (with or without plant)) and is updated.
- An info record exists both with purchasing organization data and with purchasing organization / plant data and plant-specific data is updated.
- If no info record exists and *Plant condition requirement* was determined in Customizing, the system creates an info record with a plant. Otherwise, the system creates an info record without a plant.

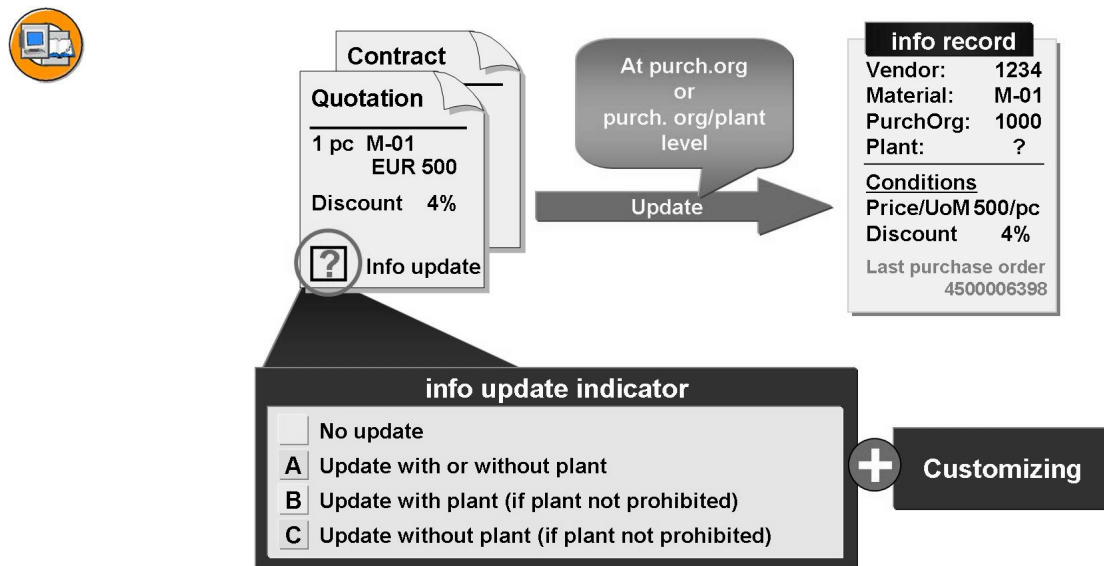


Figure 70: Info Update Indicator: Quotation, Outline Agreement

In the quotation, contract, scheduling agreement and the old purchase order (transactions ME21, ME22 und ME23), the *Info update* indicator has four characteristics:

- “ ”: The info record is not updated or created
- “A”: If an info record exists at plant level, this is updated. Alternatively, an info record is updated at purchasing organization level. If there is still no info record, the system creates it at purchasing organization level.
- “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.

Price Determination



Before you show the graphic for price determination, ask the participants to guess which schema the system uses to determine conditions.

If 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.

This means that when creating a purchase order, the system first searches for a purchasing info record with the combination of vendor/material at the purchasing organization/plant level. If there is no such info record, the system then searches at purchasing organization level. If there is no info record here either, you must enter the price manually.



Hint: In the purchase order, the valuation price from the material master record is not suggested as the purchase order price.

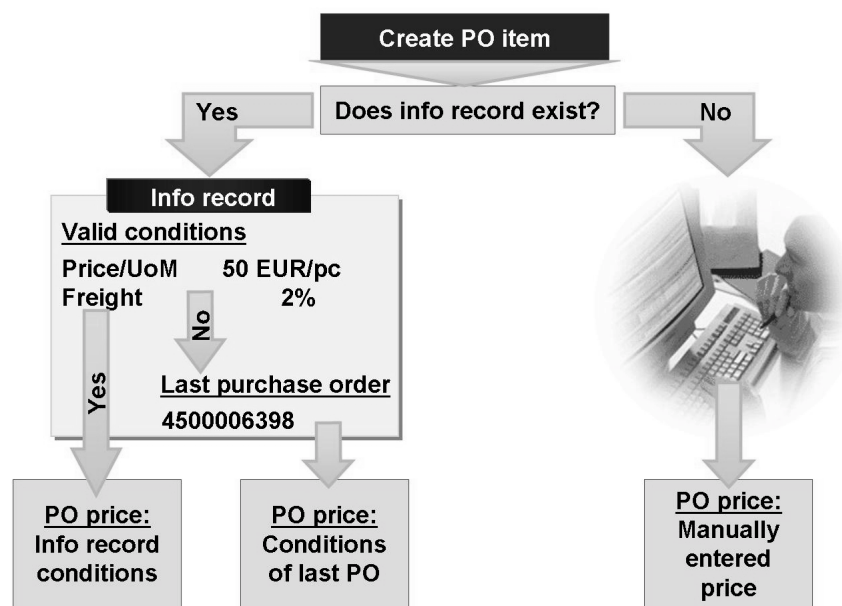


Figure 71: Info Records and Prices

If a purchasing info record exists, then valid conditions have priority during the price determination. 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 then suggests the price from this document. The prices determined in this way are default values that can be changed by the buyer if necessary.

In the default values for buyers (Customizing), you can define how the system handles conditions from the last purchase order. To copy conditions from the last purchase order, you can specify the following:

- The conditions are always copied
- The conditions are not copied if the price is entered manually
- The conditions are never copied



Demonstration: Purchasing Info Record Maintenance

Purpose

(Duration approx. 15 minutes)

Demonstration of the automatic update and the manual maintenance of info records.

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor

Set up instructions:



Caution: A prerequisite for this demo is the performance of the demo from the “RFQ/Quotation Processing” and “Create a Reference Purchase Order” lessons.

1. Show a demo according to the entry from tasks 3 (copy conditions from quotations) to task 6 (quantity-based price) in the exercise. Use the data with group number ## = 00.
-



Exercise 9: Maintain Purchasing Info Record

Exercise Duration: 25 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Display, change, and analyze 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 conditions and other price elements such as freight costs and reductions for a material, depending on the vendor and the purchasing organization. You can also enter planned delivery times, tolerances and terms of delivery.

System Data

System: Training System
Client: 8xx
User ID: SCM500-##
Password: The password set by the participant
CATT: ZT_SCM500
Set up instructions:



Caution: You can carry out this exercise only if you have already completed the exercises from “RFQ/Quotation Processing” and “Create Reference Purchase Order” lessons.

Task: Display, change, and analyze info records

You intend to use extra purchasing info records. You therefore want to update as much of the data from the purchase orders and quotations in the info records as possible. You should now pay particular attention to the info records for the **Universal taillight-##, California**.

1. Display info record list

Display all the 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

Continued on next page

Display the purchasing info record for material **T-M500B##** and vendor **T-K500B##** and answer the following questions.

When and by whom was the info record created?

Created on: _____

Created by: _____

What is the info record number?

Info record number: _____

Do conditions exist for this info record? Give reasons for your answer.

What is the number of the last purchase order?

3. **Copy conditions from quotations**

For material **T-M500B##**, you used an RFQ/quotation activity to determine prices from different vendors. You want to keep these conditions in the info records. Change all quotations for material **T-M500B##** and set the *Info update* indicator to **C**.



Hint: Use the price comparison list function for the easiest way to select and change your quotations. The collective number of your quotations is **GR##**.

4. **Display info record list**

Display all the info records saved in the system again for material **T-M500B##** and purchasing organization **1000**.

Info record number(s): _____

Do conditions exist for these info records? Give reasons for your answer.

5. **Change info record**

Continued on next page

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 for this material.

The average delivery time (planned delivery time) is **10 days**. Also, the vendor accepts only purchase orders that have a minimum quantity of **50 pieces**.

As of today, the following is valid for conditions:

Validity period: **1 year**

Gross price: **85 EUR**

Discount % on gross (RA01): **15% on 50 pieces or more, 18% on 200 pieces or more**

6. **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##**?

20 pc	50 pc	150 pc	320 pc


Solution 9: Maintain Purchasing Info Record

Task: Display, change, and analyze info records

You intend to use extra purchasing info records. You therefore want to update as much of the data from the purchase orders and quotations in the info records as possible. You should now pay particular attention to the info records for the **Universal taillight-##, California**.

1. Display info record list

Display all the 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.

- Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Info Record* → *List Displays* → *By Material (ME1M)*.
- Enter material **T-M500B##** and purchasing organization **1000**.
- Choose  with the quick info text *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.

When and by whom was the info record created?

Created on: _____

Created by: _____


What is the info record number?

Info record number: _____

Do conditions exist for this info record? Give reasons for your answer.

What is the number of the last purchase order?

Continued on next page

-
- a) Select the info record in the list display and choose  with quick-info text *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 in the *Purchasing organization data*.

- c) Choose  with quick-info *Back* to display the *Purch. org. data 1*.

No conditions exist because the system automatically generated the info record when you created your last purchase order. No conditions have been copied from the purchase order to the info record.

- d) Choose *Goto* → *Purch. org. data 2* to determine the number of the last purchase order.

To display the last purchase order, choose *Environment* → *Last document*. In the item detail on the *Material data* tab, you can see that the *Info update* indicator is set. The system therefore automatically generates an info record without conditions.



3. Copy conditions from quotations

Continued on next page

For material **T-M500B##**, you used an RFQ/quotation activity to determine prices from different vendors. You want to keep these conditions in the info records. Change all quotations for material **T-M500B##** and set the *Info update* indicator to **C**.



Hint: Use the price comparison list function for the easiest 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 purchasing organization **1000** and the collective request for quotations **GR##** and choose  with quick-info *Execute*.
- c) Double-click the price of a quotation to branch to the details of this quotation item. Enter *Info update C* and choose  with quick-info *Save*.
- d) Repeat step c) for all quotations.


4. Display info record list

Display all the info records saved in the system again for material **T-M500B##** and purchasing organization **1000**.

Info record number(s): _____

Do conditions exist for these info records? Give reasons for your answer.

Continued on next page

-
- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Info Record* → *List Displays* → *By Material (ME1M)*.
 - b) Enter material **T-M500B##** and purchasing organization **1000**.
 - c) Choose  with the quick info text *Execute*.
 - d) For material T-M500B##, there are now two info records, one info record for vendor T-K500A## and one for vendor T-K500B##. The system did not create info records for one-time vendors because the one-time vendor master record is only a collective master record that is used for different vendors.
 - e) There are conditions in both info records. Because the *Info update* indicator was set in the quotations, these conditions were updated in the particular info record.

5. Change 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 for this material.

The average delivery time (planned delivery time) is **10 days**. Also, the vendor accepts only purchase orders that have a minimum quantity of **50 pieces**.


As of today, the following is valid for conditions:

Validity period: **1 year**


Gross price: **85 EUR**

Continued on next page


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 and then choose  with quick-info *Next*.


Vendor	T-K500A##
Material	T-M500B##
Purch. org.	1000

- c) Choose *Purch. org. data 1* and enter the planned delivery time **10** days and the minimum purchase order quantity **50** pieces.
- d) Choose *Conditions*. In the *Validity period conditions* dialog box, select the validity period and choose  *Select*.
- e) Then enter the following values:

Validity period	<Current date>
To	<Current date + 1 year>
Condition type	
Amount	
PB00 gross price	EUR 85
RA01 discount % of gross	15%

- f) To enter the discount scale, select the condition type **RA01** and choose  with quick-info *Scale* or *Goto* → *Scale*. Then enter the following scale values:

Scales for discount of gross (RA01)	
<i>Scale quantity</i>	<i>Amount</i>
50	15
200	18

- g) Choose  *Save*.

6. Quantity-dependent price

Continued on next page


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##**?

20 pc	50 pc	150 pc	320 pc

- a) To answer this question, you can 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:

20 pc	50 pc	150 pc	320 pc
EUR 85	72.25 EUR	72.25 EUR	69.70 EUR

- b) Alternatively, you can also use the simulation function in the list display in the info records. Display the list of info records for vendor T-K500A## and material T-M500B## (transaction ME1M). Select the info record and choose *Price simulation*. Then enter the desired quantity and confirm this with  and the quick-info text *Enter*. The determined price is then displayed in the list.



Lesson Summary

You should now be able to:

- List the organizational levels relevant for purchasing info records
- List the ways in which purchasing info records can be created
- Maintain a purchasing info record

Lesson: Material Valuation Basics



189

Lesson Duration: 30 Minutes

Lesson Overview

This lesson covers the determination of valuation levels for materials using the valuation area, and the two possible procedures for material valuation.



Lesson Objectives

After completing this lesson, you will be able to:

- Explain the significance of the valuation area
- Describe the function of the valuation class
- Explain material valuation with the moving average price
- Explain material valuation with the standard price



Introduce the objectives and the business scenario.

The stock of a material that exists as a pool 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.

Aside from quantity-based inventory management, a value-based update of the warehouse stock is also necessary. So that the value-based update for a material is possible, you must maintain the accounting data in the material master record.

Business Example

In your company, most of the externally procured materials are stored before they are required for production or sales. The warehouse stocks of your materials must be updated on a quantity and value basis. As a member of the project team you inform yourself about the possible material valuation procedures.

Material Valuation – General



Give a brief introduction into the possible goods movements (goods receipt, transfer posting, goods issue) and the resulting updates of stock quantity and value. Here, you should briefly mention the “interface” between Materials Management and Financial Accounting.

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, the stock quantity and therefore also the stock value vary. In goods receipts, the stock value increases; in goods issues, the stock value decreases. The quantity and value of the material stock and the material price (= valuation price) are updated in the material master record. You therefore also need a material master record for warehouse material.

The material valuation determines and maintains the stock value of a material. The following formula is used to calculate the stock value:

Stock value = stock quantity * material price

From this formula it follows that the stock value changes when the stock quantity or material price changes.

During the valuation of a goods movement, not only the total value and, if necessary, the valuation price are updated in the material master record, but also the accounts in Accounting. Material valuation demonstrates a connection between *Materials Management (MM)* and *Financial Accounting (FI)* because material valuation accesses G/L accounts in Financial Accounting and updates them.

Material valuation is essentially controlled by two factors:

- System setting (Customizing)
- Material master record

Material valuation is adjusted to the requirements of your company using the system settings. For system configuration, the following questions are defined:

- On which level are materials valued?
- Which types of goods movements are relevant for valuation?
- Which accounts are posted to during a transaction?

The following sections cover the questions about the valuation level and the settings in the material master record. The movement type determines which types of goods movements are relevant for valuation. The settings for automatic account determination determine which accounts are posted to during a transaction.

Valuation Level

The valuation area is the organizational level at which material is valued. You can decide whether the valuation area is determined at company code or plant level.

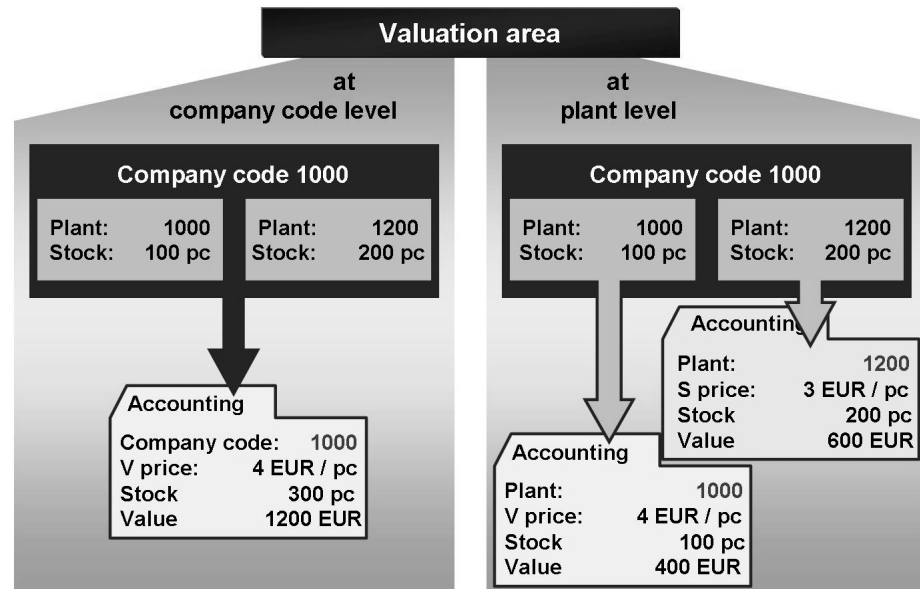


Figure 72: Material - Valuation Levels

valuation area = company code

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. The material is therefore valued consistently in all plants of a company code.

valuation area = plant

The valuation data of a material is created for each plant. The price control and valuation price of a material are valid for each plant. The same material can therefore be valued differently in different plants.

SAP recommends that you value material at plant level. Valuation at plant level is mandatory if you want to use either of the *Production Planning* 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 is very 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 (for details about the fields, see the graphics):

- Currency: The currency is not entered manually; it is the local currency of the company code.
- Valuation class
- Price control
- Moving average price / standard price
- Total stock / total value

In the material master record, you 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 to be 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 at all. The material type controls whether the stock is to be managed on a quantity and/or value basis and whether this update can be controlled at valuation area level.

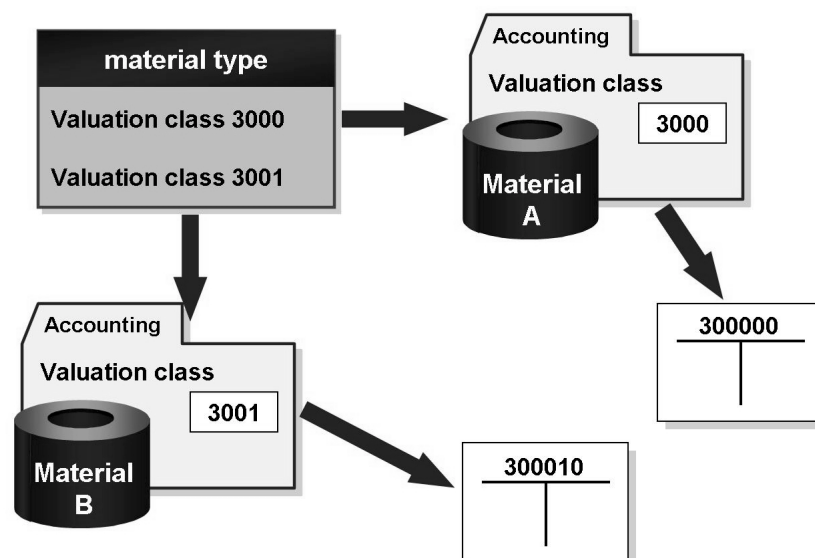


Figure 73: Valuation class

In automatic account determination, the SAP system works with **valuation classes**. The valuation class is used to determine which stock account is to be updated during the goods movements of a material.

You can use the valuation class to combine 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 Accounting view of the material master record.

The valuation class allowed for a material depends on the material type and can be configured in Customizing. A valuation class can also be assigned to several material types.

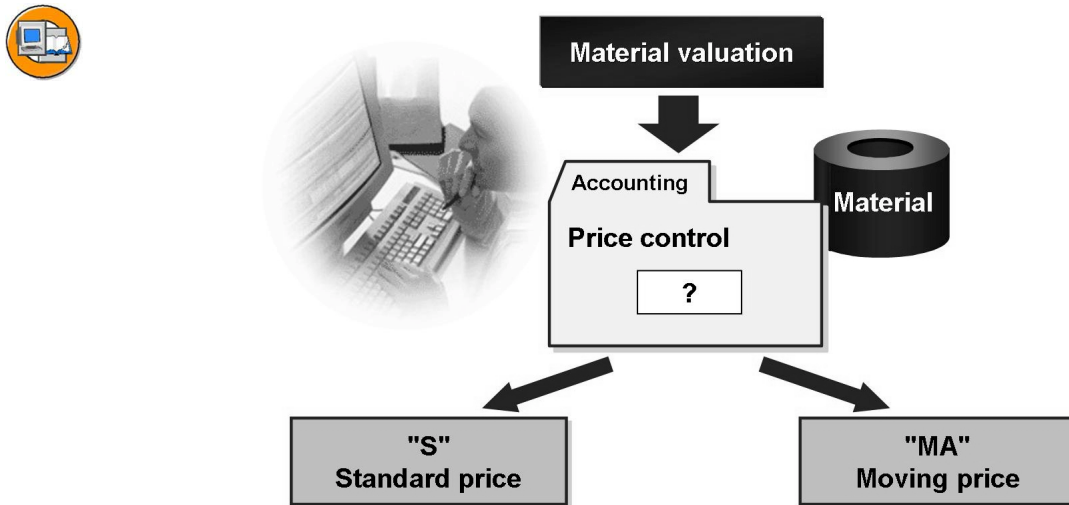


Figure 74: Material Valuation Procedures

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 the moving average price (V price).

Standard price

During the valuation using the standard price (price control "S"), there are many stock postings to a price determined in the material master record, the standard price. Variances to this standard price are posted to the price differences accounts.

For statistical purposes, the system also 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, and react accordingly.

The system calculates the total stock value for materials with standard price control as follows:

Total value = standard price (per base unit of measure) * total stock

Moving average price

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:

Moving average price
 = total stock value / total stock quantity.

Any differences from the purchase order price that occur during the invoice receipt are posted directly to the stock account during stock coverage, and the system determines a new moving average price.



Discuss the following figure to clarify both material valuation procedures in one example.

The following figure “Valuation of Goods Receipt” clarifies both valuation procedures in a single example.

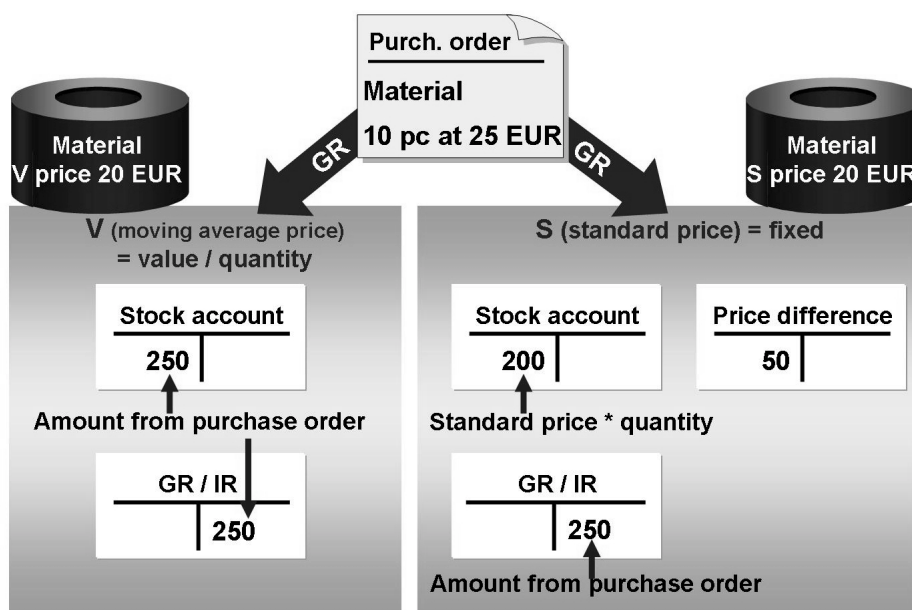


Figure 75: Valuation of Goods Receipt

Material : V price 20 EUR

The goods receipt for a purchase order of 10 pieces at 25 EUR is valued with a procurement price of 25 EUR. An amount of 10 at 25 EUR = 250 EUR is posted to the stock account. The offsetting entry for the same amount is posted to the GR/IR clearing account.

Material : S price 20 EUR

The goods receipt quantity must be valued with the standard price. The result of the goods receipt for the purchase order of 10 pieces is an amount of 10 at 20 EUR = 200 EUR. This amount is posted to the stock account. The difference of 50 EUR from the actual procurement value (10 at 25 EUR = 250 EUR) is posted to a price differences expense account. The offsetting entry with an amount of 10 at 25 EUR = 250 EUR is posted to the GR/IR clearing account.

Material Valuation Examples

For the following examples, you as the instructor 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, there is a detailed system demo and exercise in the next lessons that cover these two cases.

The figures in this section describe the postings in Financial Accounting and the updates in the material master record for a simple procurement process, once for the V price and once for the S price procedures.

Initial stock quantity and value are displayed in the Initial situation column. Then a goods receipt for a purchase order of 100 pieces at 2.40 is posted (second line). The process is completed with an invoice receipt of 100 pieces at 2.20 (third line).

Posting to Standard Price (Example)**Material master record: valuation data**

	Transaction	Inventory	Total value	Standard price	Moving price
(1)	Starting situation	100	200,00	2,00	2,00

Financial Accounting: account movements

Stock account <hr/> (1) 200	GR/IR clearing acc. <hr/>	Accounts Payable <hr/>
Income from price differences <hr/>	Expenditure from price differences <hr/>	

Figure 76: Standard Price (1): Starting Situation



Material master record: valuation data

	Transaction	Stock	Total value	Standard price	Moving av. price
(1)	Starting situation	100	200.00	2.00	2.00
(2)	GR for PO: 100 at 2.40	200	400.00	2.00	2.20

Financial Accounting: account movements

Stock account <hr/> (1) 200 (2) 200	GR/IR clearing acc. <hr/> 240 (2)	Vendor <hr/>
Income from price differences <hr/>	Expenditure from price differences <hr/> (2) 40	

Figure 77: Standard Price (2): Goods Receipt

During goods receipt, the system updates the stock value and stock quantity at standard price. It updates the GR/IR clearing account at the purchase order price. It posts the difference between the purchase order price and the standard price to the price difference account.



Material master record: valuation data

	Transaction	Stock	Total value	Standard price	Moving av. price
(1)	Starting situation	100	200.00	2.00	2.00
(2)	GR for PO: 100 at 2.40	200	400.00	2.00	2.20
(3)	IR for PO: 100 at 2.20	200	400.00	2.00	2.10

Financial Accounting: account movements

Stock account <hr/> (1) 200 (2) 200	GR/IR clearing acc. <hr/> (3) 240 240 (2)	Vendor <hr/> 220 (3)
Income from price differences <hr/> 20 (3)	Expenditure from price differences <hr/> (2) 40	

Figure 78: Standard Price (3): Invoice Receipt

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. It posts the difference between the purchase order price and the invoice price to the “Income from price differences” account. It does not change the total stock value.

Posting to Moving Average Price (Example)



Material master record: valuation data

	Transaction	Inventory	Total value	Standard price	Moving price
(1)	Starting situation	100	200,00	2,00	2,00

Financial Accounting: account movements

Stock account <hr/> (1) 200	GR/IR clearing acc. <hr/>	Accounts Payable <hr/>
---------------------------------------	-------------------------------------	----------------------------------

Figure 79: Moving Average Price (1): Starting Situation



Material master record: valuation data

	Transaction	Stock	Total value	Standard price	Moving av. price
(1)	Starting situation	100	200.00	2.00	2.00
(2)	GR for PO: 100 at 2.40	200	440.00	2.00	2.20

Financial Accounting: account movements

Stock account <hr/> (1) 200 (2) 240	GR/IR clearing acc. <hr/> 240 (2)	Vendor <hr/>
--	---	------------------------

Figure 80: 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 on the basis of the new stock value: $V \text{ price (for each base unit of measure)} = \text{total value} / \text{total stock}$.



Material master record: valuation data

	Transaction	Stock	Total value	Standard price	Moving av. price
(1)	Starting situation	100	200.00	2.00	2.00
(2)	GR for PO: 100 at 2.40	200	440.00	2.00	2.20
(3)	IR for PO: 100 at 2.20	200	420.00	2.00	2.10

Financial Accounting: account movements

Stock account		GR/IR clearing acc.		Vendor	
(1) 200	20 (3)	(3) 240	240 (2)		220 (3)
(2) 240					

Figure 81: Moving Average Price (3): Invoice Receipt

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 system posts the difference between the purchase order price and the invoice price to the stock account. It recalculates the stock value based on the invoice price.

The system redetermines the moving average price based on the changed stock value.

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

In-depth look at valuation procedures.

Discussion Questions

Use the following questions to engage the participants in the discussion. Feel free to use your own additional questions.

For which materials is it useful to value with standard price? For which materials is it useful to value with moving average price?



Lesson Summary

You should now be able to:

- Explain the significance of the valuation area
- Describe the function of the valuation class
- Explain material valuation with the moving average price
- Explain material valuation with the standard price

Lesson: Stock Types, Valuation, GR in Warehouse



Lesson Duration: 45 Minutes

Lesson Overview

This lesson covers the goods receipt of ordered goods into the warehouse and the effects that this goods receipt has on Inventory Management and Accounting. The material document and the accounting document are covered.

In addition, this lesson briefly covers the stock types unrestricted-use, quality inspection stock, blocked stock, and transfer postings.



Lesson Objectives

After completing this lesson, you will be able to:

- Display the stock overview
- List the stock types
- Enter a goods receipt in the quality inspection stock
- List the documents created during goods movements posting and explain their meaning
- Analyze the postings during goods receipt into the warehouse



Introduce the objectives and the business scenario. 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.

The stock overview is therefore introduced first, as you can use it to analyze the stock situation for a material. Secondly, the three stock types regarding goods receipt and transfer postings are covered. And then finally, the 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 then be released. You will use a concrete example to test this procedure and analyze the material valuation.

This lesson uses the process shown in the figure below, “Stock Material Procurement: Goods Receipt.” After material was requested from several vendors and then ordered from the most favorable vendor, the goods receipt is posted.

Some of the delivered goods are posted to the quality inspection stock. The checked quantity is later released with a transfer posting to the unrestricted-use stock.

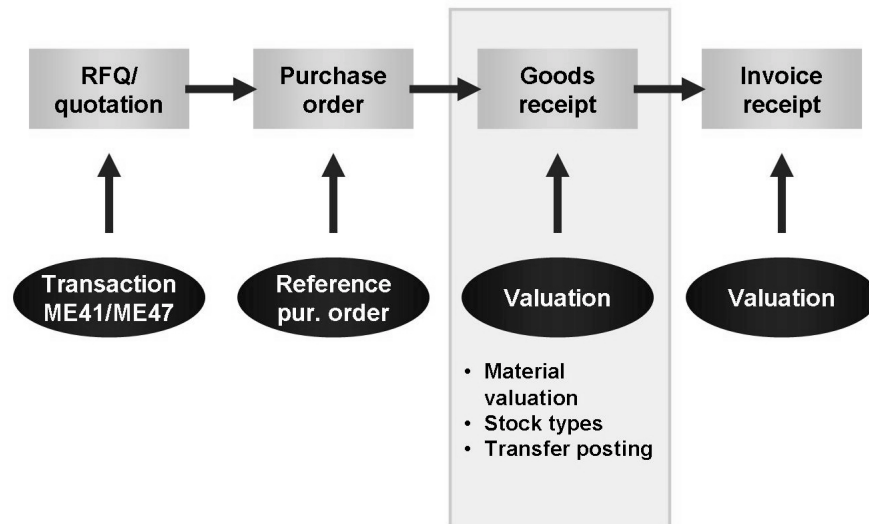


Figure 82: Stock Material Procurement: Goods Receipt

Stock Overview and Stock Types



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 Components. The way this functions is essentially the same however.

1. Choose *Logistics* → *Materials Management* → *Environment* → *Stock* → *Stock Overview (MMBE)*.
2. Enter material **M-01** and plant **1000** to **3000** and execute the selection.
3. Discuss the stock overview displayed and the navigation as follows:

- Which stocks are listed with different display versions



Caution: If necessary, point out to participants that only three stock columns were displayed on the monitor until SAP R/3 Enterprise and that you have to scroll with *Right Columns* or *Left Columns* ► and ◀ with Quick-Info to enable further columns to be displayed.

- Double-click on an organization level to display all stocks in one dialog box.
- *Choose Extras Display material.*
- Change the material without having to return to the selection screen.

To simplify daily work in Inventory Management, several functions and reports contain detailed information about all materials and their stock data.

The stock overview is an analysis that delivers information about the stock situation of an individual material. The material stocks are displayed in the stock overview for each individual organizational level. Quantities posted for a particular stock type are totaled for each organizational unit.

You can display the stock overview for batches/valuation type and special stocks (for example, consignment material), as well as for organizational units client, company code, plant, and storage location.

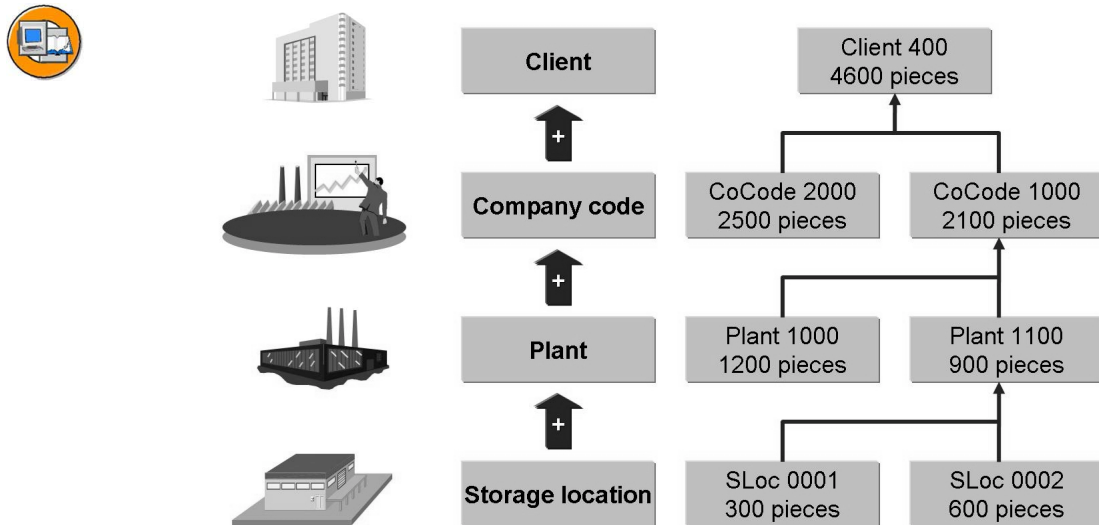


Figure 83: Stock Overview

To display the stock overview, choose between different display versions. These display versions 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.

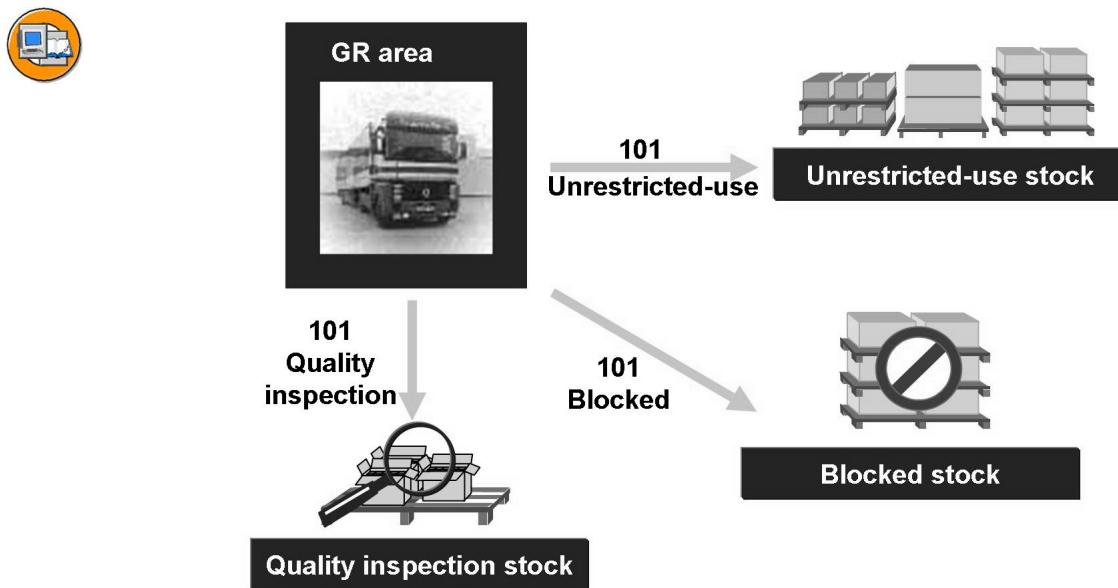


Figure 84: Valuated Goods Receipts

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 three stock types:

- Unrestricted-use stock (no usage restrictions)
- Quality inspection stock (available from an 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 valuated stock type “blocked stock” with the goods receipt blocked stock (otherwise known as GR blocked stock).

In the purchase order and material master, you can plan whether the material is to be posted to the quality inspection stock. When the goods are received, you decide the stock type to which the material is posted.

You always use movement type 101 to post goods receipts for a purchase order to valuated stock. You can enter a stock indicator – such as the movement type – at item level for the goods receipt, enabling you to differentiate between different stock types.

You can post withdrawals for consumption only from unrestricted-use stock. From quality inspection stock and blocked stock, you can withdraw only one sample, scrap a quantity, or post an inventory difference.

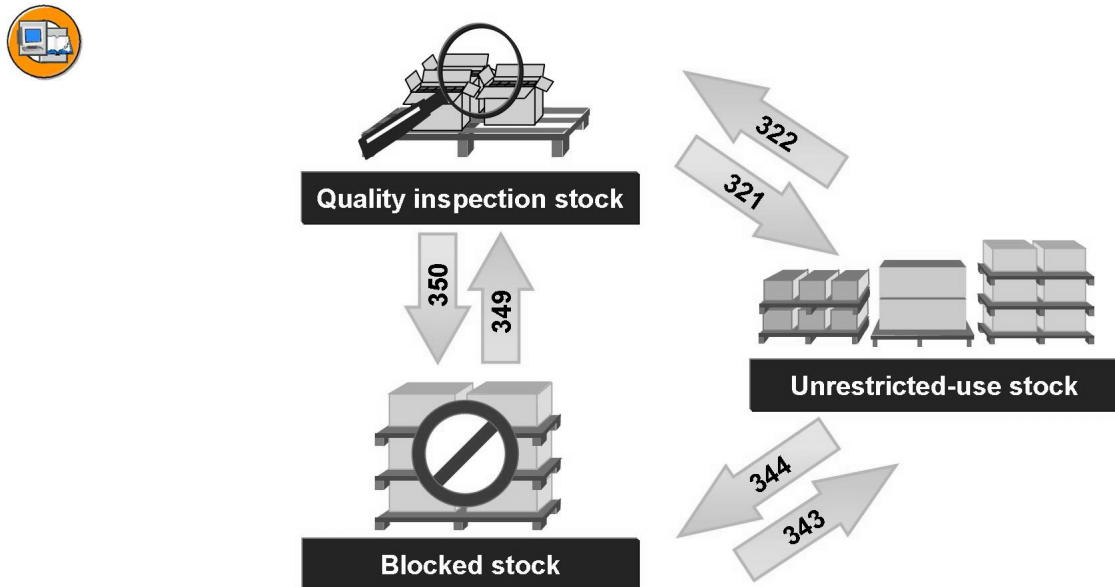


Figure 85: Transfer Postings

If you want to withdraw goods from blocked stock or quality inspection stock for consumption, you first have to carry out a transfer posting to unrestricted-use stock. You use the movement type to control the stock types involved in the transfer.

When you carry out a transfer posting, the stock type, batch number, or material number is changed. A transfer posting can also involve an actual physical stock transfer.

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 accounting documents only if a change in valuation is involved (for example, stock transfer from plant to plant).

Documents at Goods Receipt

The document principle also applies in IT-based Inventory Management. A document is the proof that a transaction involving stock changes has taken place. Documents are stored in the system. 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.

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 Financial Accounting.

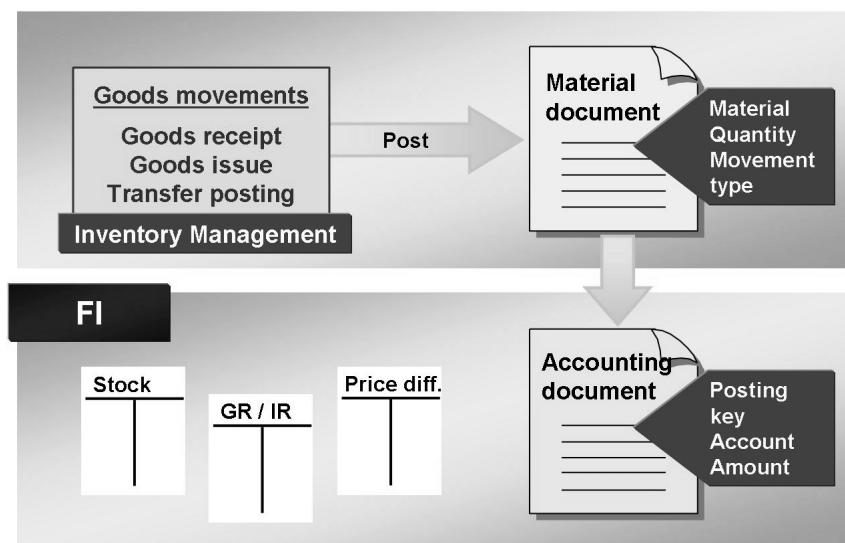


Figure 86: Documents for Goods Movements

As soon as a goods movement is posted, the quantities, material, movement type and organization level can no longer be changed. If you want to correct errors, you must create a new document. So that the postings of the incorrect document can be reversed, you must first cancel the incorrect document.

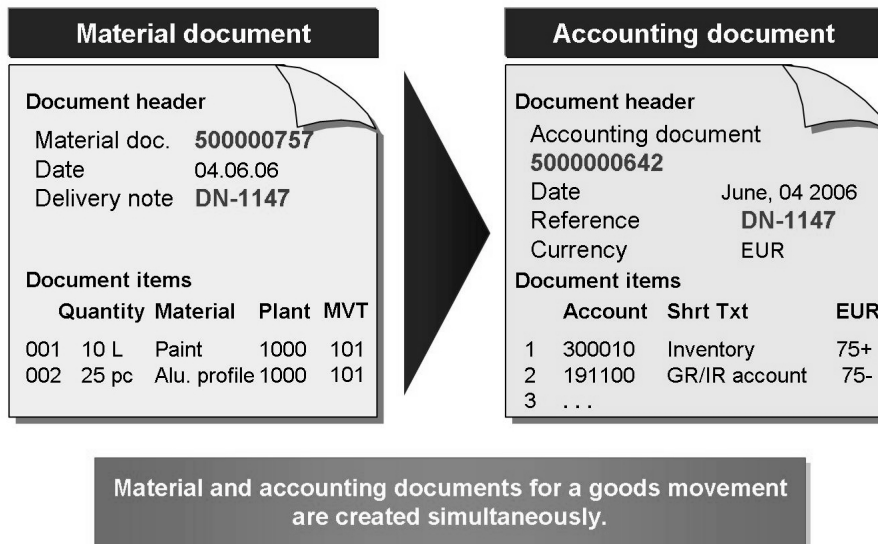


Figure 87: Material and Accounting Documents

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 system records the quantity of the material that is posted to a storage location of a plant at item level.

The accounting document records the effects of material movements on the accounts. The document header contains generally applicable data, such as the document date, posting date, posting period, and document currency. The G/L account numbers and the associated amount posted are recorded at item level.

The material and accounting documents are independent documents. You can identify the material document by the material document number and the material document year. The accounting document can be uniquely identified by the company code, the accounting document number, and the fiscal year. The company code in which the accounting document is posted is taken from the plant in which the goods movement takes place.

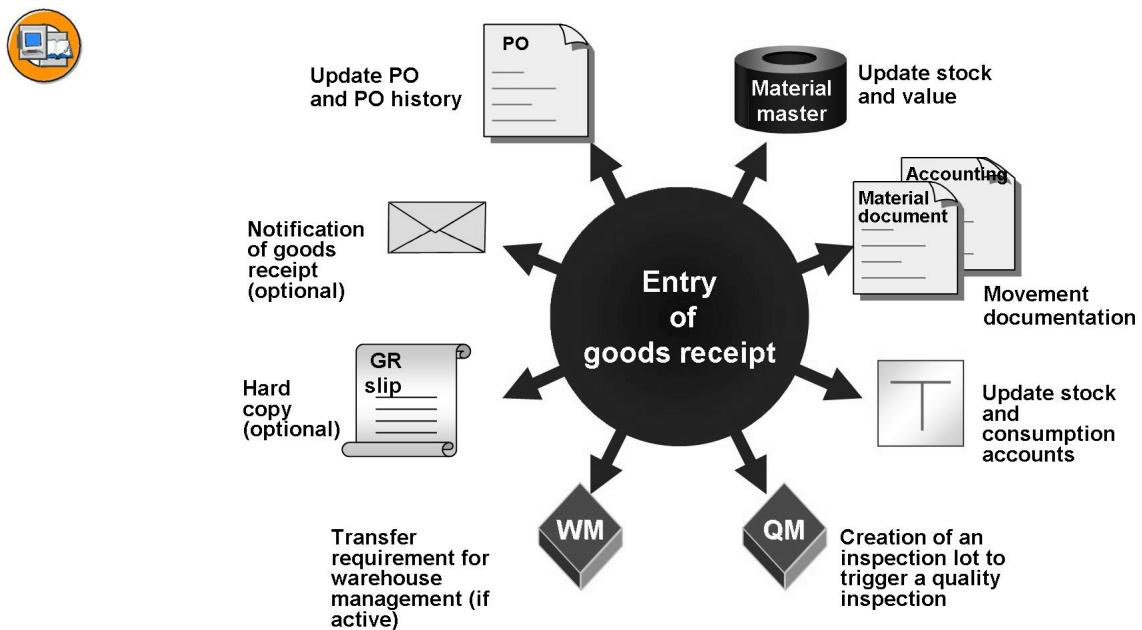


Figure 88: Effects of a Goods Receipt

The figure provides an overview of all the key effects of a goods receipt referencing a purchase order.



Demonstration: Goods Receipt for Moving Average Price and Standard Price Material

Purpose

Show the participants the FI postings for the goods receipt so they can see the differences between valuation using the moving average price and valuation using the standard price. You, the instructor, 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 “Material Valuation Basics” lesson.

End the demo with a simple example of entering a transfer posting with transaction MIGO.

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions:



Caution: A prerequisite for this demo is the performance of the demo from the “Create a Reference Purchase Order” lesson.

1. Give a demo according to the data from the exercise. Use the data with group number ## = 00
-



Exercise 10: Stocks, Valuation, and Goods Receipt

Exercise Duration: 45 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Work with the stock overview
- Interpret current stock and valuation data in the material master
- Explain the difference between standard price and moving average price in material valuation
- Outline the effects of the various valuation procedures on how accounts are updated in Financial Accounting

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 Financial Accounting and how the material valuation prices are updated.

System Data

System: Training System
Client: 8xx
User ID: SCM500-##
Password: The password set by the participant
CATT: ZT_SCM500
Set up instructions:



Caution: The exercise can only be completed if the exercise from lesson “Create Reference Purchase Order” has already been executed.

Task: Effects of a Goods Receipt

In the exercises 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 to make your notes.

Continued on next page

Table 1: Stock Overview T-M500B##

	Plant 1000 (Hamburg)			Plant 1200 (Dresden)		
	Unrestr.- use:	Quality inspec- tion	Open order qty	Unrestr.- use:	Quality inspec- tion	Open order qty
Task 1 (before GR)						
Task 9 (after GR)						
Task 11 (after trans.post.)						

Table 2: Accounting Data T-M500B##, Plant 1000

Price control:				
	Moving average price	Standard price	Total stock	Total value
Task 2 (before GR)				
Task 4 (after GR)				

Table 3: Accounting Data T-M500B##, Plant 1200

Price control:				
	Moving average price	Standard price	Total stock	Total value
Task 2 (before GR)				
Task 6 (after GR)				

1. Stock Overview

Continued on next page

Analyze the stock overview for the 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 views *Accounting 1* and *Plant stock* for material **T-M500B##** for plant **1000** and plant **1200**.

Compare the plant stock data with the data from exercise 1.

Use the data from the accounting view to fill **table 2** and **table 3** for the accounting data for plant 1000 and 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. Post the receipt in the unrestricted-use stock in storage location **0001**. Refer to the delivery note for other data that is required.

Ignore the goods receipt for plant 1200 (Dresden) for the time being.

Material document number: _____

Do not leave transaction MIGO when this task is finished.

Delivery note		Rasch Gr.##	
		Daimlerstraße 127	
		69134 Heidelberg	
IDES			
Hamburg Plant			
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 89: Delivery Note Number LS-B1##

4. **Display the material document.**

Continued on next page

Display the material document and accounting document for the goods receipt.

Which accounts are updated for which amount?

Item	account	Account short text	Amount
1			
2			

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.

Do not leave transaction MIGO when this 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. Post the receipt into the quality inspection stock in storage location **0001**. Refer to the delivery note for other data that is required.

Material document number: _____

Delivery note		Rasch Gr.## Daimlerstraße 127 69134 Heidelberg	
IDES Dresden Plant Pillnitzer Strasse 241 01069 Dresden		Delivery note no. Heidelberg.	LS-B2## [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 90: Delivery Note Number LS-B2##

6. Display the material document.

Display the material document and accounting document for the goods receipt.

Continued on next page

Which accounts are updated with which amounts?

Item	account	Account short text	Amount
1			
2			
3			

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 again at tables 2 and 3 and exercises 4 and 6. Why do both the accounting documents and the total value of material T-M500B## differ for each plant?

8. **Display the purchase order.**

Display the purchase order. Check whether the purchase order history was updated as expected 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**

Analyze the stock overview for the material **T-M500B##** in plants **1000** and **1200**. Make a note of the current stocks in **table 1**.

Display the material document for the last goods receipt again. Where in the material document does it tell you that goods were posted to stock in quality inspection? Where is this information derived from?

10. **Transfer material to unrestricted-use stock.**

Continued on next page

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 material document for transfer posting**

Display the material document.

Why is there no accounting document?

Check also whether the system has updated the stock overview correctly.
(You can also complete table 1 if you wish.)

Solution 10: Stocks, Valuation, and Goods Receipt

Task: Effects of a Goods Receipt

In the exercises 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 to make your notes.

Table 1: Stock Overview T-M500B##

	Plant 1000 (Hamburg)			Plant 1200 (Dresden)		
	Unrestr.- use:	Quality inspec- tion	Open order qty	Unrestr.- use:	Quality inspec- tion	Open order qty
Task 1 (before GR)	<u>0</u>	<u>0</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u>100</u>
Task 9 (after GR)	<u>100</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>100</u>	<u>0</u>
Task 11 (after trans.post.)	<u>100</u>	<u>0</u>	<u>0</u>	<u>100</u>	<u>0</u>	<u>0</u>

Table 2: Accounting Data T-M500B##, Plant 1000

Price control: V (moving average price)				
	Moving average price	Standard price	Total stock	Total value
Task 2 (before GR)	<u>80</u>	<u>0</u>	<u>0 pc</u>	<u>0</u>
Task 4 (after GR)	<u>72</u>	<u>0</u>	<u>100 pc</u>	<u>7200</u>

Continued on next page

Table 3: Accounting Data T-M500B##, Plant 1200

Price control: S (standard price)				
	Moving average price	Standard price	Total stock	Total value
Task 2 (before GR)	<u>0</u>	<u>80</u>	<u>0 pc</u>	<u>0</u>
Task 6 (after GR)	<u>72</u>	<u>80</u>	<u>100 pc</u>	<u>8000</u>


1. Stock Overview

Analyze the stock overview for the 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.

- Choose *Logistics* → *Materials Management* → *Environment* → *Stock* → *Stock Overview (MMBE)*.
- Enter the following data:

Material	T-M500B##
Plant	1000 to 1200
Display version	51 (version SCM510)

- Choose  with the quick info text *Execute*.
- To display further stocks in the stock overview, you can scroll to the right in the list or double click on the plant row.
- Note the unrestricted-use stock, the quality inspection stock, and the on-order stock in table 1, the line for task 1 (before GR).

2. Display material master record.

Display the views *Accounting 1* and *Plant stock* for material **T-M500B##** for plant **1000** and plant **1200**.

Compare the plant stock data with the data from exercise 1.

Continued on next page

Use the data from the accounting view to fill **table 2** and **table 3** for the accounting data for plant 1000 and plant 1200.

- a) To branch from the stock overview to the material master record, select the line for plant 1000.
- b) Then choose *Extras* → *Display material*.
- c) In the material master record, choose the *Accounting 1* tab 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 and compare the data with your entries for plant 1000 in table 1.
- e) Choose *Edit* → *Organizational levels*, enter plant **1200** in the dialog box, and confirm your entry with *Enter*.
- f) Compare the data on the *Plant stock* tab for plant 1200 with your entries in table 1.
- g) Choose the *Accounting 1* tab 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. Post the receipt in the unrestricted-use stock in storage location **0001**. Refer to the delivery note for other data that is required.

Ignore the goods receipt for plant 1200 (Dresden) for the time being.

Material document number: _____

Do not leave transaction MIGO when this task is finished.

Continued on next page



Delivery note		Rasch Gr.## Daimlerstraße 127 69134 Heidelberg	
IDES Hamburg Plant Altersdorferstr. 13 22299 Hamburg	Delivery note no. Heidelberg,	LS-B1## [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.##			

Continued on next page

Figure 91: Delivery Note Number LS-B1##

- a) Choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Receipt* → *For Purchase Order* → *PO Number Known (MIGO)*.
- b) Choose *Goods Receipt* and reference *Purchase Order*.
- c) Enter the purchase order number.



Hint: You can also search for the purchase order item. Choose *Find purchase order* and enter the vendor **T-K500B##**, material **T-M500B##** and plant **1000**, and choose *Find*.

- d) In the header data, choose the *General* tab and enter delivery note **LS-B1##**.
- e) In the item for plant 1000, enter storage location **0001** and set the **OK** indicator.



Hint: If you have opened the detail data for the item, you can then enter the data for this item only in the detail data area of the screen. The **OK** indicator is under the detail data tab and the storage location is on the *Where* tab.

- f) Choose *Post* and make a note of the material document number.
Do not exit transaction MIGO when this task is finished.

4. Display the material document.

Display the material document and accounting document for the goods receipt.






Which accounts are updated for which amount?

Item	account	Account short text	Amount
1	<u>300000</u>	<u>Raw materials 1</u>	<u>7200</u>
2	<u>191100</u>	<u>GR/IR clearing account external procurement</u>	<u>7200 (-)</u>

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.

Continued on next page

Do not leave transaction MIGO when this task is finished.

- a) Choose *Display* and reference *Material Document*.
- b) The default proposal is the number of the material document that you last edited. Choose  with the quick info text *Execute*.
- c) In the header data, choose the *Document info* tab and then  *Accounting documents* to branch to the accounting document.
- d) In the *List of documents in Accounting* dialog box, select the accounting document and choose  *Select*. Note the accounting document data in the table.
- e) Choose  *Back* to display the material document again.
- f) To branch to the material master record, double-click the material description in the item overview.
- g) Choose the *Accounting 1* tab, enter plant **1000** and note the moving average price, total stock, and total value in table 2 (accounting data T-M500B##, plant 1000).
- h) Choose  *Back* to display the material document again.

Do not exit transaction MIGO when this 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. Post the receipt into the quality inspection stock in storage location **0001**. Refer to the delivery note for other data that is required.

Material document number: _____

Continued on next page

Delivery note		Rasch Gr.##	
		Daimlerstraße 127	
		69134 Heidelberg	
IDES			
Dresden Plant			
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 92: Delivery Note Number LS-B2##

- Choose *Goods Receipt* and reference *Purchase Order*.
- Enter the PO number or double-click the document overview.



Hint: You can also search for the purchase order item. Choose *Search for PO* and enter the vendor **T-K500B##**, material **T-M500B##**, and plant **1200**. Then choose *Find*.

- In the header data, choose the *General* tab and enter delivery note **LS-B2##**.
- Enter storage location **0001** in the item and set the **OK** indicator.



Hint: If you have opened the detail data for the item, you can then enter the data for this item only in the detail data area of the screen. The *OK* indicator is under the detail data tab and the storage location is on the *Where* tab.

- Choose *Post* and make a note of the material document number.
Do not exit transaction MIGO when this task is finished.

6. **Display the material document.**






Continued on next page

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	<u>300010</u>	<u>Raw materials 2</u>	<u>8000</u>
2	<u>191100</u>	<u>GR/IR clearing account Ext.</u>	<u>7200 (-)</u>
3	<u>281000</u>	<u>Amount from price diff. ext.</u>	<u>800 (-)</u>

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* and reference *Material Document*.
- b) The default proposal is the number of the material document that you last edited. Choose  with the quick info text *Execute*.
- c) In the header data, choose the *Document info* tab and then  *Accounting documents* to branch to the accounting document.
- d) In the *List of documents in Accounting* dialog box, select the accounting document and choose  *Select*. Note the accounting document data in the table.
- e) Choose  *Back* to display the material document again.
- f) To branch to the material master record, double-click the material description in the item overview.
- g) Choose the *Accounting 1* tab, enter plant **1200** and note the standard price, total stock and total value in table 3 (accounting data T-M500B##, plant 1200).
- h) Choose  *Back* to display the material document again.

Continued on next page

7. **Compare posting results.**

Look again at tables 2 and 3 and exercises 4 and 6. Why do both 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*. The stock value therefore 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:

MAP = total value/total stock

In plant 1200, the material is valued using the *standard price*. The stock value therefore 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.**

Display the purchase order. Check whether the purchase order history was updated as expected 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) You can branch from the material document to the purchase order. Choose the *PO data* tab page in the item details.

b) To display the purchase order, double-click the PO number.

c) Choose the *PO history* tab page in the detail data of the PO item.

The PO history was correctly updated for both goods receipts. You will receive information about the transaction (GR) with the relevant material document, the quantity, and the value of the posting.

d) To recognize whether your purchase order was completed, choose the *Status* tab in the header data. The status for the purchase order reads *delivery complete*.

Continued on next page



9. Stock Overview

Analyze the stock overview for the material **T-M500B##** in plants **1000** and **1200**. Make a note of the current stocks in **table 1**.

Display the material document for the last goods receipt again. Where in the material document does it tell you that goods were posted to stock in quality inspection? Where is this information derived from?

- a) Choose *Logistics* → *Materials Management* → *Environment* → *Stock* → *Stock Overview (MMBE)*.
- b) Enter the following data:

Material	T-M500B##
Plant	1000 to 1200
Display version	51

- c) Choose  with the quick info text *Execute*.
- d) Note the unrestricted-use stock, the quality inspection stock, and the 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 transaction **Display** and reference **Material Document**.
- h) The default proposal is the number of the material document that you last edited. Choose  with the quick info text *Execute*.
- i) Choose the *Where* tab page in the item details. On this tab page, you will see the *Stock type* field with the entry **Quality inspection**. This value was copied from the purchase order.
- j) In the item details, choose the *PO data* tab and double-click the PO number.

Choose the *Delivery* tab page in the item details 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* indicator on the *Purchasing* tab. For material T-M500B##, the indicator is set only for plant 1200.

Continued on next page

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 transaction *Transfer posting* and reference *Other*.
- c) Enter movement type **321** and confirm your entries with *Enter*.
- d) On the *Transfer posting* tab, enter the following data:

Material	T-M500B##
Plant	1200
Storage location	0001
Entry quantity	100

Confirm your entries with *Enter*.

- e) Choose *Post* and make a note of the material document number.



11. **Display material document for transfer posting**

Display the material document.

Why is there no accounting document?

Continued on next page


Check also whether the system has updated the stock overview correctly. (You can also complete table 1 if you wish.)

- a) Choose transaction *Display* and reference *Material Document*.
- b) The default proposal is the number of the material document that you last edited. Choose  with the quick info text *Execute*.
- c) From the header data, choose the *Document info* tab and then  *Accounting documents*.

The system issues the message that “no follow-on documents were 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 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:

Material	T-M500B##
Plant	1000 to 1200
Display version	51

- f) Choose  with the quick info text *Execute*.
- g) Note the unrestricted-use stock, the quality inspection stock, and the on-order stock in table 1, line for task 11 (after transfer posting).



Lesson Summary

You should now be able to:

- Display the stock overview
- List the stock types
- Enter a goods receipt in the quality inspection stock
- List the documents created during goods movements posting and explain their meaning
- Analyze the postings during goods receipt into the warehouse

Lesson: Invoice Verification and Delivery Costs



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Lesson Duration: 45 Minutes

Lesson Overview

This lesson deals with delivery costs (incidental costs of procurement) in invoice verification. A distinction is made between planned and unplanned delivery costs.



Lesson Objectives

After completing this lesson, you will be able to:

- Enter an invoice with unplanned delivery costs in Logistics Invoice Verification
- Display the accounting document for an invoice
- Explain the postings in the invoice



Introduce the objectives and the business scenario. 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 an invoice is received by your enterprise, it is entered with reference to the relevant purchase order. This makes it possible for the materials, quantities, and prices shown in the invoice to be checked for accuracy. However, it can happen that unplanned delivery costs are incurred. As an employee in invoice verification you inform yourself about the the data entries for unplanned costs of this kind and the subsequent postings.

Documents at the Time of Invoice Receipt

In this lesson, it is assumed that the process shown in the figure “Procurement of Stock Material: Invoice Receipt” is used. After the receipt of the ordered material has been posted, you have to enter the invoice to conclude this process.

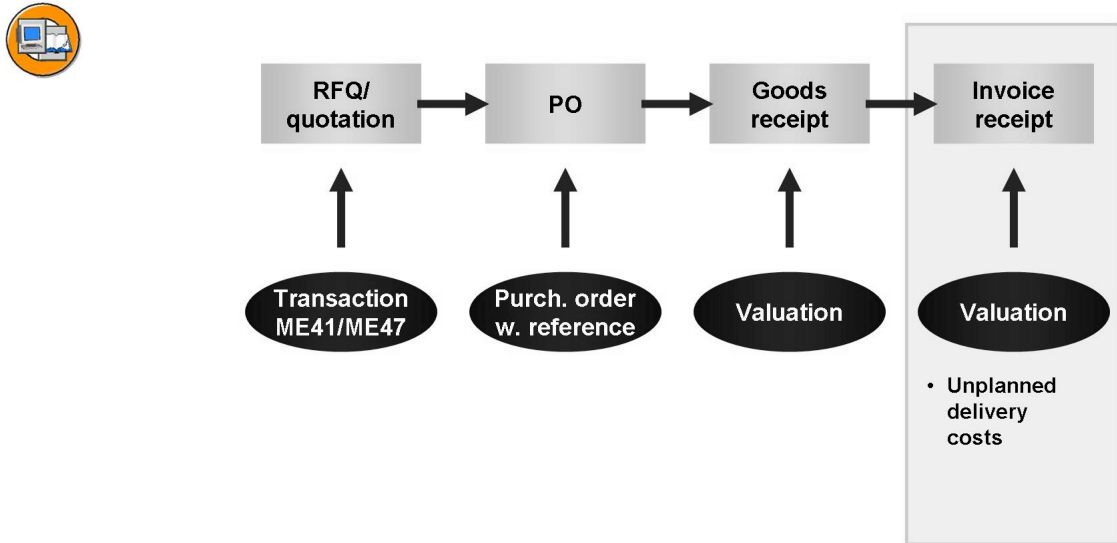


Figure 93: Procurement of Stock Material: Invoice Receipt



Discuss the documents generated when an invoice is posted: invoice document and accounting document. Show the analogy to the documents in inventory management.

When you enter an invoice using Logistics Invoice Verification, a separate accounting document (FI document) is generated in addition to the invoice document (MM document). In this way, when the invoice is posted, (1) payment information is forwarded to financial accounting and (2) various accounts are updated. The system automatically determines which amounts have to be posted to which accounts.



Note: However, the accounting document can also be processed further by distributed or external systems.

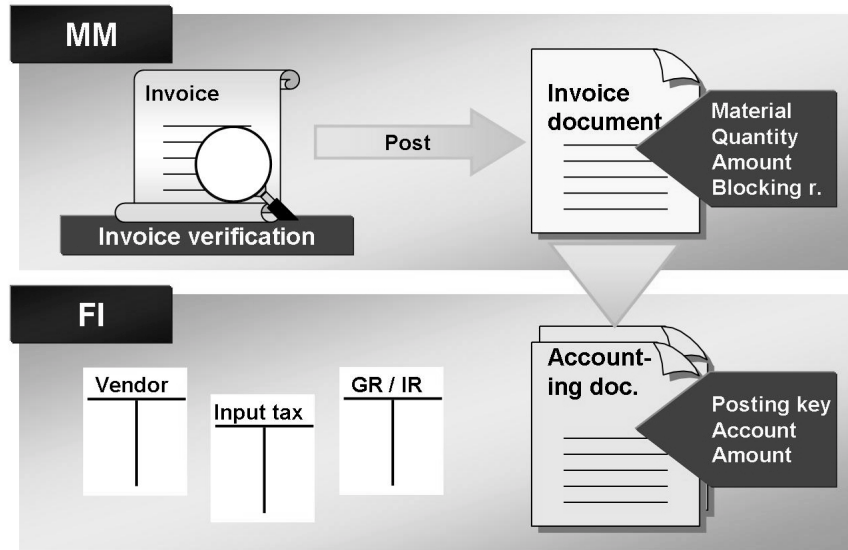


Figure 94: Documents in Invoice Verification

The invoice document consists of a document header and at least one item. The header data includes the creditor (invoicing party), the posting date, and the 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 generally applicable data such as the document date, the posting date, the posting period, and the document currency. The G/L account numbers and the associated amounts posted are recorded at item level.

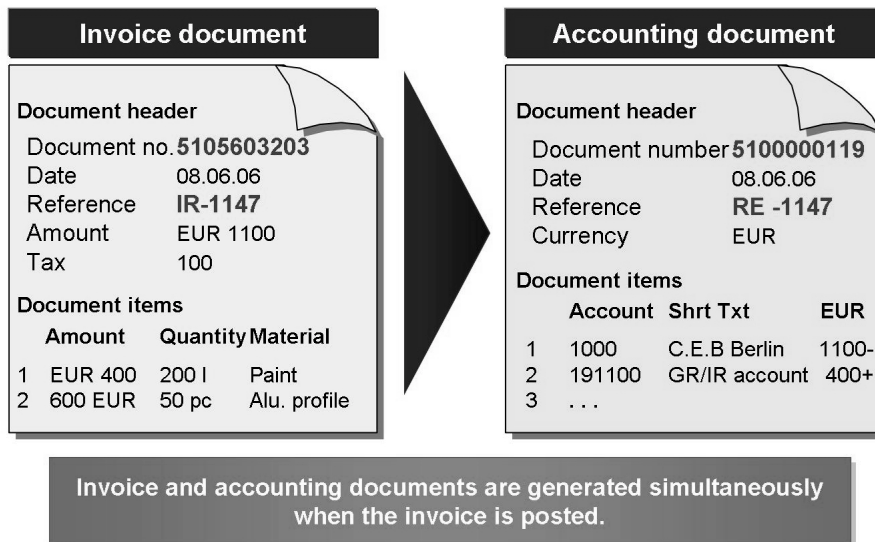


Figure 95: Invoice and Accounting Documents

The invoice and accounting documents are separate documents. You can identify the invoice document by the document number and the document year. The accounting document can be uniquely identified by the company code, the accounting document number, and the fiscal year. The person entering the invoice 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 specify that not only the number of the invoice document in materials management (MM), but also the number of the accounting document in financial accounting (FI) is to be shown in the status bar. You activate the display of MM and FI document numbers with the user parameter **IVFIDISPLAY** by entering the value **X** for the user.

Delivery Costs



Discuss the subject of delivery costs (incidental costs of procurement). Explain the difference between planned and unplanned delivery costs.

A distinction can be made between planned and unplanned delivery costs. Planned delivery costs can be broken down according to origin into freight and duty costs.

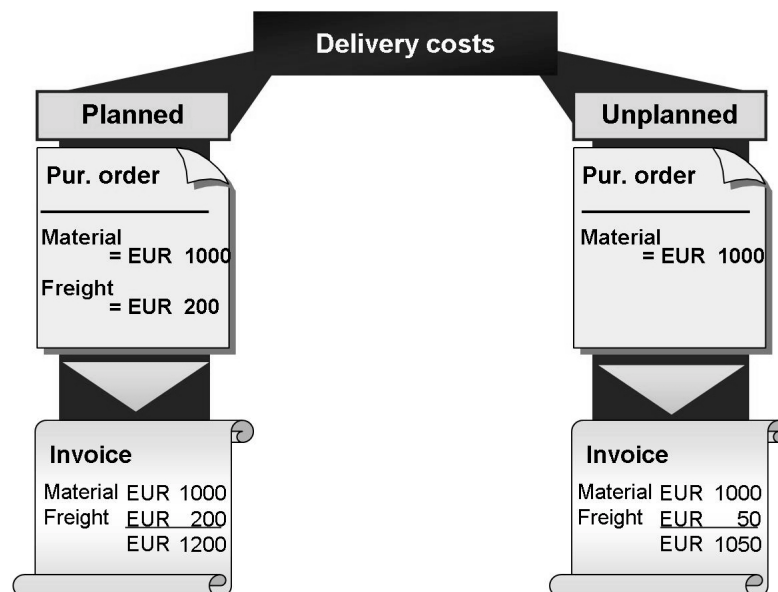


Figure 96: Delivery Costs

Planned delivery costs are agreed in advance with the vendor himself, a forwarder or carrier, or the customs office, and recorded using separate condition types when the purchase order is created. When the goods receipt is posted, postings are simultaneously made to special clearing accounts (such as the freight clearing account). These entries are then cleared when the incoming invoice is posted.

Unplanned delivery costs are costs that are not known at the time of ordering and are therefore not entered until the incoming invoice is posted. If necessary, the valuation carried out at the time of goods receipt is corrected.

The advantage of planned delivery costs is that they are included in the valuation of the material at the time of goods receipt (or, in the case of purchase orders with account assignment, can be charged to the account assignment object). The system only carries out the “subsequent debit” process at the time of invoice receipt if the delivery costs actually invoiced vary from those planned.

In the following, the postings for planned and unplanned delivery costs at the time of goods and invoice receipt are illustrated using simple examples. In both cases, the starting point is a purchase order for 100 pieces at 1.30 EUR/pc. In the first case, planned freight costs amounting to 20 EUR 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.

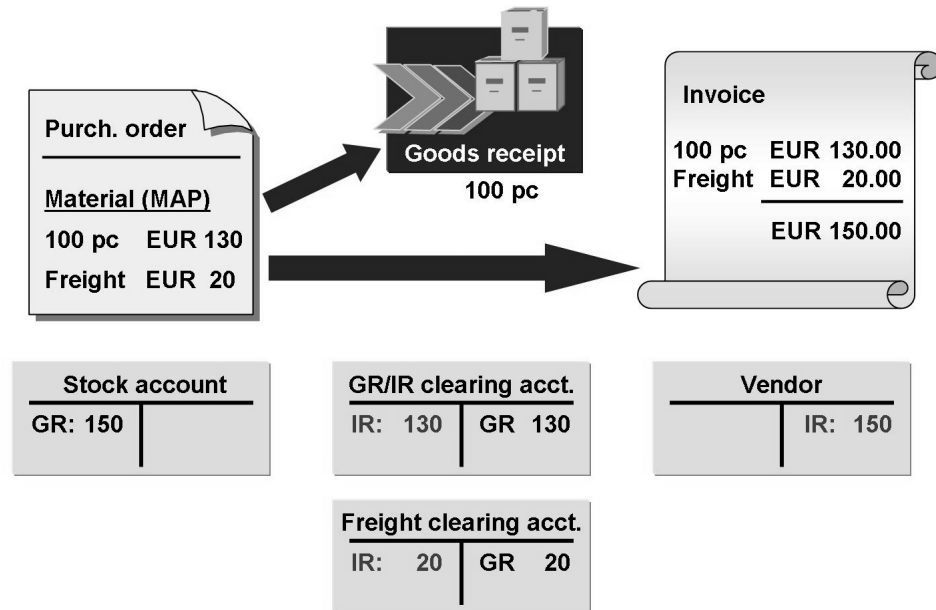


Figure 97: Account Movements in the Case of Planned Delivery Costs

Moving average price material:

When the goods receipt is posted, the stock is valued at total procurement cost (that is, 130 EUR plus 20 EUR freight). A posting of 150 EUR is thus made to the stock account. The offsetting entry is divided into 130 EUR to the GR/IR clearing account and 20 EUR to the freight clearing account.

The clearing accounts are cleared when the incoming invoice is posted. The offsetting entry for the entire invoice amount of 150 EUR is posted to the vendor (creditor) account.

Standard price material:

When the goods receipt is posted, the stock is valued with the product of quantity times standard price. Any differences vis à vis the total procurement cost of 150 EUR are posted to a price difference account. As in the case of the moving average price material, the offsetting entry is divided into 130 EUR to the GR/IR clearing account and 20 EUR to the freight clearing account.

The clearing accounts are cleared when the incoming invoice is posted. The offsetting entry for the entire invoice amount of 150 EUR is posted to the vendor (creditor) account.

Unplanned Delivery Costs



Explain the postings for a procurement process with unplanned delivery costs.

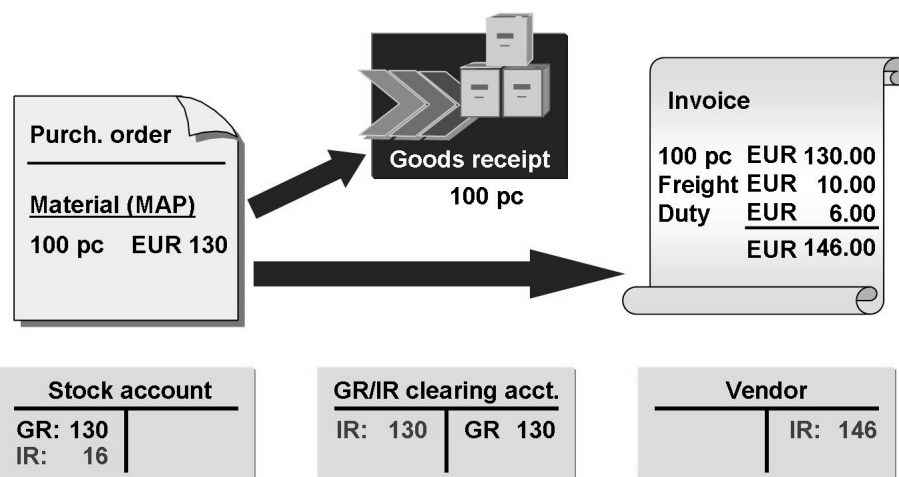


Figure 98: Account Movements in the Case of Unplanned Delivery Costs

Moving average price material:

When the goods receipt is posted, the stock is valued with 130 EUR. The offsetting entry is posted to the GR/IR clearing account.

When the incoming invoice is posted, the GR/IR clearing account is cleared at the order price. The resulting difference between order and invoice price of 16 EUR 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 redetermined.

If the stock quantity is less than the invoice quantity at the time of invoice entry, part of the difference is posted to an "Expenditure/Income from Price Differences" account instead of to the stock account.

The vendor (creditor) account is updated at the invoice price.

Standard price material:

When the goods receipt is posted, the stock is valued with the product of quantity times standard price. Any differences vis à vis the procurement cost of 130 EUR are posted to a price difference account. The offsetting entry for 130 EUR is posted to the GR/IR clearing account.

When the incoming invoice is posted, the GR/IR clearing account is cleared at the order price. The resulting difference between order and invoice price of 16 EUR due to the unplanned costs is posted to a price difference account.



Demonstration: Procurement Process with Planned Delivery Costs

Purpose

(Duration approx. 5-10 minutes)

Demo showing the entry of delivery costs in the purchase order and the resulting postings at the time of goods receipt. Entry/selection of planned delivery costs in invoice verification.



Hint: The example ties up with the values from the figure “Account Movements in the Case of Planned Delivery Costs”.

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions: None

1. Create a purchase order with delivery costs

Create a purchase order with the following data (transaction ME21N):

Field name	Field value
Vendor	T-K500A00
Purchasing organization	1000
Purchasing group	T00
Company code	1000
Material	T-M510Z01
Quantity	100

Field name	Field value
Price	1,30
Plant	1100
storage location	0001

Choose the *Conditions* tab page in the item details and enter an additional condition type **FRB1** (absolute freight amount) with a value of **20**.

Save your purchase order and make a note of the number.

2. **Enter goods receipt against 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 Invoice Against Purchase Order**

Enter an invoice with the following data:

Field name	Field value
Invoice date	<Today's date>
Amount	165
Tax amount	15
tax code	1I (10%)
Purchase order/scheduling agreement	<PO no. from step 1>

To select the unplanned delivery costs, choose *Goods/Service Items + Planned Delivery Costs* as the item type.

Simulate and discuss the postings. Finally, post your invoice.



Demonstration: Procurement Process with Unplanned Delivery Costs

Purpose

(Duration approx. 5-10 minutes)

Demo covering the entry of unplanned delivery costs in invoice verification and the resulting postings.



Hint: The example ties up with the values from the graphic “Account Movements in the Case of Unplanned Delivery Costs”.



Hint: As an alternative or additional demo, you can also show the exercise (group number ## = 00). A prerequisite for this demo is the prior performance of the demos from the “RFQ/Quotation Processing”, “Create Purchase Order with Reference” und “Stock Types, Valuation, GR into Warehouse” lessons.


System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions: None

1. Create a purchase order

Create a purchase order with the following data (transaction ME21N):

Field name	Field value
Vendor	T-K500A00
Purchasing organization	1000
Purchasing group	T00
Company code	1000
Material	T-M510Z01
Quantity	100
Price	1,30
Plant	1100
storage location	0001

Choose the *Conditions* tab page in the item details and **delete** the condition type **FRB1** (freight (value)). To delete the entry, select the relevant line and choose , with the quick-info text *Delete line*.

Save your purchase order and make a note of the number.

2. Enter goods receipt against 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 Invoice Against Purchase Order**

Enter an invoice with the following data:

Field name	Field value
Invoice date	<Today's date>
Amount	160,60
Tax amount	14,60
tax code	1I (10%)
Purchase order/scheduling agreement	<PO no. 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. Finally, post your invoice.



Note: Point out here 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 G/L account. In the training system, automatic distribution among the invoice items is active.



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Exercise 11: Invoice Verification with Unplanned Delivery Costs

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Enter invoices with unplanned delivery costs
- Explain the effects of unplanned delivery costs on the valuation of material stocks

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.

System Data

System: Training System
Client: 8xx
User ID: SCM500-##
Password: The password set by the participant
CATT: ZT_SCM500
Set up instructions:



Caution: The exercise can only be performed if the exercises from the lessons “RFQ/Quotation Processing”, “Create Purchase Order with Reference”, and “Stock Types, Valuation, GR into Warehouse” have already been completed.

Task: Invoice Verification with Unplanned Delivery Costs

Vendor Rasch Gr.## has sent you his invoice for the previous delivery of a total 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 against the purchase order for material **T-M500B##** issued to your vendor **T-K500B##**. Use the following data from the vendor's actual invoice.

Continued on next page

Invoice		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	7200 EUR
20	100 pc	T-M500B##	Universal Taillight-##, California	7200 EUR
			Plus freight charges	200 EUR
			Total net value:	14,600 EUR
			plus 10 % VAT	1,460 EUR
			Invoice amount	<u>16,060 EUR</u>
Subject to the agreed terms of payment.				
Kind regards, Rasch Gr.##				

Figure 99: 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	Acct/mat/asset/vend.	Amount
1			
2			
3			
4			
5			
6			

Answer the following question:

Which of the postings are generated as a result of the unplanned delivery costs?

Continued on next page

Finally, 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.

	Price control	Moving av. price	Standard price	Total stock	Total value
Plant 1000					
Plant 1200					

Are there any differences vis à vis the results from the goods receipt processing? If so, which and why?

3. **Display invoice document and purchase order history**

Display the invoice document and go from there to the purchase order history. Determine what influence the entry of the invoice with unplanned delivery costs had on the updating of the PO history.

Solution 11: Invoice Verification with Unplanned Delivery Costs

Task: Invoice Verification with Unplanned Delivery Costs

Vendor Rasch Gr.## has sent you his invoice for the previous delivery of a total 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 against the purchase order for material **T-M500B##** issued to your vendor **T-K500B##**. Use the following data from the vendor's actual 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	7200 EUR
20	100 pc	T-M500B##	Universal Taillight-##, California	7200 EUR
			Plus freight charges	200 EUR
			Total net value:	14,600 EUR
			plus 10 % VAT	1,460 EUR
			Invoice amount	<u>16,060 EUR</u>
Subject to the agreed terms of payment.				
Kind regards, Rasch Gr.##				

Figure 100: 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.

Continued on next page

Item	General ledger	Acct/mat/asset/vend.	Amount
1	<u>160000</u>	<u>Rasch Gr.##</u>	<u>16060 (-)</u>
2	<u>191100</u>	<u>GR/IR clearing (external)</u>	<u>7200</u>
3	<u>300000</u>	<u>Universal taillight ##</u> <u>(=stock account)</u>	<u>100</u>
4	<u>191100</u>	<u>GR/IR clearing (external)</u>	<u>7200</u>
5	<u>231000</u>	<u>Expend. from price diff.</u> <u>ext.</u>	<u>100</u>
6	<u>154000</u>	<u>Input tax</u>	<u>1460</u>

Answer the following question:

Which of the postings are generated as a result of the unplanned delivery costs?

Finally, 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:

Basic Data tab	
Invoice date	<Current date>
Reference	RE-B1##
Amount	16060
Tax amount	1460


- c) Choose the *Details* tab page and enter the freight costs:

Details tab page	
Unpl. Del. Csts	200


Continued on next page


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



Hint: If you want to search for the PO using the F4 help, enter the following selection values and then choose , with the quick info text *Execute*.


Field name	Field value
Vendor	T-K500B##
Material	T-M500B##

Select the purchase order in the results list and choose  *Adopt*.

- e) Choose  *Simulate* to simulate your postings. Make a note of the accounts and the 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, on the other hand, the material is valued at 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.

	Price control	Moving av. price	Standard price	Total stock	Total value
Plant 1000	MA price	73	0	100 pc	7300
Plant 1200	S price	73	80	100 pc	8000

Continued on next page

Are there any differences vis à vis the results from the goods receipt processing? If so, which and why?

- a) Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current (MM03)* .
- b) Enter material **T-M500B##** on the initial screen and choose , with the quick info text *Next*.
- c) Select the *Accounting I* view and choose , with the quick-info text *Continue*.
- d) Enter plant **1000** in the *Organizational Levels* dialog box and choose , with the quick info text *Continue*.
- e) Make a note of the price control, moving average price, standard price, total stock, and total value for plant 2,540.00 cm the table.

In comparison with the values from goods receipt processing, the total value - and thus also the moving average price - has been adjusted in plant 1000. (Increase in total value. See explanation for exercise 1.)



- f) Choose *Edit* → *Organizational levels*, enter plant **1200** in the dialog box, and confirm your entry with *Enter*.
- g) Make a note of the price control, moving average price, standard price, total stock, and total value for plant 1200 in the table.

The total stock, total value, and the standard price in plant 1200 remain unchanged.

3. Display invoice document and purchase order history

Continued on next page

Display the invoice document and go from there to the purchase order history. Determine what influence the entry of the invoice with unplanned delivery costs had on the updating of the PO 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 , with the quick info text *Enter*, or  *Display document* to display the invoice document.
- c) To branch to the purchase order, double-click on the PO number in the item overview.
- d) Choose the *PO history* tab page in the item detail data.

Due to the unplanned freight costs, there are variances in the purchase order history attributable to the invoice received amounting to 100 EUR per item.



Lesson Summary

You should now be able to:

- Enter an invoice with unplanned delivery costs in Logistics Invoice Verification
- Display the accounting document for an invoice
- Explain the postings in the invoice



Unit Summary

You should now be able to:

- Name documents and master data in which conditions are used
- Explain the difference between time-dependent and time-independent conditions
- Create several RFQs for an RFQ activity
- Enter the incoming quotations for your RFQs
- Execute a price comparison for your quotations
- Use the document overview in transaction ME21N
- Create a purchase order with reference to an RFQ
- List the organizational levels relevant for purchasing info records
- List the ways in which purchasing info records can be created
- Maintain a purchasing info record
- Explain the significance of the valuation area
- Describe the function of the valuation class
- Explain material valuation with the moving average price
- Explain material valuation with the standard price
- Display the stock overview
- List the stock types
- Enter a goods receipt in the quality inspection stock
- List the documents created during goods movements posting and explain their meaning
- Analyze the postings during goods receipt into the warehouse
- Enter an invoice with unplanned delivery costs in Logistics Invoice Verification
- Display the accounting document for an invoice
- Explain the postings in the invoice



Test Your Knowledge

1. In which of the following documents and master records can you enter conditions?

Choose the correct answer(s).

- A 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(s).

- A RFQ/quotation
- B Contract
- C Purchase order
- D Scheduling agreement

3. Which purchasing document(s) allow(s) only time-dependent conditions?

Choose the correct answer(s).

- A RFQ/quotation
- B Contract
- C Purchase order
- D Scheduling agreement

4. If you request quotations for materials from several _____, you must create a _____ RFQ document in the system for each vendor. To rationalize the relevant entry process, you _____ enter the data that is _____ in all documents (materials, quantities, dates, collective RFQs). Finally, you enter the _____.

Fill in the blanks to complete the sentence.

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 functions can you execute from or with the price comparison list?

Choose the correct answer(s).

- 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 Print rejection letters.
- E Save market prices.

7. List at least three documents to which you can refer when creating a purchase order.

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. Which of the following organizational levels are relevant for purchasing info records?

Choose the correct answer(s).

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

10. 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

11. If conditions are maintained in a purchasing info record, these conditions are always copied to the purchase order.
Determine whether this statement is true or false.
- True
 - False
12. If no valid conditions are defined in an info record, the system never suggests a price in the purchase order.
Determine whether this statement is true or false.
- True
 - False
13. At which level can the valuation area be determined?
Choose the correct answer(s).
- A Client
 - B Company code
 - C Purchasing organization
 - D Plant
 - E Storage location
14. You must determine the company code as the valuation area if you want to use one of the components *Production Planning* or *Product Cost Accounting*.
Determine whether this statement is true or false.
- True
 - False
15. Which of the following statements about the valuation class is/are correct?
Choose the correct answer(s).
- 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 movements 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 several materials in a stock account.

16. For a material that is valued according to the standard price (price control _____), all goods movements are valued with _____ price. This price must be specified in the _____. Variances from this standard price are posted to _____ accounts.
Fill in the blanks to complete the sentence.
17. In material valuation with the moving average price (price control _____), the system values goods receipts with the _____ and _____ with the current moving average price.
Fill in the blanks to complete the sentence.
18. 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
19. 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
20. In which master records and documents can the indicator or stock type quality inspection occur?
Choose the correct answer(s).
- A Material master record
 B Vendor master record
 C Purchasing info record
 D RFQ
 E PO
 F Material document
21. A _____ 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** _____ in addition to the material document.
Fill in the blanks to complete the sentence.

22. You can enter both _____ and _____ delivery costs in Logistics Invoice Verification. The _____ delivery costs are shown in a _____ line per condition type and item in the item overview. You enter the _____ delivery costs on the _____ tab page in the header data.

Fill in the blanks to complete the sentence.

23. You have replicated the following procurement process in the system:
Purchase order for stock material - goods receipt against purchase order - invoice receipt against purchase order, whereby the invoice includes delivery costs that are 100% unplanned.

Select all accounts to which postings could be made within the framework of invoice entry.

Choose the correct answer(s).

- 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 gain from price differences
- G Account for input tax



Answers

1. In which of the following documents and master records can you enter conditions?

Answer: B, D, E

When you create an RFQ, you cannot specify conditions. However, if the RFQ is a global percentage bid (RFQ type AB), you can also specify conditions in the RFQ. Global percentage bids are used for services.

A price is specified in the material master record, but this is the valuation price.

2. Which purchasing document(s) allow(s) only time-independent conditions?

Answer: C

Conditions in the purchase order are always time-independent. Conditions in contracts, however, are always time-dependent. For RFQs and scheduling agreements, you can control the time dependency with the document type.

3. Which purchasing document(s) allow(s) only time-dependent conditions?

Answer: B

Conditions in the purchase order are always time-independent. Conditions in contracts, however, are always time-dependent. For RFQs and scheduling agreements, you can control the time dependency with the document type.

4. If you request quotations for materials from several vendors, you must create a different 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, collective RFQs). Finally, you enter the vendor.

Answer: vendors, different, first, identical, vendor

5. The vendor quotation resulting from an RFQ is displayed as an independent document in the SAP system.

Answer: False

Enter the quotation data for an RFQ in the RFQ document.

6. Which functions can you execute from or with the price comparison list?

Answer: A, C, E

The price comparison list compares prices at item level, also for the overall quotation. From the price comparison lists, you can branch to the quotation to display or change it. You can also set the rejection indicator in the quotation items, therefore creating a rejection letter. A rejection can be printed immediately only if you have set this specifically for this message.

7. List at least three documents to which you can refer when creating a purchase order.

Answer: You can refer to another purchase order, a purchase requisition, an RFQ, or a contract.

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.

Answer: False

From the document overview, you can display or change purchase requisitions and purchase orders only with a double-click.

9. Which of the following organizational levels are relevant for purchasing info records?

Answer: A, C, E

10. Conditions can be defined in info records only if the info record was created manually.

Answer: False

Conditions can also be updated from a quotation in the info record. Set the Info update indicator in the quotation item.

11. If conditions are maintained in a purchasing info record, these conditions are always copied to the purchase order.

Answer: False

The system copies only valid conditions from the info record to the purchase order.

12. If no valid conditions are defined in an info record, the system never suggests a price in the purchase order.

Answer: False

If the reference to a last purchase order is defined in the info record, the system suggests the price from this purchase order.

13. At which level can the valuation area be determined?

Answer: B, D

The valuation level (= valuation area) can be either the company code or the plant.

14. You must determine the company code as the valuation area if you want to use one of the components *Production Planning* or *Product Cost Accounting*.

Answer: False

Valuation at plant level is mandatory if you want to use either the *Production Planning* or *Product Cost Accounting* components or if your system is a *mySAP Retail system*.

15. Which of the following statements about the valuation class is/are correct?

Answer: C, E

For A: The material type, not the valuation class, determines which valuation procedure can be selected.

For B: The valuation class is not linked to the permitted level for updating purchasing conditions.

For D: The material type determines which valuation classes you choose when creating a material master record.

16. 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.

Answer: “S”, the same, material master record, price difference

17. In material valuation with 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.

Answer: “V”, purchase order price, goods issues

18. You can use the stock overview to learn about the stock situation of several materials.

Answer: False

The stock overview allows only the selection of stocks for one material. If you want to evaluate the stock situation of several materials, you can use the evaluation of warehouse stock (transaction MB52).

19. You can use the stock overview to learn about the stock situation of one material in different plants.

Answer: True

In the stock overview, you can make selections from one or several plants.

20. In which master records and documents can the indicator or stock type quality inspection occur?

Answer: A, E, F

For A: In the material master record, the indicator is in the *Purchasing data*

For B and C: The indicator for quality inspection is not found in either the vendor master record or the info record.

For D: You cannot specify the stock type in the RFQ.

For E: In the purchase order, the stock type is in the item detail on the *Delivery* tab.

For F: The stock type is in the *Item overview* or in the item details on the *Where* tab.

21. 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.

Answer: material document, accounting document

22. You can enter both planned and unplanned delivery costs in Logistics Invoice Verification. The planned delivery costs are shown in a separate line per condition type and item in the item overview. You enter the unplanned delivery costs on the Details tab page in the header data.

Answer: planned, unplanned, planned, separate, unplanned, Details

23. You have replicated the following procurement process in the system: Purchase order for stock material - goods receipt against purchase order - invoice receipt against purchase order, whereby the invoice includes delivery costs that are 100% unplanned.

Select all accounts to which postings could be made within the framework of invoice entry.

Answer: A, B, D, F, G

Postings are made to the vendor and tax accounts and the GR/IR clearing account for external procurement in every case. The stock account is posted in the case of materials valued at the moving average price (provided that there is stock coverage). For material with standard price control (and moving average price material in the case of no stock coverage), a price difference account is posted. This is a price difference expense account, not a revenue account.

Unit 4



Procurement of Consumable Material



After the procurement process for stock material, we will now deal with the process of procuring consumable materials. In doing so, we will again cover new topics from each area (purchasing, inventory management, and invoice verification).

- **Purchasing:** Consumable material, account assignment category, purchase requisition, order acknowledgment.
- **Inventory management:** Difference between valuated and non-valuated goods receipts, valuation of goods receipt in the case of consumable material.
- **Invoice verification:** Consequences of valuated/unvaluated goods receipt in invoice verification.

In addition to a comprehensive procurement process for consumable material, this unit includes an introduction to the blanket ordering process. This unit then covers the item category and the way it is controlled in purchasing documents and during invoice verification.

Unit Overview

This unit centers on the procurement of materials for direct consumption. It contrasts the procurement process for stock material with that for consumable material. It also explains what is understood by consumable material in an SAP system.

In this scenario, procurement is triggered by an internal request - a purchase requisition. To be sure that the required materials can be delivered on the desired date, the vendor is asked to send an order acknowledgment. Attention then moves to the goods receipt and invoice verification processes, whereby the effects of a valuated against a non-valuated goods receipt are of primary interest.

In addition, you find out how you can cover recurring requirements for low-value consumables (known as C articles) with low process costs using a special purchase order handling process.



Unit Objectives

After completing this unit, you will be able to:

- List the differences between the procurement of consumable materials and that of stock materials
- Explain the significance of the account assignment category
- Use transaction ME51N for purchase requisitions
- Create a purchase requisition with items with single and multiple account assignments
- Request a material without a material master record
- Create a purchase order with reference to a purchase requisition with account assignment
- Enter an order acknowledgement for a purchase order
- Explain the difference between a valuated and non-valuated goods receipt
- Explain the postings resulting from a non-valuated goods receipt during invoice entry
- Explain the purpose of the item category in purchasing documents
- Explain the special aspects of procuring materials using a blanket purchase order
- Create a blanket purchase order
- Enter invoices with reference to a blanket purchase order with Logistics Invoice Verification

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Lesson: Consumable Material - Overview



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Lesson Duration: 30 Minutes

Lesson Overview

This lesson gives a brief overview of the procurement of consumable materials (consumables) and introduces the account assignment category necessary for this procurement process.



Lesson Objectives

After completing this lesson, you will be able to:

- List the differences between the procurement of consumable materials and that of stock materials
- Explain the significance 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.

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.

Consumable Material



Here you could ask participants which materials are procured directly for consumption in their companies. Explain that “consumable material” need not mean that the material is consumed (processed or destroyed) immediately.

In the SAP system, we talk about a “consumable material” if the material is not procured for stock. Such materials can 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 (assignment to an asset account).



Hint: A graphic is available to help introduce the term “consumable material”. However, this graphic is only available in the show; it is not printed in the handbooks.

In an SAP system, the term consumable material is understood to cover a material that is subject to a procurement transaction and whose value is recorded in the cost element or asset accounts. Consumable material is thus procured directly for an account assignment object. Examples of consumable materials are office supplies and computer systems or machines.

When a material is procured directly for consumption, no material master record is necessary. In connection with consumable materials, you can distinguish between the following cases:

- Consumable material without material master record
- Consumable material with material master record that is not subject to inventory management (on either a quantity or value basis)
- Consumable material with material master record that is subject to inventory management on a quantity, but not a value, basis

When procuring a consumable material without a material master record, you must, in contrast with a material with a master record, manually enter in the document a short description, a material group, and a purchase order unit because this data cannot be pulled from a master record.

In the case of materials with a 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 as consumable materials by default.

- non-valuated material (Material Type UNBW):
This type of material is managed on a quantity basis, but not on a value basis. This makes sense for materials of low value, stocks of which nevertheless have 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 value basis. For frequently required consumables, the use of this material type nevertheless enables you to store the information required to create purchasing documents (such as texts and units of measure).

Of course, you can procure stock material not only for stock (that is, to be placed in storage), but also directly for consumption. You may purchase trading goods for a particular customer (sales order), for instance.

You can thus enter an account assignment for each item of an external purchasing document or purchase requisition if it is destined 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 a material that is not subject to value-based inventory management is ordered and its value is posted directly to consumption (“purely” consumable material).
- If an article for which no material master record exists is ordered.
- If an external service is ordered.

Account Assignment Category



List some account assignment categories and name the account assignment object which must be specified depending on the account assignment category in question. Here you should also discuss account assignment category U (unknown).

If a material is to be procured as a consumable, you must specify an **account assignment category** and other account assignment data in the document item of the relevant requisition or external purchasing document.

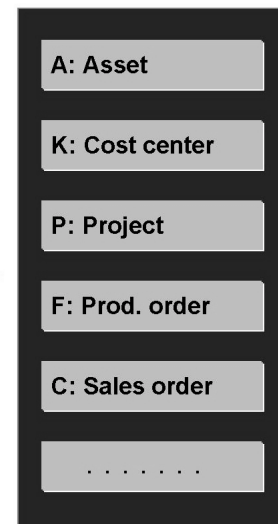
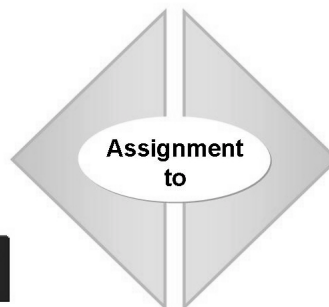


Figure 101: Account Assignment Objects

The account assignment category determines the category of account assignment object that is to be charged, which account assignment data you must provide, and which accounts are debited when the goods receipt or invoice is posted.

Example: account assignment object cost center (account assignment category K)

When you make an assignment to a cost center, you must enter the G/L account number of the consumption account and the cost center for which the material is to be procured on the account assignment data screen. You can specify in Customizing that the system automatically suggests the number of the G/L account to be charged.

Example: account assignment object asset (account assignment category A)

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*)

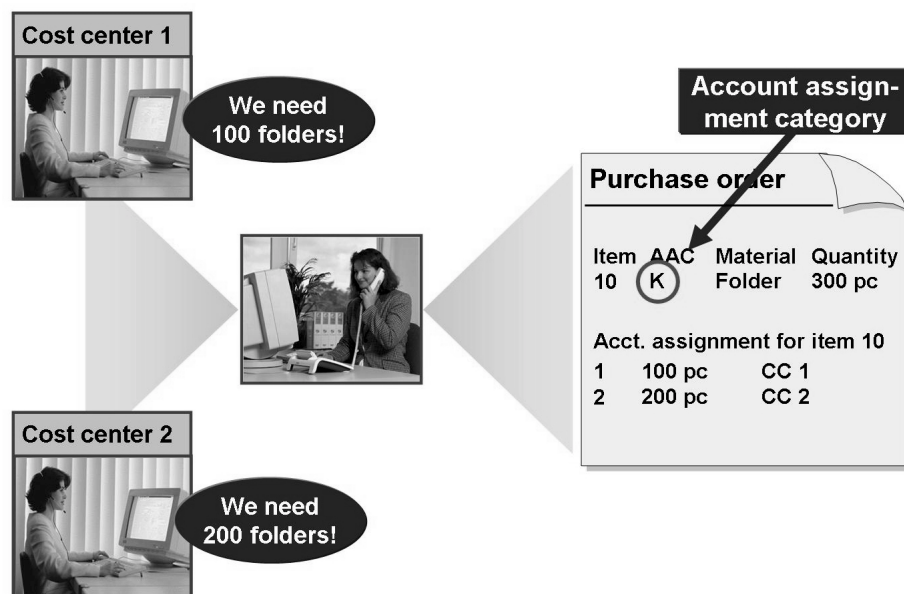


Figure 102: Purchase Orders with Account Assignment

You can specify one or more account assignments for an item. If you specify a multiple account assignment, you must also specify how the PO 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 *GR non-valuated* indicator is automatically set for this item.

In addition, you must specify in the item how the costs are to be distributed if only part of the ordered quantity is initially delivered and invoiced.

- The partial invoice amount can be distributed among the account assignment items of a PO item proportionally (in accordance with the distribution ratio).
- The partial invoice amount can be distributed among the account assignment items of a PO item on a progressive fill-up basis (step-by-step, one after the other). In this procedure, account assignment item 1 first receives its complete allocation, then account assignment item 2 and so on, until the invoice value is reached.



Note: The partial invoice indicator can also be derived automatically from the account assignment category if a partial invoice indicator is specified in Customizing for the account assignment category.

You cannot usually tell from an invoice whether it relates to a purchase order with account assignment. You can only tell this from the item list in Logistics Invoice Verification (*Account Assignment* column). 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 following graphic contrasts the procurement process for stock material with that for consumable material. The differences center on the “purchasing view” and the “relevant accounts”.

Start by reviewing the procurement process for stock material and then take a detailed look at the individual variants of consumable material procurement.

- Stock material that is procured on an account-assigned basis
- Consumable material without material master record
- Consumable material with material master record

In the “Procurement for Consumption” graphic, the procurement processes for stock and consumption material are shown with regard to account assignment.

A material master record is necessary for stock material. You do not specify an account assignment category in the purchase order. The account assignment data is determined from the material master record (valuation class). The stock value is posted to a stock account at the time of goods receipt. In consequence, the stock value and stock quantity are updated in the material master record.

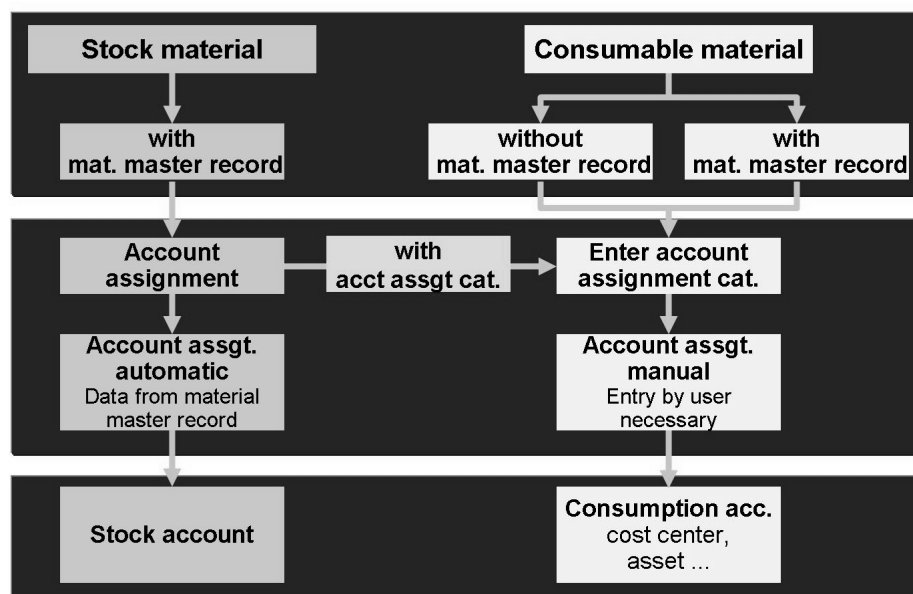


Figure 103: Procurement for Consumption

When you procure consumable material, the material can be a special consumable material with a master record or a material without a master record. However, you can also procure stock material for direct 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)). At the time of goods receipt and/or invoice receipt, the consumption account specified in the purchase order is then debited with the procurement value. In addition, data for the account assignment object is updated.

The following figure “Stock Material - Consumable Material: Comparison” lists the most important differences between the procurement of stock material and that of consumable material.



Summarize the most important differences between stock materials and consumables.



Stock material



- Necessary to enter material number
- No account assignment category
- GR mandatory
- Posting to stock accounts
- Quantity, value, and consumption updated in material master record
- Adjustment of moving average price

Consumable material



- Entry of material number not necessary but possible
- Account assignment category mandatory
- GR optional
- Posting to consumption accounts
- No value update; quantity and consumption update possible

Figure 104: Stock Material - Consumable Material: Comparison



Facilitated Discussion

A more detailed look at the subject of consumable material

Discussion Questions

Use the following questions to engage the participants in the discussion. Feel free to use your own additional questions.

Which materials are procured directly for consumption in your enterprise? Why might it make sense to create a material master record for pure consumable material?



Lesson Summary

You should now be able to:

- List the differences between the procurement of consumable materials and that of stock materials
- Explain the significance of the account assignment category

Lesson: Purchase requisition



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Lesson Duration: 45 Minutes

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 consumption material with and without a material master record.



Lesson Objectives

After completing this lesson, you will be able to:

- Use transaction ME51N for purchase requisitions
- Create a purchase requisition with items with single and multiple account assignments
- Request a material without a material master record



Introduce the objectives and the business scenario. 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

In your plant maintenance department, you must have sensors and a particular testing instrument. Because this testing instrument is required for only one time, you do not want to create a material master record for it. Now you want to test the use of a purchasing requisition to process the internal requisition of these materials directly for your cost center.

Purchase Requisition in Procurement



Briefly repeat the planned procurement process. Then skip to the topic of purchase requisition. Discuss the departments from which and the ways in which the purchase requisitions enter the system.

In procurement, the internal requisition for materials or services triggers a procurement process.

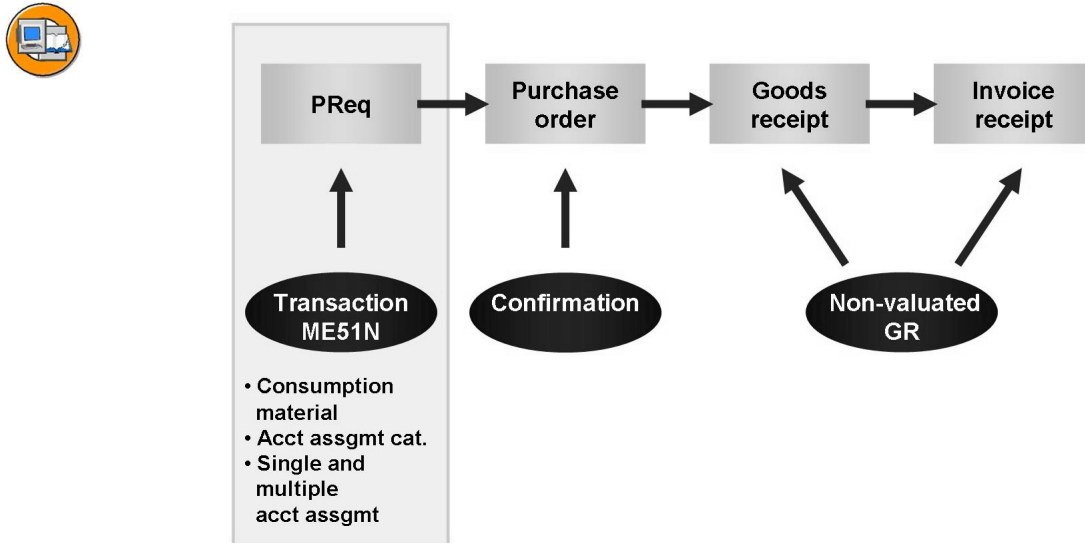


Figure 105: Consumption Material Procurement: PReq

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. A purchase requisition can be created directly or indirectly.

“Direct” means that a purchase requisition is created **manually** in the department that made the request. Whoever creates the purchase requisition determines which material or service is ordered, and the quantity and date.

“Indirect” means that that purchase requisition from another SAP component is created **automatically**. Purchase requisitions can be created automatically, as follows:

- in MRP
- with maintenance orders
- with production orders
- with networks

Purchase requisitions can also come from *SAP Supply Chain Management (SAP SCM)* or *SAP Enterprise Buyer*.

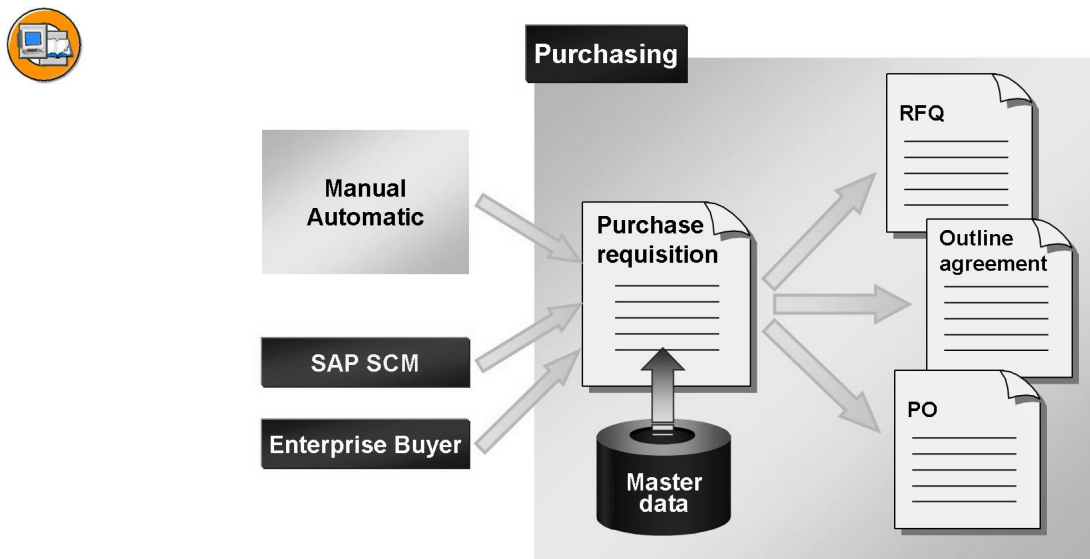


Figure 106: Purchase Requisitions

When you create a purchase requisition for materials that have a material master record, the system transfers data in the material master record to the purchase requisition.



Hint: The integration of Web-based catalogs has also been possible since mySAP ERP 2005. This means the item data of a PReq can also be copied from a catalog. For more information, see the SAP documentation under *SAP ERP Central Component → Logistics → Materials Management (MM) → Purchasing (MM-PUR) → Other Functions → Integrating Web-Based Catalogs in Purchasing*.

You can convert purchase requisitions into RFQs, purchase orders or outline agreements.

Creating a Purchase Requisition



Discuss the structure of the purchase requisition. Highlight common features and differences between a purchase requisition and a purchase order, such as the following:

- Missing a “proper” document header in the purchase requisition
- Specifying the vendor at item level of the purchase requisition is possible, but not compulsory
- Document overview in transactions ME21N and ME51N

The purchase requisition transactions are available as of 4.6C as single-screen transactions.

In the transactions for creating, changing or displaying a purchase requisition (ME51N, ME52N, ME53N), there are single-screen transactions, just as in the purchase order. The division into different screen areas (header data, item overview, item details, document overview) and the operation correspond with the purchase order transaction.

The header data in the purchase requisition now consists only of an *internal header memo*.

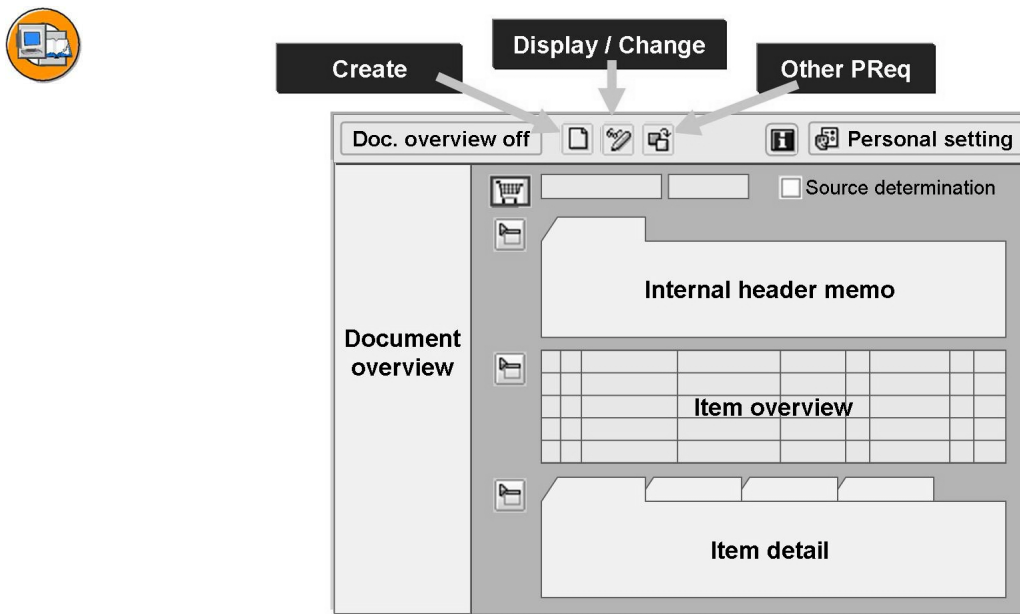


Figure 107: Purchase Requisition with ME51N, ME52N, ME53N

Entering the Account Assignment



Explain simple and multiple account assignment entry. For multiple account assignments, explain the *Distribution* and *Partial invoice* indicators.



Hint: If some of the participants are still using 4.6, mention that the *Partial invoice* indicator in 4.6 automatically proposes the value *Apportion IR quantities to GR quantities proportionally*. The indicator does not appear on the *Account assignment* tab.

If you want to request materials or services directly for an account assignment object, for example, for your cost center or for an asset, you must specify in the item overview the corresponding account assignment category. This means that you have to enter additional account assignment data in the item detail on the *Account assignment* tab.

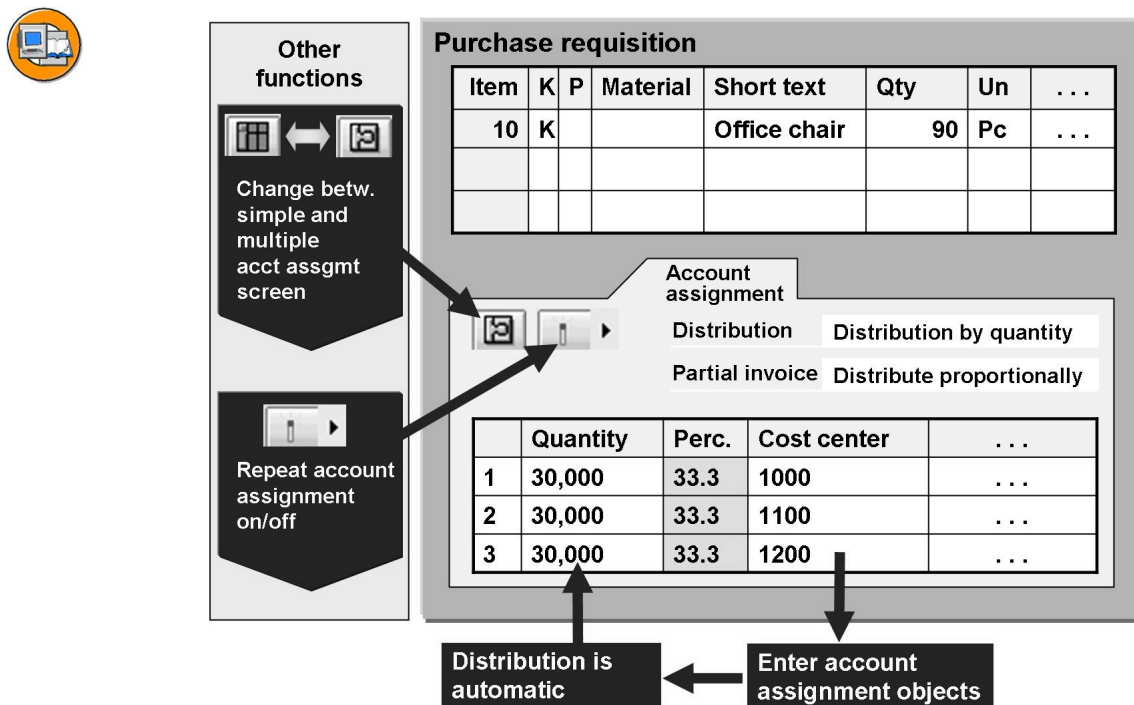


Figure 108: Single or Multiple Account Assignment

If you have the single account assignment screen displayed on the *Account assignment* tab, you can use *Multiple account assignment* to switch to the multiple account assignment screen. On the multiple account assignment screen, 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 assignment, you can distribute the costs for 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).

If there are partial invoices, you can choose whether

- the partial invoice amount is distributed proportionally to the account assignment items.
- the partial invoice amount is distributed to the account assignment items one after the other.



Note: The partial invoice indicator can also be derived automatically from the account assignment category if a partial invoice indicator is specified in Customizing for the account assignment category.



Note: For items with multiple account assignments, the system automatically sets the *GR non-valuated* indicator.

If you want to distribute the quantity in a purchase requisition item with account assignment to the different account assignment items, you just need to enter the account assignments, but not the subquantities. 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, 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.

Example of an automatic account assignment distribution: You have requested 90 office chairs and assigned them equally to three cost centers. However, because you require 120 office chairs, you change the requested quantity in the item overview. The system then automatically changes the distribution so that 40 office chairs are assigned to each cost center.



Hint: The icons mentioned above are in the purchase order for 4.6C and later releases. With a multiple account assignment, however, you cannot automatically distribute the quantity in the purchase order.

Features of the Purchase Requisition



Discuss the most important features of the purchase requisition: account assignment category unknown is allowed; valuation price (explain that the valuation price is not generally the same as the order price)

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 *U (unknown)* in the purchase requisition. Then you do not need to enter any more account assignment details. If you create a purchase order with reference to this purchase requisition, you must specify precise account assignment information because account assignment category *Unknown* is not allowed in the purchase orders.



Hint: Account assignment category *U* is allowed in purchase orders for external services and blanket purchase orders.

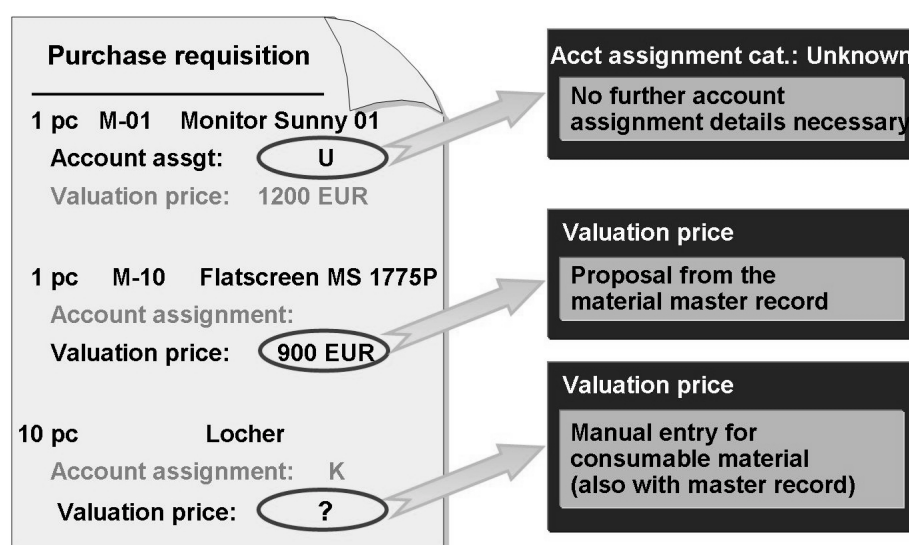


Figure 109: Features of Purchase Requisition

Valuation price:

When you create a purchase requisition item for valuated material, the valuation price is pulled from the material master record. For non-valuated material or material without a master record, the creator must manually enter the valuation price. This valuation price can be used 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 purchase requisition has been released.



Hint: You can also dispense with the manual entry of a valuation price and use the missing valuation price as a criterion for your release strategy.

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 110: Processing Status and Creation Indicator

If you want to trace whether 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 provides information about whether the item has been ordered, not ordered or requested, or whether the item has been converted into an outline agreement. The **Status** tab lists the purchase order history of referenced purchasing documents (created with reference to this purchase requisition item). You can obtain information about previously posted goods receipts and invoices.

For you as a buyer, it might be interesting to see how the purchase requisition was created in the system, manually or automatically (for example, through materials planning). In the item detail on the **Contact person** tab, the **creation indicator** can provide information.



Demonstration: Create Purchase Requisition with Account Assignment

Purpose

(Duration approx. 20 minutes)


Introduction of transaction ME51N and account assignment entry.

CATT: ZT_SCM500

System Data

System:	Training System
Client:	8xx
User ID:	Own or SCM500-00
Password:	Ask the instructor
Set up instructions:	None

1. Give a demo of the task in the exercise. Use the data with group number ## = 00.
 2. 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.
 3. Optional: Enter a purchase requisition with multiple account assignment with a percentage distribution. You could request **one** copy, with the costs distributed 40%/60% between two cost centers.
-



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Exercise 12: Purchase Requisition Processing

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create and process purchase requisitions for consumable material
- Analyze the current processing status of the purchase requisitions

Business Example

You work in internal Plant Maintenance and report material requirements to the Purchasing department via purchase requisitions. Purchasing processes your purchase requisitions and initiates the steps required.

System Data

System:	Training System
Client:	8xx
User ID:	SCM500-##
Password:	The password set by the participant
CATT:	ZT_SCM500
Set up instructions:	None

Task: Processing Purchase Requisitions

In plant maintenance, you need sensors and a particular testing instrument. You have already maintained a material master record for the sensors because you use them regularly. You have not created a material master record for the testing instrument. Both materials are to be procured directly for cost centers.

1. Maintain personal settings.

Before you create the purchase requisition, maintain your individual default values. This data is then proposed for each item. Define the following values:

Account assignment cat.	Cost center (K)
Delivery date:	Today + 7 days
Plant:	1000
Requisitioner:	IH##
Req. tracking no:	GR##

Continued on next page



2. Create a purchase requisition.

Create a purchase requisition for a **testing instrument ##** and **5 pieces** of material **T-M500C##**, **sensor ##**. When entering the items, note the following information:

Testing instrument:

For this item, enter the description **Testing instrument ##** in the field for the material short text. Complete the material group **Miscellaneous (00107)** and the purchasing group **T## (SCM500-##)**.

In the item details, you enter the cost center **4100** and the valuation price of **520 EUR**.



Hint: You can define release procedures for purchase requisitions. These release procedures can be based on item value, among other things. The item value is the product of the requested quantity and the valuation price of the material. For a material with a master record, the valuation price is transferred from the master record. You must specify a valuation price for materials that do not have a master record manually.

Sensors:


For this item, you must enter only the material number **T-M500C##**, the quantity, and the account assignment. The system proposes the remaining data from the material master record.

The five sensors are to be procured for two different cost centers; you have to use **multiple account assignment** with the following distribution according to quantity:

3 pieces for cost center 4100 and 2 pieces for cost center 4110.

For partial invoices, the distribution is to be proportional.



Hint: On the *Account assignment* tab, choose  *Multiple account assignment* to switch from the single account assignment screen to the multiple account assignment screen.

Save your purchase requisition immediately after entering all the data.

Purchase requisition number: _____

3. Display purchase requisitions for a requirement tracking number

Continued on next page

Display a list of the purchase requisitions for your requirement tracking number.



Hint: Use the general list display for purchase requisitions
(*Purchasing* → *Purchase Requisition* → *List Displays* → *General*).

Select and display your purchase requisition.

What is the processing status of the purchase requisition items?

Status of item 10: _____

Status of item 20: _____

Return to the list. This also shows the processing status of each requisition item.

Solution 12: Purchase Requisition Processing

Task: Processing Purchase Requisitions

In plant maintenance, you need sensors and a particular testing instrument. You have already maintained a material master record for the sensors because you use them regularly. You have not created a material master record for the testing instrument. Both materials are to be procured directly for cost centers.

1. Maintain personal settings.

Before you create the purchase requisition, maintain your individual default values. This data is then proposed for each item. Define the following values:



Account assignment cat.	Cost center (K)
Delivery date:	Today + 7 days
Plant:	1000
Requisitioner:	IH##
Req. tracking no:	GR##

a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Requisition* → *Create (ME51N)*.


b) Choose  *Personal settings*.

c) Choose the *Default values* tab page.

d) Choose *More fields ...* to add the plant to the default values.

In the *Change layout* dialog box, select *plant* from the *Hidden fields* list and choose  *Show selected fields*. Choose  *Copy*.

e) Enter the default values listed above.

f) Choose  *Save* to save your personal default values. These default values are used in the purchase requisition until you change them again.

2. Create a purchase requisition.

Create a purchase requisition for a **testing instrument ##** and **5 pieces** of material T-M500C##, **sensor ##**. When entering the items, note the following information:

Testing instrument:

Continued on next page

For this item, enter the description **Testing instrument ##** in the field for the material short text. Complete the material group **Miscellaneous** (00107) and the purchasing group **T##** (SCM500-##).

In the item details, you enter the cost center **4100** and the valuation price of **520 EUR**.



Hint: You can define release procedures for purchase requisitions. These release procedures can be based on item value, among other things. The item value is the product of the requested quantity and the valuation price of the material. For a material with a master record, the valuation price is transferred from the master record. You must specify a valuation price for materials that do not have a master record manually.

Sensors:


For this item, you must enter only the material number **T-M500C##**, the quantity, and the account assignment. The system proposes the remaining data from the material master record.

The five sensors are to be procured for two different cost centers; you have to use **multiple account assignment** with the following distribution according to quantity:

3 pieces for cost center 4100 and 2 pieces for cost center 4110.

For partial invoices, the distribution is to be proportional.



Hint: On the *Account assignment* tab, choose  *Multiple account assignment* to switch from the single account assignment screen to the multiple account assignment screen.

Save your purchase requisition immediately after entering all the data.

Continued on next page

Purchase requisition number: _____


- a) Enter the following data for the first item:

Item overview, item 10	
Short text	Testing instrument ##
Quantity/Un	1 pc
Material group	00107 (Miscellaneous)
Purchasing group	T##
Account assignment tab	
Cost center	4100
Valuation tab	
Valuation price	520

- b) Enter the following data for the second item in the item overview:


Item overview, item 20	
Material	T-M500C##
Quantity	5

Confirm your entries with *Enter*.

- c) To enter the account assignment data for the second item, choose  *Multiple account assignment* from the *Account assignment* tab page.

Then enter the following data:

Quantity	Cost center
3	4100
2	4110

- d) Choose  *Save* and note the purchase requisition number.

3. Display purchase requisitions for a requirement tracking number

Continued on next page

Display a list of the purchase requisitions for your requirement tracking number.



Hint: Use the general list display for purchase requisitions
(*Purchasing* → *Purchase Requisition* → *List Displays* → *General*).



Select and display your purchase requisition.

What is the processing status of the purchase requisition items?

Status of item 10: _____

Status of item 20: _____

Return to the list. This also shows the processing status of each requisition item.

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Requisition* → *List Displays ? General (ME5A)*
- b) Enter the requirement tracking number **GR##** 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 details.
Both items have the status *Not processed*.
- e) Choose  *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 processed*.



Lesson Summary

You should now be able to:

- Use transaction ME51N for purchase requisitions
- Create a purchase requisition with items with single and multiple account assignments
- Request a material without a material master record

Lesson: Purchase Order and Order Acknowledgement



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Lesson Duration: 45 Minutes

Lesson Overview

The main topic of this lesson is the conversion of purchase requisitions into purchase orders. The lesson also introduces the confirmation categories that can be used for purchase orders. You will also learn how to enter an order acknowledgement for a purchase order item.



Lesson Objectives

After completing this lesson, you will be able to:

- Create a purchase order with reference to a purchase requisition with account assignment
- Enter an order acknowledgement for a purchase order



Introduce the objectives and the business scenario. 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 by the purchasing department into concrete procurement proposals or purchase orders. Some of these purchase orders are confirmed by their vendors.

Convert a Purchase Requisition into a Purchase Order

You must convert one of the purchase requisitions created by the user department into a purchasing document in Purchasing. The purchasing document can be a purchase order, a contract release order, a scheduling agreement schedule line, or even an RFQ. The following demonstrates conversion of a purchase requisition into a purchase order.

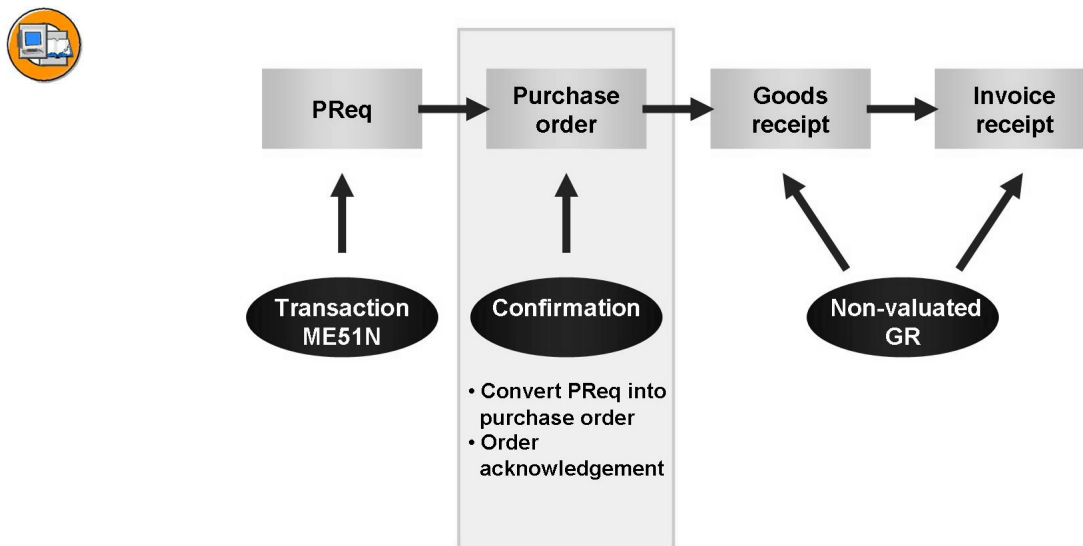


Figure 111: Consumable Material Procurement: Purchase Order



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 does not yet enable the conversion of a purchase requisition into a purchase order. There must be a price determined in the system for the vendors and the material. A source of supply does not just mean a vendor, but always a combination of vendor/material/price.

You can select from a range of options when converting a purchase requisition.

Before the actual conversion of a purchase requisition item, you can assign a source of supply (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 sources 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* header. To determine the source of supply, use the automatic supply source determination.

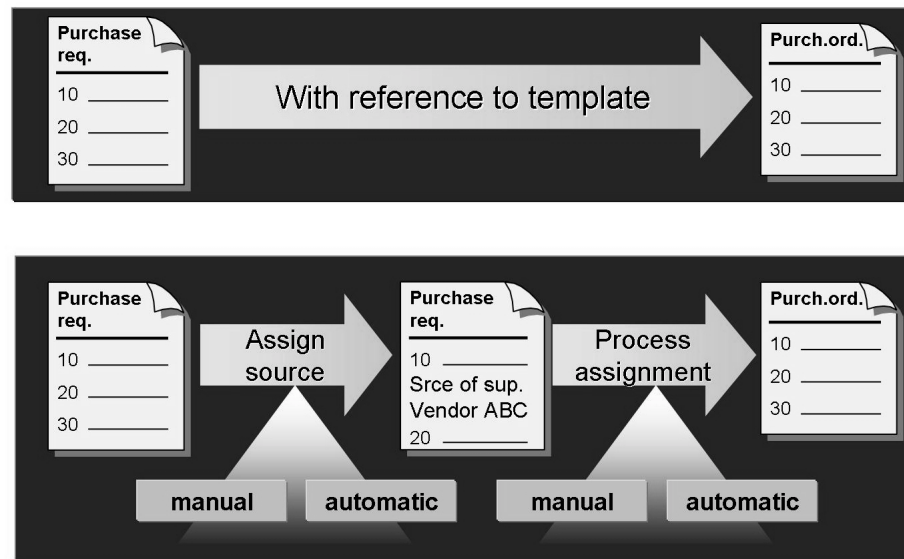


Figure 112: Converting Purchase Requisitions

With a source of supply, you can manually or automatically convert a purchase requisition item into a purchase order. The system copies the vendor from the source of supply in the purchase requisition.

If a source of supply has not yet been assigned 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 in the purchase order.



Hint: For more information about source of supply determination and converting purchase requisitions, refer to the documentation for Materials Management, in the topic Purchasing (Optimized Purchasing Processing), and the training course SCM520 – Purchasing.

Special Features for Conversion of Purchase Requisitions



Explain the special cases to be noted during conversion of a purchase requisition item into a purchase order. The account assignment category *Unknown (U)* is only allowed in the purchase order for item categories Service and Limit. As a rule, the valuation price and purchase order price do not match.

Purchase requisition items with the account assignment category: *Unknown*:

Although the *Unknown (U)* account assignment category is allowed in the purchase requisition, it is only allowed in the purchase order in exceptional cases (limit items and service items). When creating the purchase order, you must select a valid account assignment object and maintain the corresponding account assignment details.

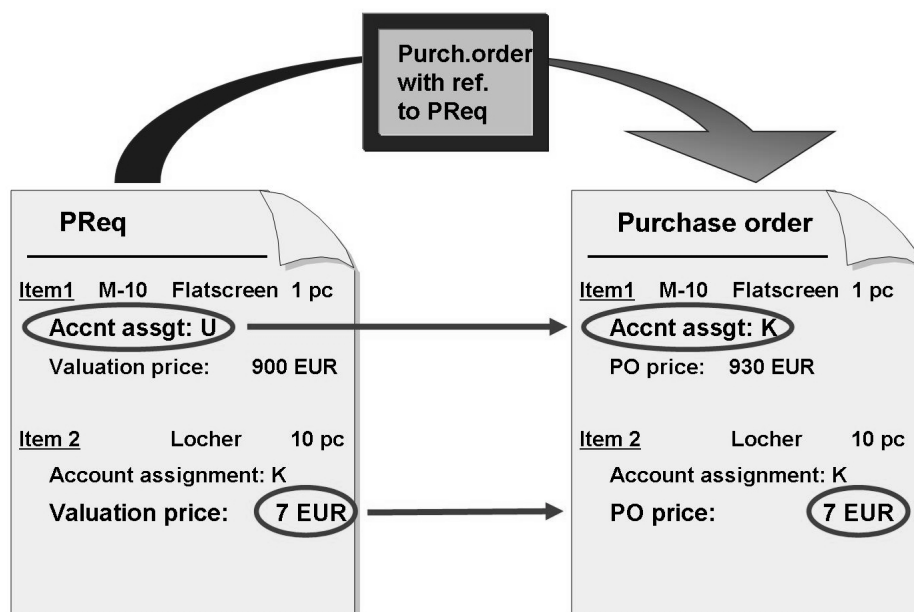


Figure 113: Copying Purchase Requisition Data to the PO

Purchase requisition items with material master record:

If an info record exists for the vendor and the material, the system suggests 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 copied to the purchase order.

Purchase requisition items without material master record:

If the system copies a purchase requisition item without a material master to the purchase order, the system suggests the valuation price from the purchase requisition as the purchase price. The buyer can change this default price.

Order Acknowledgement of Purchase Order



Ask your participants which confirmations they use in the procurement process, and then explain the options that the SAP system offers.

You can enter vendor acknowledgements for purchase orders or delivery schedules. Confirmations are notifications for the vendor about the estimated arrival and quantity of ordered materials (such as order acknowledgement, loading or transportation confirmation, shipping notification). You can manually enter confirmations that you receive, or receive them via EDI and have them processed automatically.

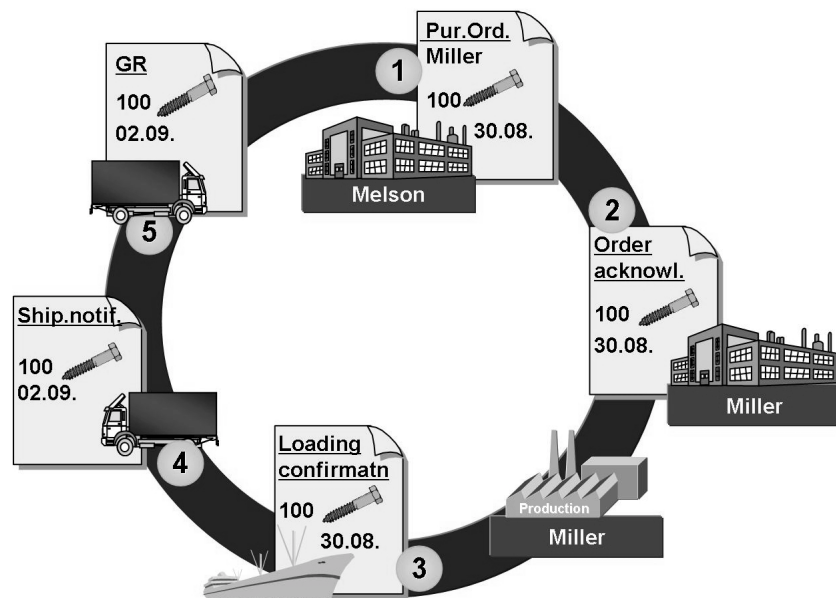


Figure 114: Order Acknowledgements

If you are using confirmations, you have the advantage that material requirements planning (MRP) does not exclusively depend on the vendor dates and quantities in the purchase order or scheduling agreement. Acknowledgements enable you to plan material requirements more accurately by providing very 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 desired confirmations.

You should distinguish between confirmations that are entered directly in the purchasing document (order acknowledgement) and confirmations that represent individual documents (shipping notification). With the confirmation control key,

you can also display “confirmation chains”. For more detailed information, refer to the 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 on the *Confirmations* tab. If the confirmation control key for order acknowledgements is set and you want to send a reminder when you have not yet received a confirmation, set the *Acknowledgement requirement* indicator.

When you receive the order acknowledgement of the vendor, you change your purchase order by entering the data of the confirmation (date, time, quantity, number of order acknowledgement) in the purchase order on the *Confirmations* tab.



Note: You can also just set the *Acknowledge requirement* indicator. In this case you cannot enter the confirmed quantities and dates separately in the system. If the confirmed quantities and dates differ from the PO values, you have to change the original data in the purchase order.



Demonstration: Convert Purchase Requisition into a Purchase Order

Purpose

(Duration approx. 10 minutes)

Create a purchase order with reference to a purchase requisition.

CATT: ZT_SCM500

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor

Set up instructions:



Caution: A prerequisite for this demo is the performance of the demo from the “Purchase Requisition” lesson.

1. Give a demo according to **task 1** from the exercise. Use the data with group number ## = 00.



Demonstration: Assign a Source of Supply to PReq, then Convert into Purchase Order (Optional)

Purpose

(Duration approx. 10 minutes)

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.

CATT: ZT-SCM500

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor

Set up instructions:



Caution: This demo is possible only if you have performed the demos from unit “Procurement of Stock Material” with RFQ/quotation processing and info records.

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 PReq yet.

2. Assign a source of supply to **item 10**:

Choose the *Source of supply* tab. Choose *Assign source of supply*.

The system displays a list with two possible sources of supply (info records). Choose the most favorable vendor T-K500B00. Choose *Assigned sources of supply* to leave the selection list.

3. Assign a source of supply to **item 20**:

Choose the *Source of supply* tab.

Enter the vendor **T-K500B00** and confirm your entries with *Enter*. Enter the purchasing organization **1000** and confirm with *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**:

Choose the *Source of supply* tab page.

Enter vendor **T-K500B00** and purchasing organization **1000**, and confirm your entries with *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.

Save the purchase requisition.

5. **Convert purchase requisition into a purchase order**

Create a purchase order with reference to the purchase requisition. Because all three purchase requisition items contain the same vendor, they can all be procured in one purchase order.

For the 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 is to be automated, a source of supply must already exist.



Demonstration: Enter Order Acknowledgement in the Purchase Order

Purpose

(Duration approx. 5 minutes)

Enter an order acknowledgement in the purchase order item.

CATT: ZT_SCM500

System Data

System: Training System
Client: 8xx

User ID: Own or SCM500-00

Password: Ask the instructor

Set up instructions:



Caution: A prerequisite for this demo is the performance of the first demo from this lesson.

1. Give a demo according to task 2 from the exercise. Use the data with group number ## = 00.
-



Exercise 13: Convert Purchase Requisition into a Purchase Order, Order Acknowledgement

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create a purchase order with reference to purchase requisition
- Check the processing status of purchase requisitions

Business Example

As a member of the central Purchasing department, you are responsible for processing purchase requisitions for the different departments in your company. Purchase requisitions for consumable materials is also one of your responsibilities.

System Data

System:	Training System
Client:	8xx
User ID:	SCM500-##
Password:	The password set by the participant
CATT:	ZT_SCM500

Set up instructions:



Caution: You can do this exercise only if you have already done the exercise from the “Purchase Requisition” lesson.

Task 1: Create Purchase Order with Reference to PReq

The purchase requisition for the testing instrument and the sensors must be converted into a purchase order. Both materials are ordered from vendor **H.A.G. Potsdam Gr.##**. You have already used this vendor in previous purchase orders.

1. Create a purchase order

Create a purchase order for vendor **T-K500C##** (H.A.G. Potsdam Gr.##). Refer to your purchase requisition.



Hint: In the document overview, either select the current purchase requisitions for your purchasing group T## or choose the selection variant *My purchase orders*.

Continued on next page

The price of the testing instrument is consistent with the valuation price in the purchase requisition. According to the vendor, the sensors cost **15 EUR/piece**.

You want an order acknowledgement from the vendor for the **testing instrument**. Therefore, specify the confirmation control key **order acknowledgement** for this item in the item detail on the *Confirmations* tab.

Save your purchase order immediately after entering all the data.

PO number: _____

2. Display the purchase requisition

Display the purchase requisition that you converted into a purchase order in step 1. What is the processing status of both purchase requisition items?

Item 10: _____

Item 20: _____

3. Display the purchase order

Where in the purchase order must you look to find out whether an order item was created with reference to a purchase requisition?

Do not leave the purchase order transaction after this.

Task 2: Entering order acknowledgement

The order acknowledgement for the testing instrument has been received and must be entered.

1. Enter the order acknowledgement in the purchase order.

Display the purchase order in change mode and open the detail data for the testing instrument item. On the *Confirmations* tab there is a list in which you can enter the vendor specifications.

Confirmation category:	OA (order acknowledgement)
Delivery date:	Delivery date from purchase order
Quantity:	1
External document:	AB-HAG##

Save your purchase order when you have entered all the data.

Solution 13: Convert Purchase Requisition into a Purchase Order, Order Acknowledgement

Task 1: Create Purchase Order with Reference to PReq

The purchase requisition for the testing instrument and the sensors must be converted into a purchase order. Both materials are ordered from vendor **H.A.G. Potsdam Gr.##**. You have already used this vendor in previous purchase orders.

1. Create a purchase order

Create a purchase order for vendor **T-K500C##** (H.A.G. Potsdam Gr.##). Refer to your purchase requisition.



Hint: In the document overview, either select the current purchase requisitions for your purchasing group T## or choose the selection variant *My purchase orders*.





The price of the testing instrument is consistent with the valuation price in the purchase requisition. According to the vendor, the sensors cost **15 EUR/piece**.

You want an order acknowledgement from the vendor for the **testing instrument**. Therefore, specify the confirmation control key **order acknowledgement** for this item in the item detail on the *Confirmations* tab.

Save your purchase order immediately after entering all the data.

Continued on next page

PO number: _____

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.
- b) If you have opened the document overview, choose *Document overview on*.
- c) Choose  *Selection variants* and then *My purchase requisitions*.
You can also choose the selection variant *Purchase requisitions*. Enter the period for the current week as request date and **T##** for purchasing organization. Delete all other selection values and choose  with the quick info text *Execute*.
- d) In the purchase order header, enter vendor **T-K500C##**.
If you have not maintained any personal default values, enter purchasing organization **1000** on the *Org.data* tab.
- e) Select the purchase requisition in the document overview and choose , with the quick-info *Adopt*.
Alternatively, you can drag the purchase requisition into the shopping cart.
- f) Enter the price **15** EUR for the item with the sensors.
Do not change the price of 520 EUR for the testing instrument.
- g) Open the detail data for the testing instrument item. Choose the *Confirmations* tab and in the list field choose *Confirm control Order acknowledgement*.
- h) Choose , with the quick-info text *Save*, and make a note of the PO number.

2. Display the purchase requisition

Display the purchase requisition that you converted into a purchase order in step 1. What is the processing status of both purchase requisition items?

Item 10: _____

Continued on next page

Item 20: _____


- a) If you have opened the document overview with your purchase requisitions, double-click the document number in the overview to display the purchase requisition.
- b) Open the item detail data.
- c) Choose the *Status* tab page.


The processing status of the two items is *Purchase order created*.

3. Display the purchase order

Where in the purchase order must you look to find out whether an 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  with the quick-info text *Selection variant* and then choose *My purchase orders*. Double-click the number of your last purchase order to display it.

Alternatively, choose , with the quick-info text *Other PReq*. In the *Select document* dialog box choose *Purchase Order*, and the number of your last purchase order will appear as default. Choose *Other document* to display the purchase order.

- b) The numbers of reference documents are displayed in the item overview for each item. Scroll to the right until you see the columns *PReq* and *PReq item*.
- c) Keep the purchase order displayed for the following task.

Task 2: Entering order acknowledgement

The order acknowledgement for the testing instrument has been received and must be entered.


1. Enter the order acknowledgement in the purchase order.

Display the purchase order in change mode and open the detail data for the testing instrument item. On the *Confirmations* tab there is a list in which you can enter the vendor specifications.


Continued on next page

Confirmation category: **OA** (order acknowledgement)
 Delivery date: Delivery date from purchase order
 Quantity: **1**
 External document: **AB-HAG##**

Save your purchase order when you have entered all the data.

- a) Choose  *Display/Change* so you can switch to change mode.
- b) Open the detail data for the testing instrument item.
- c) Choose the *Confirmations* tab page and enter the following data:

Confirmations tab	
CC (confirmation category)	OA
Delivery date	<Delivery date of item>
Quantity	1
External document	AB-HAG##

- d) Choose  *Save* to save the changes.



Lesson Summary

You should now be able to:

- Create a purchase order with reference to a purchase requisition with account assignment
- Enter an order acknowledgement for a purchase order

Lesson: Valuated and Non-Valuated Goods Receipts



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Lesson Duration: 60 Minutes

Lesson Overview

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 a goods receipt entry.

This lesson covers goods receipt and invoice entry in more detail. The postings in invoice verification are a focal point.



Lesson Objectives

After completing this lesson, you will be able to:

- Explain the difference between a valuated and non-valuated goods receipt
- Explain the postings resulting from a non-valuated goods receipt during invoice entry



Introduce the objectives and the business scenario. Show and discuss the differences between valuated and non-valuated goods receipt and the indicator in the purchase order that controls this.

Business Example

In your company, the costs for office supplies, which are procured directly for a cost center, are usually also posted to consumption only at the time the invoice is created. You therefore want to learn about valuation of goods receipts and invoice receipts for purchase orders with account assignments.

Goods receipt and invoice receipt for consumption material

The account assignment entered in the purchase order affects the further course of the procurement process. For example, a consumption account is used for posting, not a stock account.

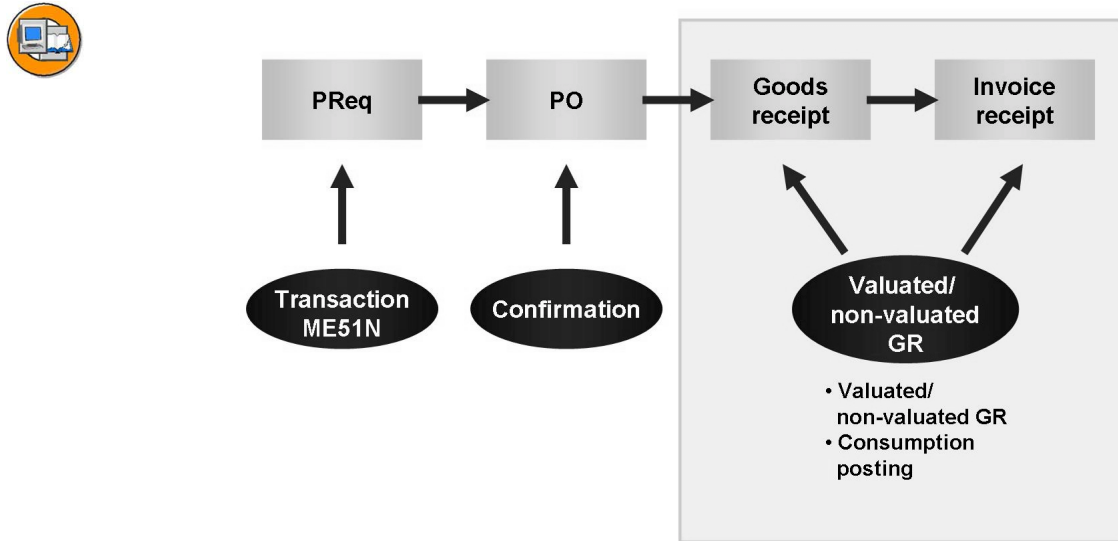


Figure 115: Consumption Material Procurement: GR and IR



Explain why you can do without the goods receipt (GR) and valuation at the time of the goods receipt for items with an account assignment category.

Contrast the recognized process for stock material with the process for consumption material. Several variants are possible for consumption material: valuated GR, non-valuated GR, or no GR.

Another difference between procurement of stock material and procurement of consumption 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 postings take place in Accounting at the time of the goods receipt. Non-valuated goods receipt is essential for items with multiple account assignments. The system automatically sets the *GR non-valuated* indicator. The value-based consumption posting does not take place until you post the invoice. The commitment, which was created by the purchase order item with account assignment, can be reduced only through invoice entry.

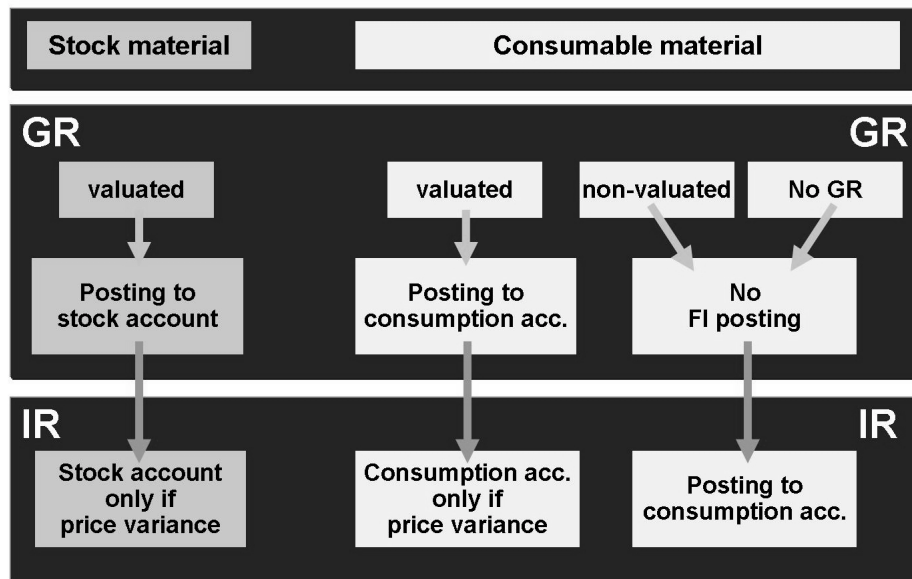


Figure 116: Non-Valuated Goods Receipt

Another alternative for purchase order items with account assignments is to do without the goods receipt. The FI postings in this case correspond with the postings of a non-valuated goods receipt.

The *goods receipt* and *GR non-valuated* indicators can be found:

- In the purchase order in the item detail on the *Delivery* tab
- In the purchase requisition in the item detail on the *Valuation* tab

If no updates have taken place in Accounting at the time of the goods receipt, you can change the account assignment during invoice entry, assuming the account assignment category allows this.



Use the figure to explain the differences in the postings for valuated and non-valuated GRs.

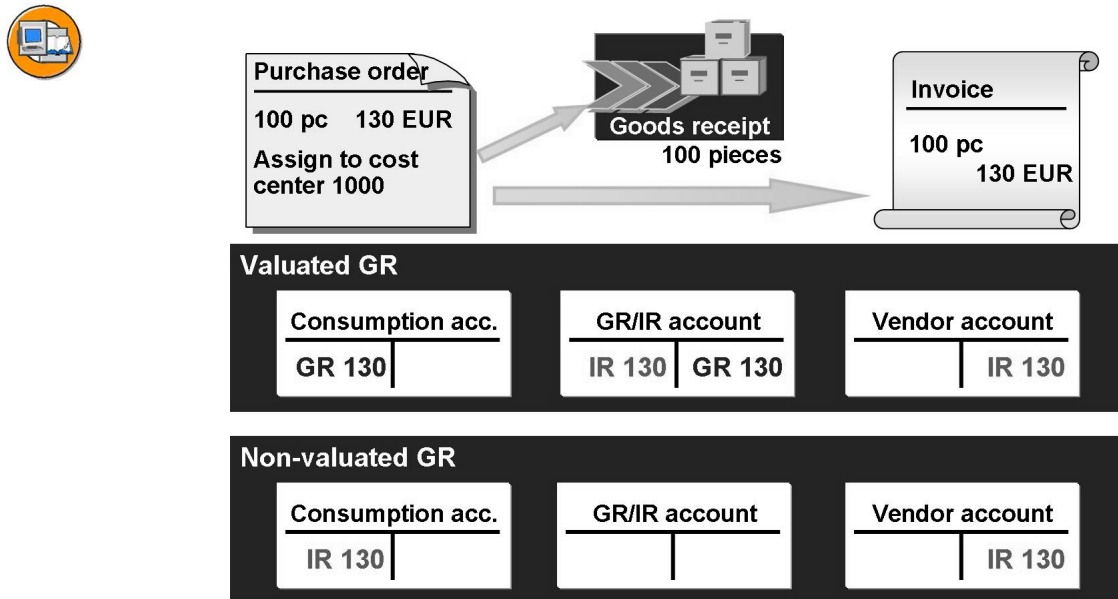


Figure 117: Postings for Valuated/Non-Valuated GR

Because the figure shows a purchase order item with account assignment, a consumption account is debited (whereas the item without account assignment posts to a stock account). To simplify the example, we assumed that no tax is payable.

Valuated goods receipt

At the time of the goods receipt, the consumption account that you specified in the purchase order is debited with the procurement price of 130 EUR. The offsetting entry is posted to the GR/IR clearing account.

When the incoming invoice is posted, the GR/IR clearing account is cleared in full. The offsetting entry is posted to the vendor account. If the invoice price varied from the order price, the corresponding difference would be posted to the consumption account.

Non-valuated goods receipt

At the time of the goods receipt, postings to the consumption account do not take place. The posting to the GR/IR clearing account is therefore not applicable.

With invoice receipt, the consumption account is debited with the invoice amount of 130 EUR. The offsetting entry is posted to the vendor account.



Demonstration: Valuated/Non-Valuated Goods Receipt and Invoice Verification

Purpose

(Duration approx. 15 minutes)

Analysis of postings with valuated or non-valuated goods receipt and subsequent invoice verification

CATT: ZT_SCM500

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions:



Caution: A prerequisite for this demo is the execution of the demo from the “Purchase Requisition” and “Purchase Order and Order Acknowledgement” lessons.

1. Demonstrate tasks 1 and 2 from the exercise. Use the data with group number ## = 00.
-



Exercise 14: Goods Receipt and Invoice Entry

Exercise Duration: 25 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Enter goods receipt and invoice receipt for consumption material
- Explain the effects of a valuated and non-valuated goods receipt of consumption material on the update of the accounts in Accounting

Business Example

The consumable materials you ordered are forwarded directly to the requesting department instead of being placed in storage.

System Data

System: Training System
Client: 8xx
User ID: SCM500-##
Password: Password assigned by the participant
CATT: ZT_SCM500

Set up instructions:



Caution: You can carry out this exercise only after you have already completed the exercises from the “Purchase Requisition” and “Purchase Order and Order Acknowledgement” lessons.

Task 1: Valuated Goods Receipt and Invoice Entry

In the steps of task 1, analyze the effects of a valuated goods receipt on a purchase order item with account assignment.

For a better overview of the account update as a result of the goods receipt and invoice receipt, note all postings in table 1.

Table I	Goods receipt (task 1-2)		Invoice entry (task 1-4)	
	Deb./cred.	Amount	Deb./cred.	Amount
Consumption account (400 000)				
GR/IR clearing account (191 100)				
Vendor account (T-K500C##)				
Input tax (154 000)				

1. Entering a Goods Receipt Against a Purchase Order

Vendor **T-K500C##** delivers the ordered **testing instrument** in the first partial delivery. Enter the goods receipt for **item 10** of your last purchase order. Note the specifications of the delivery note.



Caution: Only set the *OK* indicator for the testing instrument item.

Post the goods receipt.

Material document number: _____

Do not leave the transaction after posting the goods receipt.

Continued on next page

Delivery note		H.A.G. Potsdam Gr.## Schopenhauerstr. 38 14467 Potsdam	
IDES USA Hamburg Plant Altersdorferstr. 13 22299 Hamburg	Delivery note number Potsdam,	LS-C1## [current date]	
With reference to purchase order no. 45000xxxxx we deliver the following materials:			
Item	Material number	Description	Quantity / Un
10	-----	Testing instrument-##	1 pc
Best regards, H.A.G. Potsdam Gr.##			

Figure 118: Delivery Note Number LS-C1##

2. **Display the Accounting Document for the Goods Receipt**

Display the material document of the goods receipt you have just entered.
Does an accounting document exist for this material document? Why?

3. **Enter invoice**

The vendor dispatched the invoice with the first partial delivery. Post the invoice. You can refer to the following figure for the exact invoice data.

Continued on next page

Invoice		H.A.G. Potsdam Gr.## Schopenhauerstr. 38 14467 Potsdam		
IDES USA Hamburg Plant Altersdorferstr. 13 22299 Hamburg		Invoice number:	RE-C1##	
		Invoice date:	[current date]	
With reference to your purchase order no. 45000xxxxx, we are invoicing you for the following items:				
Item	Quantity / Un	Material number	Description	Price
10	1 pc	-----	Testing instrument-##	520 EUR
			Total net value:	520 EUR
			plus 10 % tax	52 EUR
			Invoice amount	<u>572 EUR</u>
The agreed payment conditions apply.				
Kind Regards, H.A.G. Potsdam Gr.##				

Figure 119: 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 note the postings in **table I**.

Which account is posted to for the goods 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 it does not have when you procure a stock material?

Which indicator in the purchase order controls that the goods receipt is valuated?

Continued on next page

Task 2: Non-Valuated Goods Receipt and Invoice Entry

In the steps in task 2, analyze the effects of a non-valuated goods receipt on a purchase order item with account assignment.

For a better overview of the account update as a result of the goods receipt and invoice receipt, note all postings in table II.

Table II	Goods receipt (task 2-2)		Invoice entry (task 2-4)	
	Deb./cred.	Amount	Deb./cred.	Amount
Consumption account (400 000)				
GR/IR clearing account (191 100)				
Vendor account (T-K500C##)				
Input tax (154 000)				

1. Entering a Goods Receipt Against a Purchase Order

Vendor **T-K500C##** delivers the missing **sensors** in the second partial delivery. Enter the goods receipt for **item 20** of your purchase order. Note the specifications of the delivery note.

Post the goods receipt.

Material document number: _____

Do not leave the transaction after posting the goods receipt.

Continued on next page



Delivery note		H.A.G. Potsdam Gr.## Schopenhauerstr. 38 14467 Potsdam	
IDES USA Hamburg Plant Altersdorferstr. 13 22299 Hamburg		Delivery note number Potsdam,	LS-C2## [current date]
With reference to purchase order no. 45000xxxxx we deliver the following materials:			
Item	Material number	Description	Quantity / Un
10	T-M500C##	Sensors - ##	5 pc
Best regards, H.A.G. Potsdam Gr.##			

Figure 120: Delivery Note Number LS-C2##**2. Display the Accounting Document for the Goods Receipt**

Display the material document of the goods receipt you have just entered.
Does an accounting document exist for this material document? Why?

3. Enter invoice

The vendor dispatched the invoice with the second partial delivery. Post the invoice. You can refer to the following figure for the exact invoice data.

Continued on next page

Invoice		H.A.G. Potsdam Gr.## Schopenhauerstr. 38 14467 Potsdam		
IDES USA Hamburg Plant Altersdorferstr. 13 22299 Hamburg		Invoice number: RE-C2## Invoice date: [current date]		
With reference to your purchase order no. 45000xxxxx, we are invoicing you for the following items:				
Item	Quantity / Un	Material number	Description	Price
10	5 pc	T-M500C##	Sensors - ##	75.00 EUR
			Total net value:	75.00 EUR
			plus 10 % tax	7.50 EUR
			Invoice amount	<u>82.50 EUR</u>
The agreed payment conditions apply.				
Kind Regards, H.A.G. Potsdam Gr.##				

Figure 121: 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 postings in **table II**.

Compare tables I and II. Which account is updated only with a valuated goods receipt?

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 indicator in the purchase order controls that the goods receipt is non-valuated?

After this task, do not leave the purchase order display.

6. Display consumption data in the material master record

Continued on next page



Branch from the purchase order directly to the material master record T-M500C## and determine the consumption data.



Hint: The consumption data belongs to the additional data in the material master record.

Solution 14: Goods Receipt and Invoice Entry

Task 1: Valuated Goods Receipt and Invoice Entry

In the steps of task 1, analyze the effects of a valuated goods receipt on a purchase order item with account assignment.

For a better overview of the account update as a result of the goods receipt and invoice receipt, note all postings in table 1.

Table I	Goods receipt (task 1-2)		Invoice entry (task 1-4)	
	Deb./cred.	Amount	Deb./cred.	Amount
Consumption account (400 000)	<u>D</u>	<u>520</u>		
GR/IR clearing account (191 100)	<u>C</u>	<u>520</u>	<u>D</u>	<u>520</u>
Vendor account (T-K500C##)			<u>C</u>	<u>572</u>
Input tax (154 000)			<u>D</u>	<u>52</u>

1. Entering a Goods Receipt Against a Purchase Order

Vendor **T-K500C##** delivers the ordered **testing instrument** in the first partial delivery. Enter the goods receipt for **item 10** of your last purchase order. Note the specifications of the delivery note.



Caution: Only set the *OK* indicator for the testing instrument item.

Post the goods receipt.





Material document number: _____

Do not leave the transaction after posting the goods receipt.

Continued on next page

Delivery note		H.A.G. Potsdam Gr.## Schopenhauerstr. 38 14467 Potsdam	
IDES USA Hamburg Plant Altersdorferstr. 13 22299 Hamburg	Delivery note number Potsdam,	LS-C1## [current date]	
With reference to purchase order no. 45000xxxxx we deliver the following materials:			
Item	Material number	Description	Quantity / Un
10	-----	Testing instrument-##	1 pc
Best regards, H.A.G. Potsdam Gr.##			




Figure 122: 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* and reference *Purchase Order*. Enter **101** as the default value for the movement type.
- c) Choose , with the quick-info text *Search for PO*. Enter vendor **T-K500C##**.
Choose  *Find*. A separate screen area with the search result appears.
- d) Select the purchase order item for the testing instrument and choose , with the quick-info *Adopt*.
Then close the search result (, with the quick-info text *Close Search Result*).
- e) Open the header data and enter **LS-C1##** in the *Delivery note* field on the *General* tab page.
- f) Set the *OK* indicator for the item. Note that you can set the indicator in the detail data only if the detail data area is open.
- g) Choose *Post* and make a note of the material document number.
Do not exit the transaction after posting the goods receipt.

2. Display the Accounting Document for the Goods Receipt

Continued on next page

Display the material document of the goods receipt you have just entered.
Does an accounting document exist for this material document? Why?

- a) Choose *Display* and reference *Material Document*.
- b) The default proposal is the number of the material document that you last edited. Choose  with the quick info text *Execute*.
- c) In the header data, choose the *Document info* tab and then  *Accounting documents* to branch to the accounting document.
- d) In the *List of documents in Accounting* dialog box, select the accounting document and choose  *Select*. Note the accounting document data in **table I**.

During posting of the goods receipt, an accounting document was created because it was a valuated goods receipt.

- e) Choose  *Back* to display the material document again.

3. Enter invoice

The vendor dispatched the invoice with the first partial delivery. Post the invoice. You can refer to the following figure for the exact invoice data.

Continued on next page

Invoice		H.A.G. Potsdam Gr.## Schopenhauerstr. 38 14467 Potsdam		
IDES USA Hamburg Plant Altersdorferstr. 13 22299 Hamburg		Invoice number: RE-C1## Invoice date: [current date]		
With reference to your purchase order no. 45000xxxxx, we are invoicing you for the following items:				
Item	Quantity / Un	Material number	Description	Price
10	1 pc	-----	Testing instrument-##	520 EUR
			Total net value:	520 EUR
			plus 10 % tax	52 EUR
			Invoice amount	<u>572 EUR</u>
The agreed payment conditions apply.				
Kind Regards, H.A.G. Potsdam Gr.##				

Figure 123: Invoice RE-C1##

Invoice document number: _____

Continued on next page


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:



Invoice date	<Today's date>
Reference	RE-C1##
Amount	572
Tax amount	52
tax code	1I (input tax, training (10%))

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



Hint: If you want to search for the PO using the F4 help, enter vendor **T-K500C##** and then choose , with the quick-info text *Execute*.

Select the purchase order in the results list and choose  *Adopt*.

- d) Choose , with the quick-info text *Next*, for the system to suggest the data from the purchase order.
- e) Choose , with the quick info text *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 note the postings in **table I**.

Which account is posted to for the goods receipt and the invoice receipt?

Continued on next page

After this task, do not leave the invoice document display.

- a) To display the invoice document, choose  with quick-info *Other invoice document*. The system proposes the number of the invoice you last posted; simply choose *Enter* to confirm this number.
- b) Choose *Follow-on documents*.
- c) In the *List of documents in Accounting* dialog box, double-click the accounting document number to display the accounting document.

Note the postings in table I. You can see from the table that both the goods receipt and the invoice were posted to the GR/IR clearing account.

- d) Choose  *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 it does not have when you procure a stock material?

Which indicator in the purchase order controls that the goods receipt is valuated?

- a) To branch to the purchase order, double-click the PO number in the item list of the invoice document.
- b) Then choose the *PO history* tab page in the purchase order item details.
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.
- c) Choose the *Delivery* tab page in the item detail data. The *GR non-valuated* indicator is not set. The goods receipt was therefore valuated.

Continued on next page

Task 2: Non-Valuated Goods Receipt and Invoice Entry

In the steps in task 2, analyze the effects of a non-valuated goods receipt on a purchase order item with account assignment.

For a better overview of the account update as a result of the goods receipt and invoice receipt, note all postings in table II.

Table II	Goods receipt (task 2-2)		Invoice entry (task 2-4)	
	Deb./cred.	Amount	Deb./cred.	Amount
Consumption account (400 000)			<u>D</u>	<u>45 + 30</u> <u>(multiple</u> <u>account</u> <u>assignment)</u>
GR/IR clearing account (191 100)				
Vendor account (T-K500C##)			<u>C</u>	<u>82,50</u>
Input tax (154 000)			<u>D</u>	<u>7,50</u>

1. Entering a Goods Receipt Against a Purchase Order

Vendor **T-K500C##** delivers the missing **sensors** in the second partial delivery. Enter the goods receipt for **item 20** of your purchase order. Note the specifications of the delivery note.

Post the goods receipt.

Material document number: _____





Do not leave the transaction after posting the goods receipt.

Continued on next page



Delivery note		H.A.G. Potsdam Gr.## Schopenhauerstr. 38 14467 Potsdam	
IDES USA Hamburg Plant Altersdorferstr. 13 22299 Hamburg		Delivery note number Potsdam,	LS-C2## [current date]
With reference to purchase order no. 45000xxxxx we deliver the following materials:			
Item	Material number	Description	Quantity / Un
10	T-M500C##	Sensors - ##	5 pc
Best regards, H.A.G. Potsdam Gr.##			



Figure 124: 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* and reference *Purchase Order*. Enter **101** as the default value for the movement type.
- Choose , with the quick-info text *Search for PO*. Enter vendor **T-K500C##**.
Choose  *Find*. A separate screen area with the search result appears.
- Select the purchase order item for the sensors and choose , with the quick-info *Adopt*.
Then close the search result (, with the quick-info text *Close Search Result*).
- Open the header data and enter **LS-C2##** in the *Delivery note* field on the *General* tab page.
- Set the *OK* indicator for the item. Note that you can set the indicator in the detail data 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 goods receipt.

2. Display the Accounting Document for the Goods Receipt

Continued on next page

Display the material document of the goods receipt you have just entered.
Does an accounting document exist for this material document? Why?

- a) Choose *Display* and reference *Material Document*.
- b) The default proposal is the number of the material document that you last edited. Choose  with the quick info text *Execute*.
- c) In the header data, choose the *Document info* tab and then  *Accounting documents* to branch to the accounting document.

The system issues the message, *No follow-on document found in Accounting*.

No accounting document was created during the goods receipt posting.
The sensors had multiple account assignments in the purchase order.
This means that only a non-valuated goods receipt is possible.

3. Enter invoice

The vendor dispatched the invoice with the second partial delivery. Post the invoice. You can refer to the following figure for the exact invoice data.

Invoice		H.A.G. Potsdam Gr.## Schopenhauerstr. 38 14467 Potsdam	
IDES USA Hamburg Plant Altersdorferstr. 13 22299 Hamburg		Invoice number: RE-C2## Invoice date: [current date]	
With reference to your purchase order no. 45000xxxxx, we are invoicing you for the following items:			
Item	Quantity / UnMaterial number	Description	Price
10	5 pc T-M500C##	Sensors - ##	75.00 EUR
		Total net value:	75.00 EUR
		plus 10 % tax	7.50 EUR
		Invoice amount	82.50 EUR
The agreed payment conditions apply. Kind Regards, H.A.G. Potsdam Gr.##			

Figure 125: Invoice RE-C2##

Invoice document number: _____

Continued on next page


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:



Invoice date	<Today's date>
Reference	RE-C2##
Amount	82,50
Tax amount	7,50
tax code	1I (input tax, training (10%))

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



Hint: If you want to search for the PO using the F4 help, enter vendor **T-K500C##** and then choose , with the quick-info text *Execute*.

Select the purchase order in the results list and choose  *Adopt*.

- d) Choose , with the quick-info text *Next*, for the system to suggest the data from the purchase order.
- e) Choose , with the quick info text *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 note the postings in **table II**.

Compare tables I and II. Which account is updated only with a valuated goods receipt?

Continued on next page

Do not leave the invoice document display after this task.

- a) To display the invoice document, choose , with quick-info *Other invoice document*. The system proposes the number of the invoice you last posted; simply choose *Enter* to confirm this number.
- b) Choose *Follow-on documents*.
- c) In the *List of documents in Accounting* dialog box, double-click the accounting document number to display the accounting document.

Note the postings in table II. The GR/IR clearing account has not been posted to.

After comparing the two tables, you can see that the GR/IR clearing account is updated only with a valuated goods receipt.

- d) Choose  *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 indicator in the purchase order controls that the goods receipt is non-valuated?

After this task, do not leave the purchase order display.

- a) To branch to the purchase order, double-click the PO number in the item list of the invoice document.
- b) Then choose the *PO history* tab page in the purchase order item details.
The non-valuated goods receipt can be recognized in the purchase order history because the *amount in local currency* for the *goods receipt* transaction is 0 EUR.
- c) Choose the *Delivery* tab page in the item detail data. The *GR non-valuated* indicator is set. The goods receipt was therefore non-valuated.

Do not leave the purchase order display after this task.


6. Display consumption data in the material master record

Continued on next page

Branch from the purchase order directly to the material master record T-M500C## and determine the consumption data.



Hint: The consumption data belongs to the additional data in the material master record.

- a) To branch to the material master record, double-click the material number in the item overview of the purchase order.
- b) Choose  *Additional data* to see the additional data.
- c) Choose the *Consumption* tab page.

A total consumption of five pieces was specified for the material in plant 1000.



Lesson Summary

You should now be able to:

- Explain the difference between a valuated and non-valuated goods receipt
- Explain the postings resulting from a non-valuated goods receipt during invoice entry

Lesson: Blanket Purchase Order



Lesson Duration: 45 Minutes

Lesson Overview

The subject of this lesson is a simplified procurement process for consumable materials. This process involves the use of the blanket purchase order. This allows you to consciously dispense with both the issue of individual release orders and the recording of goods receipts to minimize the costs of procuring materials (such as C parts).



Lesson Objectives

After completing this lesson, you will be able to:

- Explain the purpose of the item category in purchasing documents
- Explain the special aspects of procuring materials using a blanket purchase order
- Create a blanket purchase order
- Enter invoices with reference to a blanket purchase order with Logistics Invoice Verification



Introduce the objectives and the business scenario. Show a procurement process using a blanket purchase order.

Business Example

Your company procures all its office supplies from a certain retailer. Since it is not necessary to monitor the issue of release orders and deliveries of materials exactly in the system, you test the blanket order process.



Compare a complete standard procurement process for consumable materials with a simplified one using a blanket order. The simplified process is designed primarily for external services and C items. Ask the participants whether they can envisage using the simplified process in their enterprises.

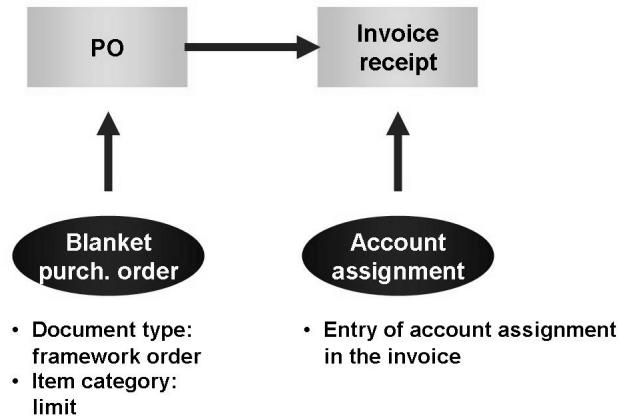


Figure 126: Blanket Purchase Order: Overview

In addition to the browser-based applications (such as *SAP Enterprise Buyer*), the standard version of *SAP ERP Central Component* offers you another possible approach to handling procurement transactions for consumable materials using a “lean” process.

This process shows you how to use the “blanket purchase order”, which you will get to know on the basis of an example.

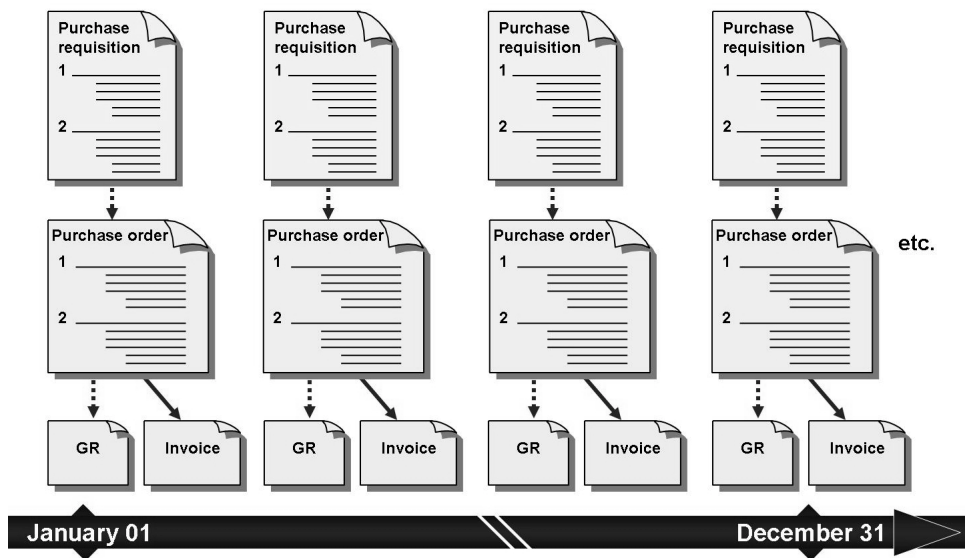


Figure 127: Standard Procurement of Consumable Materials

In “standard” procurement of consumable materials, you must create at least one purchase order for each procurement transaction. This purchase order is used as the basis for invoice verification.

Often, goods receipts are also entered against the conventional purchase orders. In some cases, upstream (preceding) documents such as purchase requisitions or quotations exist.

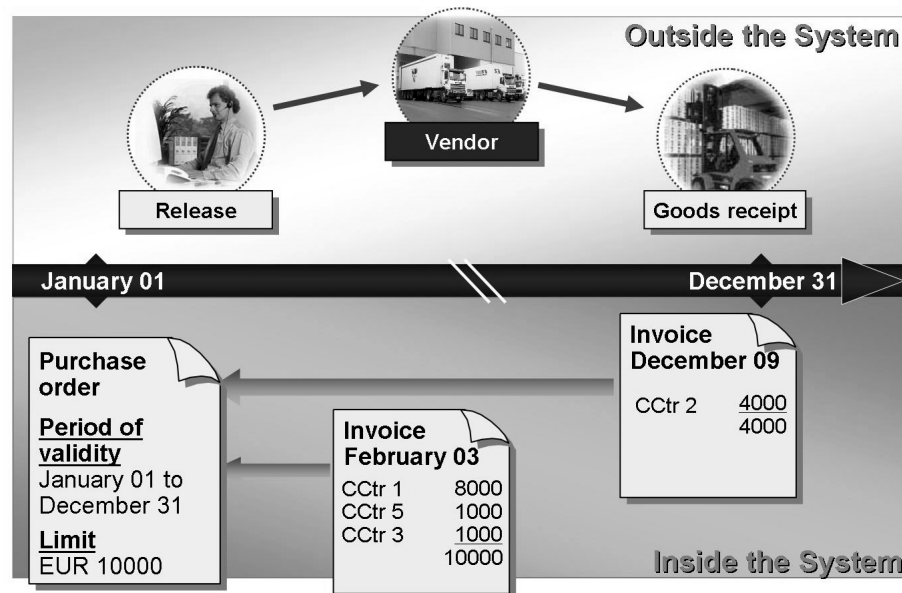


Figure 128: Procurement Process with Blanket Purchase Order

You can create a purchase order which has a longer **validity period** (for example, a year) and an item-specific **value limit**. Using such a blanket purchase order, it is possible to procure different consumable materials or external services, for which more detailed individual processing (purchase order, goods receipt, invoice entry) is considered uneconomical. The materials or services are grouped under a heading or superordinate term (short text) and represented as an item of the blanket order. Prices for the individual materials (for example, 0.50 EUR/pc for a pencil, 2.00 EUR/pc for a file etc.) are not recorded in the purchase order.

This special procurement process differs from the “standard” process mainly by virtue of the fact that certain steps are deliberately omitted in the system. Although you can use a purchase requisition as the document immediately preceding the blanket purchase order, neither RFQs nor contracts may be created for the requisition. Neither are goods receipts or performed services recorded 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:

- Different materials and/or services are procured over a longer period with a single PO item.
- It is not necessary to issue separate purchase orders for the individual procurement transactions.
- There is no goods receipt or service entry process.

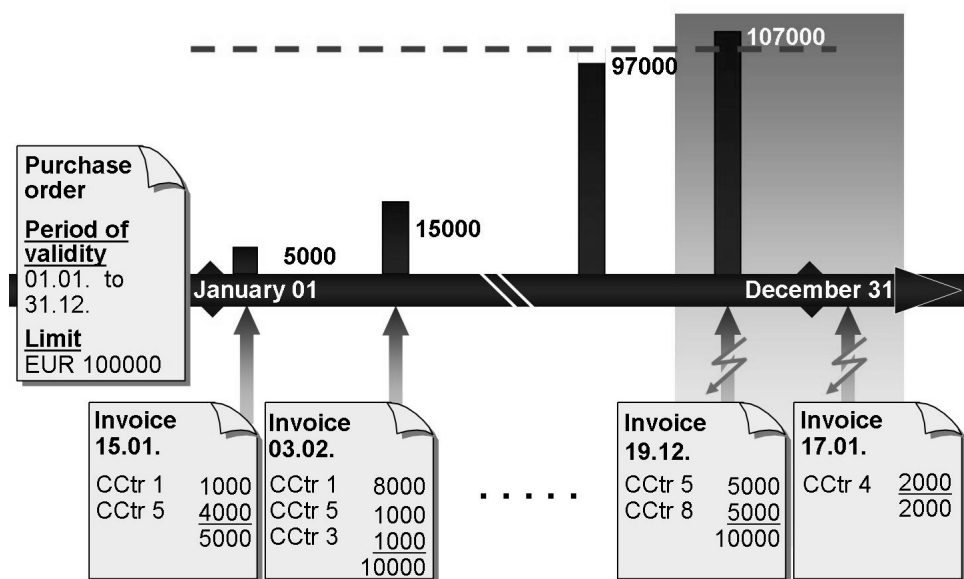


Figure 129: Invoice Entry for Blanket Purchase Order

When an invoice is entered 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 PO item be exceeded as a result of posting the invoice?

It is possible to change the account assignment when entering the invoice. You can also switch from single to multiple account assignment. If you have entered “account assignment unknown” in the PO item, you must manually specify the account assignment data when entering the invoice.



Note: It is only possible to change the account assignment data in invoice verification if such a change has been defined as permissible in Customizing for the account assignment category. (*Customizing* → *Materials Management* → *Purchasing* → *Account Assignment* → *Maintain Account Assignment Categories*)

Characteristics of Blanket Purchase Orders

The most important characteristics of a blanket purchase order are:

- *Order type FO (framework order)*
 - Validity period in header of purchase order (field selection)
- *Item category B (limit)*
 - Limit in the item
 - No material number
 - *Account assignment category U (unknown)* is allowed
 - No goods receipt or service entry
- Accounting data for the item suggested in invoices
- Additional or multiple account assignment possible in invoice verification
- Check of validity period and limit in invoice verification

To be able to work with validity periods and limits in a purchase order, you must use *document type FO* (framework order) and *item category B* (limit). In the standard system, document type FO enables you to specify the validity period at PO header data level and use the item category B for limit items. (Limit items are sometimes referred to as blanket items.)

Because you can only use a blanket order to procure consumable materials or services, you must enter an account assignment for PO items with the *item category B*. However, you need not specify the precise account assignment at the time you create the blanket PO. Instead, you can use the *account assignment category U* (unknown).

You cannot specify a material number in a PO item with *item category B*. You have to describe the materials or services that are to be procured (such as office materials) using a short text. You also have to specify a material/service group.

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, third-party procurement).

Point out that an item category was also specified in the purchasing documents and purchase requisitions that were created previously. The item category in question is *standard*, for which “blank” has been defined as the key in Customizing.

The item category enables you to replicate different procurement processes.

Item categories are used in all purchasing documents. The document type determines which item categories are available for selection. You can use different item categories for the individual items of a purchasing document.

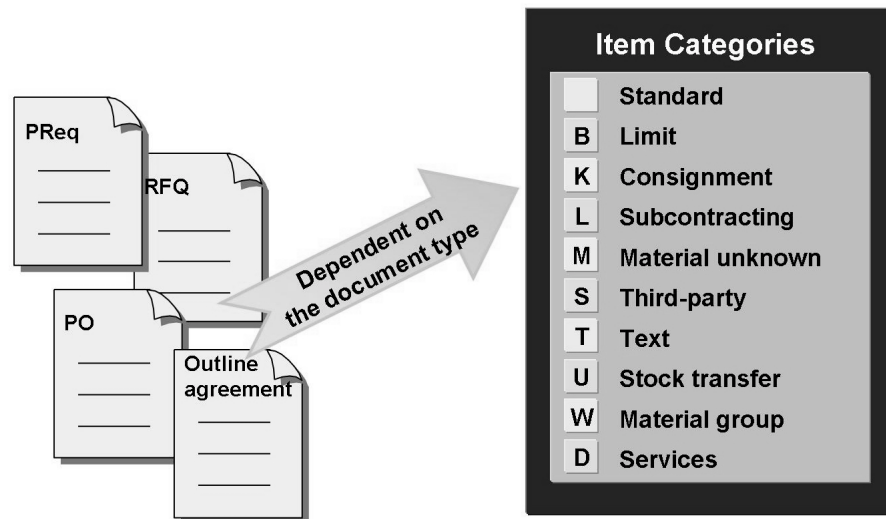


Figure 130: Item Category

You can change the short description of the individual item categories in Customizing for *Materials Management* under *Purchasing* → *Define External Representation of Item Categories*. There 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 goods receipt, and/or an invoice receipt are possible or necessary for an item.

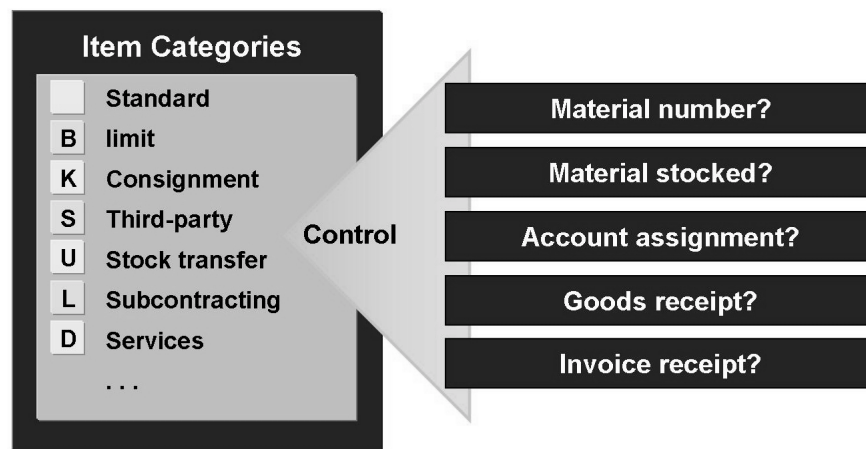


Figure 131: Item Category – Control

Predefined item categories include the following:

Standard: Used for materials that are to be procured externally. (Material number and account assignment possible, GR generally possible (necessary in the case of stock material), IR possible.)

Limit: You procure consumable materials or services with a value limit. (Account assignment necessary, GR not possible, IR necessary.)

Consignment: The vendor provides you with materials which you manage on your premises as part of consignment stock. The material belongs to the vendor until it is withdrawn from consignment stores. 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 vis à vis the vendor. A liability only arises when a material withdrawal from the consignment store occurs (non-valuated GR required, account assignment and IR not possible).

Subcontracting: The finished product is ordered from the vendor. The components that the vendor needs to manufacture the finished product are entered as "material to be provided" items.

Stock transport order: Material is transferred from plant to plant.

Third-party order: The vendor is to deliver the ordered material direct to a third party (a customer, for example). The vendor invoices you for the material.



Hint: For more detailed information on the topics of subcontracting, consignment, stock transport orders, and third-party orders, refer to the *Materials Management* section of the SAP Library under *Inventory Management* → *Special Stocks and Special Forms of Procurement*.



Demonstration: Blanket Purchase Order

Purpose

(Duration approx. 15 minutes)

Demo covering the entire procurement process using a blanket purchase order.
Creation of a blanket PO, entry of invoice.

CATT: ZT_SCM500

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions: None

1. Give a demo with the data from the exercise (tasks 1 to 3). Use the data with group number ## = 00.



Hint: When you enter the invoice, you should create a system variant in which the *Tax Code* column appears directly after the *Cost Centers* column for the table of the multiple account assignment screen. This system variant must be activated **before** entry of the account assignment data.

Procedure: Move the *Tax Code* column so that it comes after the *Cost Center* column. Choose . The *Table Settings* dialog box appears. Choose *Administrator*. The *Edit System Settings* dialog box appears. Choose *Activate* and then *Close*. The *Table Settings* dialog box reappears. Choose *Transfer*.

2. Enter a second invoice with the following values:

Invoice date	<Today's date>
Reference	RE-D2##
Amount	5500
Tax amount	500

Assign the entire amount to G/L account **476000** and cost center **T-L00**.

As a result of this invoice, the expected value of 5000 EUR is exceeded. No message is issued in invoice verification.

3. Enter a third invoice with the following values:

Invoice date	<Today's date>
Reference	RE-D3##
Amount	1100
Tax amount	100

Assign the entire amount to G/L account **476000** and WBS element **E-9990**.

As a result of this invoice, the overall value of the limit, amounting to 6000 EUR, is exceeded. The system issues the message *The value exceeds the limit*.



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Exercise 15: Blanket Purchase Order

Exercise Duration: 15 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create blanket purchase orders for consumable materials
- Enter invoices for blanket purchase orders

Business Example

To simplify the procurement of low-value consumable materials that are required at irregular intervals, you are testing the use of blanket purchase orders. You then enter invoices relating to the blanket POs.

System Data

System:	Training System
Client:	8xx
User ID:	SCM500-##
Password:	The password set by the participant
CATT:	ZT_SCM500
Set up instructions:	None

Task: Processing of Blanket Purchase Orders

Your purchasing department has reached an agreement with the company **Bürohandel Leifritz Gr.##** whereby plant **1000** (Hamburg) can order office supplies informally by fax.

1. Create a blanket purchase order

Create a **framework order** for **Bürohandel Leifritz 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 12.31 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 (=_____).

Continued on next page

Enter **office supplies** as the short text and **006** (office supplies) as the material group.

You do not expect the value of the office supplies actually procured to exceed **5000 EUR**. In addition, stipulate that the overall limit for invoice verification purposes is to be **6000 EUR**. What is the purpose of the entry in the *Expected value* field?

When you have entered all the data, save your PO.

PO number: _____

2. Enter an invoice for the blanket purchase order

Bürohandel Leifritz GR.## sends you the following invoice. 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 cost center data and the distribution is as per the vendor's invoice **RE-D1##**.



Hint: Choose the display variant (layout) *Account Assignment - Cost Center* for the item overview. You can then branch to the account assignment screen with the *multiple account assignment switch*.

Continued on next page

Invoice		Bürohandel Leifritz Gr.## Mittermaierstrasse 112 27691 Cologne		
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	10 EUR/pack	500 EUR
Breakdown:		Cost center T-L##	10 packs EUR 100	
		Cost center 4100	40 packs EUR 400	
			Total net value	500 EUR
			plus 10 % VAT	50 EUR
			Invoice amount	<u>EUR 550</u>
Subject to the agreed payment conditions.				
Kind regards, Bürohandel Leifritz Gr.##				

Figure 132: Invoice RE-D1## for Blanket Purchase Order

When you have entered all the data, save the invoice.

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
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

4. **Optional: Enter further invoices**

Enter further invoices against your blanket purchase order. Choose an invoice amount that causes the purchase order limit to be exceeded.

Continued on next page



Were you able to post the invoice even if the limit was exceeded?

Solution 15: Blanket Purchase Order

Task: Processing of Blanket Purchase Orders

Your purchasing department has reached an agreement with the company **Bürohandel Leifritz Gr.##** whereby plant **1000** (Hamburg) can order office supplies informally by fax.

1. Create a blanket purchase order

Create a **framework order** for **Bürohandel Leifritz 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 12.31 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** as the short text and **006** (office supplies) as the material group.

You do not expect the value of the office supplies actually procured to exceed **5000 EUR**. In addition, stipulate that the overall limit for invoice verification purposes is to be **6000 EUR**. What is the purpose of the entry in the *Expected value* field?

When you have entered all the data, save your PO.

PO number: _____

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*.

Continued on next page



- b) In the *Order type* dropdown list field, choose the **Framework order** entry and enter vendor **T-K500D##**.



Hint: You can determine the number of the vendor master record via F4 Help for example. Search for your vendor using *Name*. It is sufficient to search for **Bürohandel***. Choose the vendor for your group number.

- c) Enter the following data in the PO header:

Additional data tab	
Validity start date	<Today's date>
Validity end date	<End of next year>
OrgData tab	
Purchasing organization	1000
Purchasing group	T## (SCM500-##)

- d) Enter the following data in the item overview:

Item 10	
A (account assignment category)	U (unknown)
I (item category)	B (limit)
Short text	Office supplies
Material group	006
Plant	1000


Confirm your input with *Enter*.

- e) Enter the following data in the item details on the *Limits* tab page:

Limits tab	
Overall limit	6000
Expected value	5000

Continued on next page

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 CO. This value is also printed in the purchase order.

- f) Choose , with the quick-info text *Save*, and make a note of the PO number.

2. Enter an invoice for the blanket purchase order

Bürohandel Leifritz GR.## sends you the following invoice. 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 cost center data and the distribution is as per the vendor's invoice **RE-D1##**.



Hint: Choose the display variant (layout) *Account Assignment - Cost Center* for the item overview. You can then branch to the account assignment screen with the *multiple account assignment switch*.

Invoice		Bürohandel Leifritz Gr.## Mittermaierstrasse 112 27691 Cologne		
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	10 EUR/pack	500 EUR
Breakdown:		Cost center T-L##	10 packs	EUR 100
		Cost center 4100	40 packs	EUR 400
			Total net value	500 EUR
			plus 10 % VAT	50 EUR
			Invoice amount	<u>EUR 550</u>
Subject to the agreed payment conditions.				
Kind regards, Bürohandel Leifritz Gr.##				

Figure 133: Invoice RE-D1## for Blanket Purchase Order



When you have entered all the data, save the invoice.

Continued on next page

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:


Invoice date	<Today's date>
Reference	RE-D1##
Amount	550
Tax amount	50
Tax code	1I (input tax, training (10%))

- c) On the *PO reference* tab page, choose *Purchase Order/Scheduling Agreement* as reference document category and enter your PO number.
- d) Choose , with the quick-info text *Next*, for the system to suggest the data from the purchase order.
- e) Choose the entry *Account Assignment - Cost Center* in the list field **Display Variant** (layout).
- f) In the item line, choose , with the quick-info text *Multiple account assignment* so you can enter the account assignment data.
- g) Enter the following data:

Multiple account assignment for item			
Amount	G/L account	Cost center	Tax code
100	476000	T-L##	1I
400	476000	4100	1I



Caution: Make sure that the tax code is set to 1I (10 %) in the second item. To do so, scroll to the right in the account assignment list.

- h) Choose *Back* to post the invoice.
- i) Choose , with the quick info text *Post*, and note the number of the invoice document.


3. Display the purchase order

Continued on next page

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
<u>T-K500D##</u>	<u>Bürohandel Leifritz Gr.##</u>	<u>550,00 -</u>
<u>476000</u>	<u>Office supplies</u>	<u>100,00</u>
<u>476000</u>	<u>Office supplies</u>	<u>400,00</u>
<u>154000</u>	<u>Input tax</u>	<u>50,00</u>

- Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Display (ME23N)*.
- If your blanket purchase order is not displayed, choose  with the quick info text *Other purchase order*. Enter the number of the blanket purchase order and choose *Other Document*.
- Choose the *Limits* tab page in the item details.
The actual value of the item is 500 EUR.
- Choose the *Purchase order history* tab page in the item details.
- Click on the number of the invoice to display the invoice.
- Choose *Follow-on documents* and double-click on the number of the accounting document.

Make a note of the data in the table.

4. Optional: Enter further 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 even if the limit was exceeded?

- Proceed as in substep 2 (Enter invoice for blanket purchase order) and choose suitable data (for example, amount: 6600 and tax: 600 EUR). It is sufficient to assign 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:

- Explain the purpose of the item category in purchasing documents
- Explain the special aspects of procuring materials using a blanket purchase order
- Create a blanket purchase order
- Enter invoices with reference to a blanket purchase order with Logistics Invoice Verification



Unit Summary

You should now be able to:

- List the differences between the procurement of consumable materials and that of stock materials
- Explain the significance of the account assignment category
- Use transaction ME51N for purchase requisitions
- Create a purchase requisition with items with single and multiple account assignments
- Request a material without a material master record
- Create a purchase order with reference to a purchase requisition with account assignment
- Enter an order acknowledgement for a purchase order
- Explain the difference between a valuated and non-valuated goods receipt
- Explain the postings resulting from a non-valuated goods receipt during invoice entry
- Explain the purpose of the item category in purchasing documents
- Explain the special aspects of procuring materials using a blanket purchase order
- Create a blanket purchase order
- Enter invoices with reference to a blanket purchase order with Logistics Invoice Verification



Test Your Knowledge

1. In the case of a valuated receipt of a consumable material, a deduction from the stock account (credit entry) is posted.
Determine whether this statement is true or false.
 - True
 - False

2. You wish to procure material for consumption. Which data must exist in the purchase requisition?
Choose the correct answer(s).
 - A Material description
 - B Account assignment category
 - C Material number
 - D Account assignment data
 - E G/L account
 - F Material group

3. In the case of consumable material with a master record, the stock figure (as shown in the material master record) is never updated on a value basis.
Determine whether this statement is true or false.
 - True
 - False

4. The account assignment category *Unknown* is allowed only in purchase requisitions. This account assignment category may not be used in the purchase order.
Determine whether this statement is true or false.
 - True
 - False

5. If you create a multiple account assignment in an item, you can choose between quantity-based and percentage-based distribution.
Determine whether this statement is true or false.
 - True
 - False

6. Which of the following statements applies for the internal requisition of material without a material master record?

Choose the correct answer(s).

- 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 enter only the account assignment category *Unknown*.

7. When creating a purchase order with reference to a purchase requisition: If there is no purchasing info record with a valid price for a vendor and a material, the valuation price from the purchase requisition is always proposed as the order price.

Determine whether this statement is true or false.

- True
- False

8. Which indicator must be set in the purchase order item so that the GR/IR clearing account is not posted to during invoice entry?

Choose the correct answer(s).

- A *Goods receipt* indicator: set or *GR non-valuated* indicator: set
- B *Goods receipt* indicator: set or *GR non-valuated* indicator: not set
- C *Goods receipt* indicator: not set or *GR non-valuated* indicator: not set
- D *Goods receipt* indicator: not set or *GR non-valuated* indicator: set

9. You cannot enter a goods receipt or any services against a PO item with the item category "limit" (B).

Determine whether this statement is true or false.

- True
- False

10. Which of the following do you enter when you create a blanket purchase order?

Choose the correct answer(s).

- A Vendor
- B Material
- C Delivery date
- D Short text
- E Order price for material
- F Account assignment category
- G Item category B
- H *Limited Validity* indicator
- I Material group
- J Quantity and unit of measure
- K Plant



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Answers

1. In the case of a valued receipt of a consumable material, a deduction from the stock account (credit entry) is posted.

Answer: False

In the case of a valued receipt of a consumable material, a stock account is never posted. Instead a consumption account is posted. A debit entry is also involved.

2. You wish to procure material for consumption. Which data must exist in the purchase requisition?

Answer: A, B, F

For A and C: You can procure materials with and without a material master record for consumption. However, you must always specify a material short text (short description).

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 need not specify any account assignment data or a G/L account.

For F: In the case of materials with master records, the material group is adopted from the material master record. For materials without a master record, you must specify the material group manually.

3. In the case of consumable material with a master record, the stock figure (as shown in the material master record) is never updated on a value basis.

Answer: True

The material types for consumable materials determine that value-based inventory management is not possible for these materials.

4. The account assignment category *Unknown* is allowed only in purchase requisitions. This account assignment category may not be used in the purchase order.

Answer: False

For standard purchase order items, you may not use the account assignment category *Unknown*. You may use the account assignment category *Unknown* in the purchase orders for service items (item category D) and items with a value limit (item category B).

5. If you create a multiple account assignment in an item, you can choose between quantity-based and percentage-based distribution.

Answer: True

6. Which of the following statements applies for the internal requisition of material without a material master record?

Answer: B, C, E

For A and B: For material without a master record, you do not have a material number, so 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, but do enter the valuation price.

For E and F: Items without a material master record must be assigned, but there is no restriction on the possible account assignment categories.

7. When creating a purchase order with reference to a purchase requisition: If there is no purchasing info record with a valid price for a vendor and a material, the valuation price from the purchase requisition is always proposed as the order price.

Answer: 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.

8. Which indicator must be set in the purchase order item so that the GR/IR clearing account is not posted to during invoice entry?

Answer: A, C

The GR/IR clearing account is not posted to in the invoice if no goods receipt for the order item or a non-valuated goods receipt is not planned.

This setting is not possible for D.

9. You cannot enter a goods receipt or any services against a PO item with the item category "limit" (B).

Answer: True

The item category limit determines that no GR can be entered against a PO item.

10. Which of the following do you enter when you create a blanket purchase order?

Answer: A, D, F, G, I, K

When creating a blanket purchase order, you must enter the following:

Order type framework order, vendor, validity period, account assignment category (and, where relevant, additional account assignment data), item category B, short text, material group, plant, limit (overall value, expected value).

Unit 5



Procurement of External Services



Procurement with the SAP ERP Central Component is not restricted to goods (materials) only. This course also introduces the procurement of external services. The instructor should at that point explain the differences in processes in the transactions for procuring stock material and consumable materials. Experience shows that participants have particular difficulty with service entry. This transaction should therefore be explained step by step.

Unit Overview

This unit is intended to provide an initial insight into the procurement of external services. The special aspects of procuring external services are described on the basis of a simple procurement process, starting with the issue of a purchase order and ending with the invoice verification phase. The unit discusses the service master record and service conditions, as well as the entry and acceptance of the work actually done, which corresponds to the goods receipt phase in materials procurement.



Unit Objectives

After completing this unit, you will be able to:

- Name the most important master data used in the procurement of external services
- Describe and handle the basic procurement process for services.
- Display a service master record and service conditions
- Explain the structure of the purchase order item for services
- Create a purchase order item for services
- Create a service entry sheet referencing a purchase order
- Add unplanned services during the service entry process
- Accept a service entry sheet
- Check an invoice for a service PO

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Lesson: Service Master Record and Conditions



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Lesson Duration: 40 Minutes

Lesson Overview

This lesson deals with the process of procuring externally provided services. It also introduces the master data for external services.



Lesson Objectives

After completing this lesson, you will be able to:

- Name the most important master data used in the procurement of external services
- Describe and handle the basic procurement process for services.
- Display a service master record and service conditions



Introduce the objectives and the business scenario. Discuss and show the service master record and the service conditions.

Business Example

In your company, maintenance work such as the replacement of defective fluorescent tubes is carried out by an external service provider. You have maintained service master records and special conditions for this process.

External Services in Procurement



As an introduction, briefly outline the complete procurement process for external services. Compare the procurement process for services with that for materials. Discuss the similarities and the differences.

Indicate that the work to be done by the service provider can normally be broken down into subtasks (individual services). These individual services are consolidated in sets of service specifications. Explain this using a simple example. One such example is the painting of an office, which might involve the following tasks (individual services): covering the floor and furniture, masking windows, applying a primer, applying the top coat, removing and disposing of covers, cleaning of room. Of course, 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 actually performed. Explain this using the previously chosen example.

The following figure, “Process Flow of External Service Procurement,” shows all the possible steps that can be involved in procuring external services.

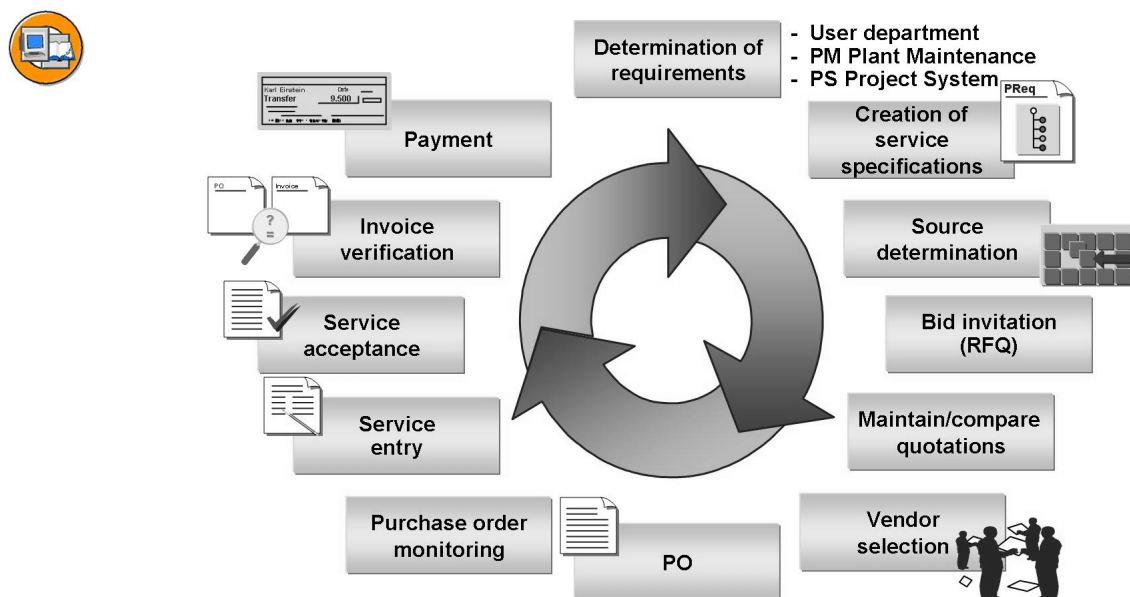


Figure 134: Process of External Service Procurement

Determination of requirements: A requirement for certain external services may arise in a user department of the enterprise. It may involve a particular project (for example, the translation of software documentation) or maintenance work (for example, the outsourcing of electrical work that becomes necessary on company premises).

Creation of service specifications: When a requirement is established, a document is created in the system as the basis for the procurement process (this may be a purchase requisition, for instance). The document can contain a set of service specifications listing the necessary services in detail. However, in this early phase of the procurement process, you also have the option of doing without service specifications entirely and considering only the unplanned services by setting value limits.

Source determination/vendor selection: To be able to convert a requirement into a purchase order, you must determine a suitable bidder who is prepared to provide the necessary services. There are a number of different ways in which the system can support you in finding potential sources of external services. The

source determination function is an instrument for analyzing and evaluating purchasing data that has already been entered in the system (in the form of service conditions or contracts, for example).

If services for which there has been no previous requirement (and thus for which no source is currently recorded in the system) are requested, a bid invitation process can be carried out. You can replicate this bid invitation process using the RFQ/quotation facility for services.

Purchase order, PO monitoring: In addition to manual entry, purchase orders can also be created by referencing requisitions, RFQs, or contracts.

During the phase of actual service performance, the actual values for services performed/work done are continuously updated in the underlying purchase order (or contract release order). You can therefore see at any time how far a certain procurement project has progressed by referring to the PO history. If necessary, you can monitor the confirmations of work done for each individual service line.

Service entry and service acceptance: Once the services actually performed have been recorded in a service entry sheet, they can be checked and accepted by one or more responsible persons. You can separate the processes of service acceptance and service entry organizationally in order to maintain the dual control principle. However, it is also possible to have service entry and acceptance carried out by the same individual or department in your company.

Invoice verification and payment: At the end of the procurement process, a check is carried out as to whether the service provider's invoices have been drawn up correctly. The value from the accepted entry sheet is taken as the basis for this. This value is compared with the invoice. The taxes shown in the invoice are also checked. If the value from the accepted entry sheet is exceeded, the system issues a warning message. The checked and released invoices are then paid automatically.

Service master record



Explain which applications can use service master records and which data is entered in a service master record.

The service master record belongs to the master data and serves as a source of data that can be used when you create service specifications. By using service master records, you can reduce the amount of time needed for this activity, as well as the occurrence of errors. This is because you need to enter the service specifications completely once only in the service master record.

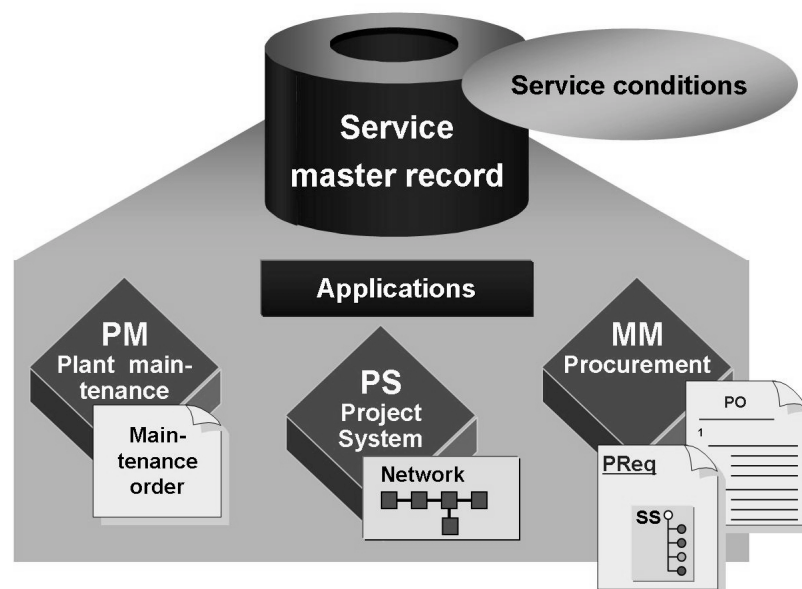


Figure 135: Service Master Record

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 measure
- Material group
- Valuation class

Service master records can be used by different applications. Besides *Purchasing (MM-PUR)*, Service Master Records are also used in the *Project System (PS)*, *Plant Maintenance (PM)* and *Customer Service (CS)*.



Discuss the structure and use of transaction AC03. After that, you could demonstrate how to display the service master record.

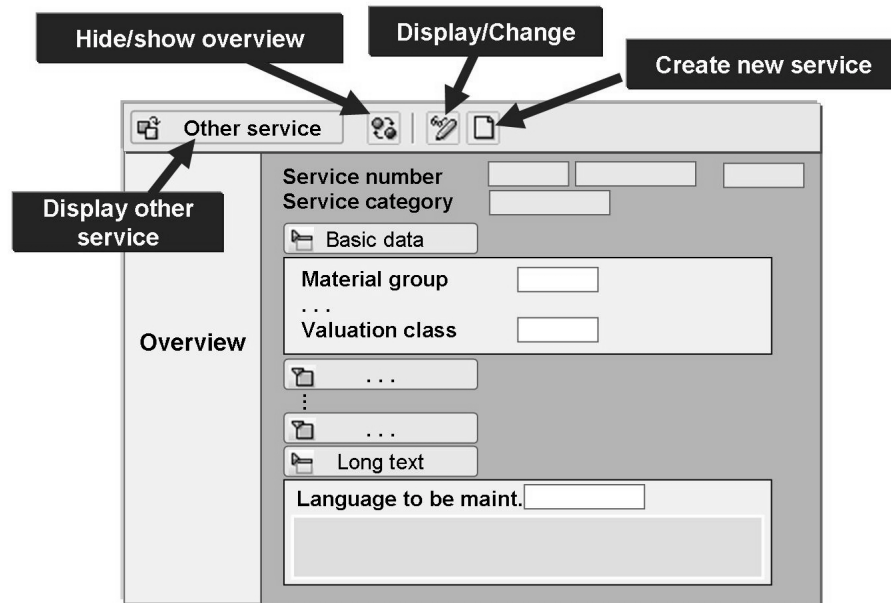


Figure 136: Service Master – Transaction AC03

The service master record transaction (AC03) is a single-screen transaction that you can use to create, change, and display services. When you invoke the function, you are initially in display mode. You can choose a specific service with *Other Service* 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, breakdown), and can also be shown/hidden in this transaction with , with the quick-info text *Show/Hide Overview*.

You can expand and collapse the data areas in the right-hand area of the screen via , with the quick-info text *Open*, and , with the quick-info text *Close*. The first time you call up this screen, the data areas *Basic Data* and *Long Text* are open. Each time you call it up after this, the screen settings and the data you selected or maintained before exiting the function appear.

Service conditions



Discuss the levels on which service conditions can be maintained. The figure “Price Determination with the Aid of Master Conditions” does not show the dependency of the vendor-specific service conditions on the purchasing organization. Point out to the participants that the purchasing organization must be specified for vendor-specific service conditions.



Hint: Through intelligent questioning, you can get the participants to work this information out for themselves. Make it clear that the own estimate is specified without a purchasing organization.

After this, show the demo on the service conditions.

Prices for external services that are valid over a longer period can be recorded in the system in the form of service conditions. The system applies these conditions for the purpose of price determination in the purchasing document. You can enter further conditions in the purchasing document itself.

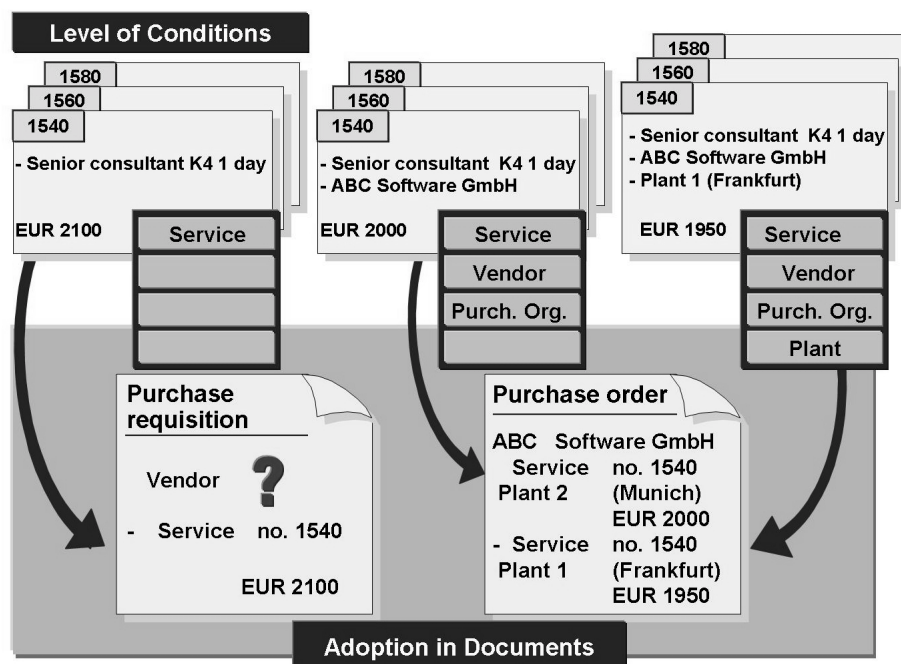


Figure 137: Price Determination with the Aid of Master Conditions

You can define service master conditions at several levels in the system:

- At service level (“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)*.



Demonstration: Display Service Master Record

Purpose

(Duration approx. 10 minutes)

Introduction of transaction AC03

CATT: ZT_SCM500


System Data


System:	Training system
Client:	8xx
User ID:	Own or SCM500-00
Password:	Ask the instructor
Set up instructions:	None

1. Show the options for the service master and for service entry in the SAP Easy Access menu. Briefly discuss the options in the *Service Master* menu, especially the *Service* section. Give a quick explanation of what is meant by model service specifications and the standard service catalog.
2. Choose *Logistics* → *Materials Management* → *Service Master* → *Service* → *Service Master (AC03)*.
3. Display the services **T-LM100** and **T-LM200**. (Alternatively: services 100131 and 100132)

Explain how to use the transaction.

4. **Optional: create new services.**

Choose  *Create new service* and create any new service.

When you have entered all the data, create another service by choosing , with the quick-info text *Create new service*, again.

Then save your data. You exit transaction AC03 automatically after saving.



Demonstration: Display/Add Service Conditions

Purpose

(Duration approx. 10 minutes)

Introduction of the transaction for the entry of service conditions

CATT: ZT_SCM500

System Data

System:	Training system
Client:	8xx
User ID:	Own or SCM500-00
Password:	Ask the instructor
Set up instructions:	None

1. Choose *Logistics* → *Materials Management* → *Service Master* → *Service* → *Service Conditions*.

Briefly discuss the menu options.

2. Conditions for service

Choose *Logistics* → *Materials Management* → *Service Master* → *Service* → *Service Conditions*.

Explain the selection screen. The own estimate depends only on the service and the date (validity period). Select service **T-LM100 to T-LM200**. There are no conditions.

3. Conditions for vendor

Choose *Logistics* → *Materials Management* → *Service Master* → *Service* → *Service Conditions* → *For Vendor Without Plant* → *Display (ML41)*.

Select with vendor **T-K500E00** and purchasing organization **1000**.

T-LM100: **2 EUR/pc**

T-LM200: **4.50 EUR/pc**

4. **Alternatively: display and add conditions for services 100131 and 100132.**

- Own estimate available: 38.40 per service in each case
- Add conditions for vendor **T-K500E00** and purchasing organization **1000**:

Choose *Logistics* → *Materials Management* → *Service Master* → *Service* → *Service Conditions* → *For Vendor Without Plant* → *Display (ML41)*. Enter the following data: vendor and purchasing organization.

Vendor: **T-K500E00**

Purchasing organization: **1000**

Service/amount: **100131 / 35** EUR.

Service/amount: **100132 / 40** EUR.



Note: Ask the participants which conditions are proposed in a purchase order.



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Exercise 16: Master Data for External Services Management

Exercise Duration: 5 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Display service master records
- List the conditions for service master records depending on a vendor

Business Example

The fluorescent tubes in your offices have to be replaced due to wear and tear. An external service provider will be carrying out this work. Test the procurement process for external services.

System Data

System:	Training System
Client:	8xx
User ID:	SCM500-##
Password:	The password set by the participant
CATT:	ZT_SCM500
Set up instructions:	None



Task: Service Master Record and Service Conditions

Service master records exist in the system for regular maintenance work involving the replacement of worn-out fluorescent tubes on your company's premises. Check this master data and the conditions for these services.

1. Display a service master record

Display the service master records **T-LM1##** (removal of fluorescent tubes) and **T-LM2##** (installation of fluorescent tubes).



Hint: Choose  *Other service* and then enter the service number. You can close the service overview using  *Hide Overview*.

Is there a long text describing the service in more detail in each case?

What is the unit of measure for managing the services?

Continued on next page

2. Display service conditions

Have conditions been stored for vendor **T-K500E##** (Elektroblitz GmbH Gr.##) in both the aforementioned service master records for purchasing organization **1000** (without a plant)? Make a note of the vendor's price for the service where applicable.

T-LM1## : _____

T-LM2## : _____

Solution 16: Master Data for External Services Management



Task: Service Master Record and Service Conditions

Service master records exist in the system for regular maintenance work involving the replacement of worn-out fluorescent tubes on your company's premises. Check this master data and the conditions for these services.

1. Display a service master record



Display the service master records **T-LM1##** (removal of fluorescent tubes) and **T-LM2##** (installation of fluorescent tubes).



Hint: Choose  *Other service* and then enter the service number. You can close the service overview using  *Hide Overview*.

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  *Other service* and enter the service number **T-LM1##** or **T-LM2##**.
 - If the *Long text* data area is closed, choose  *Long text* 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

Have conditions been stored for vendor **T-K500E##** (Elektroblitz GmbH Gr.##) in both the aforementioned service master records for purchasing organization **1000** (without a plant)? Make a note of the vendor's price for the service where applicable.


T-LM1## : _____

Continued on next page

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:

Purchasing organization	1000
Vendor	T-K500E##
Service number	<No input necessary>

- c) Choose  with the quick info text *Execute*. The following services and prices are listed:

T-LM1## : 2.00 EUR/pc

T-LM2## : 4.50 EUR/pc



Lesson Summary

You should now be able to:

- Name the most important master data used in the procurement of external services
- Describe and handle the basic procurement process for services.
- Display a service master record and service conditions

Lesson: Purchase Order for Services



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Lesson Duration: 45 Minutes

Lesson Overview

In this lesson, using a purchase order example, we examine the special features of a service item in purchasing documents. Unlike an item for a material, for services you enter service specifications and limits for the item.



Lesson Objectives

After completing this lesson, you will be able to:

- Explain the structure of the purchase order item for services
- Create a purchase order item for services



Introduce the objectives and the business scenario. Discuss and show the creation of a purchase order for services.

Business Example

In your company, many fluorescent tubes 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 service specifications and a limit for unexpected additional work.



Explain the procurement process in this unit. Then explain the particularities of the purchase order for services. Highlight the following:

- Item category D (service); in the item detail, the *Services* and *Limits* tabs are displayed
- Account assignment category U (unknown) is allowed in the purchase order for item category D
- At item level, there is only a brief description of the work to be completed using the short text
- List of the individual services to be performed in the service specifications (SS); SS is created at item detail level
- Value limit for unplanned services

The “External Service Procurement: Purchase Order” figure shows a simple process for procurement of services consisting of purchase order, service entry and acceptance, and invoice entry. At the start is the purchase order, where the individual services to be performed are summarized in a service specification and forwarded to the service provider.

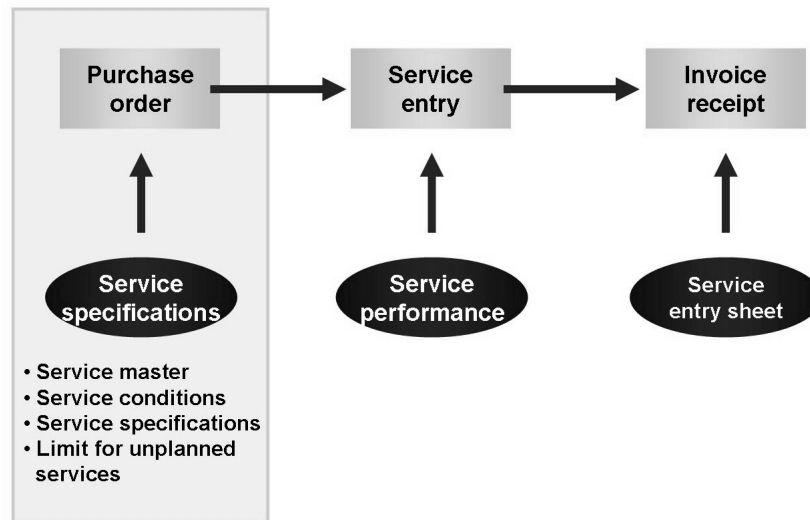


Figure 138: Service Procurement: Purchase Order

As a result of material procurement, you already have lots of information, such as which material is to be procured and the quantity. During service procurement, however, it is often the case that neither the exact service description nor the order quantity are clearly specified. For example, during maintenance of a machine, you do not know whether the settings simply have to be adjusted or whether parts have to be replaced.

You might also be able to specify only an estimate for the working hours because you do not know exactly how much time it will take. By specifying a limit for unplanned services, you can control the costs for unexpected services and services that cannot be planned.

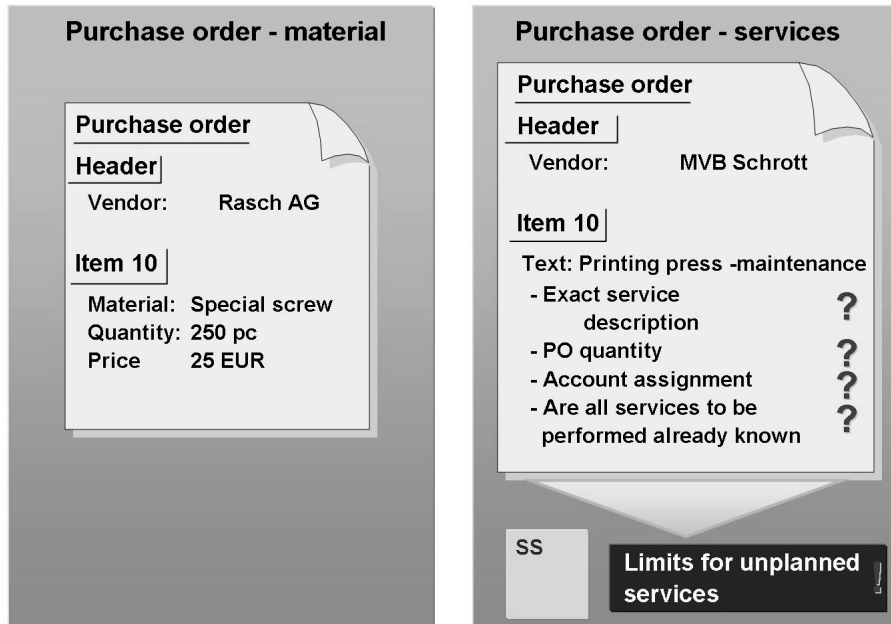


Figure 139: Purchase Order: Stock Material – Services

The work to be performed cannot be displayed as a rule in a single service master record. If, during machine maintenance, wearing parts also need to be replaced, the total work includes shutdown, removal of the wearing parts, checking the parts, cleaning or replacing the wearing parts, installing the parts, and performing a function test. These individual services are consolidated in sets of service specifications.

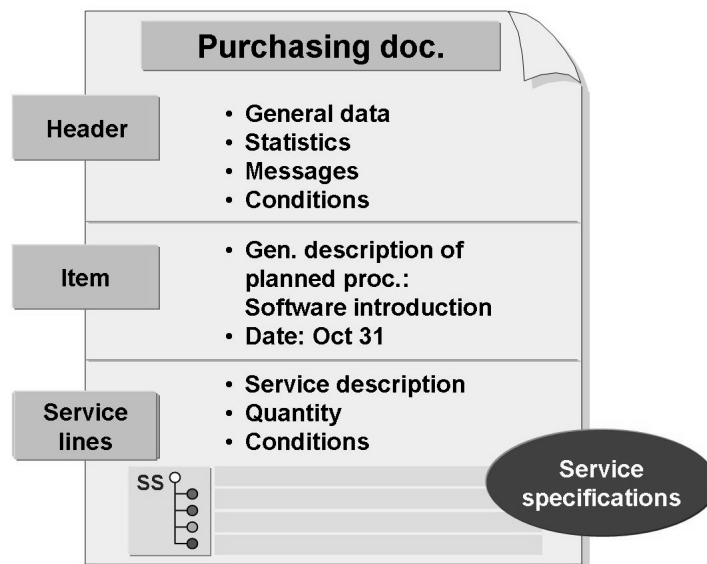


Figure 140: Purchasing Document Structure

A service item must always have an account assignment. Procurement for the warehouse, which is possible for material, does not exist in the service procurement. However, you can use account assignment category *U* (unknown) in connection with the item category *D* (service) because the account assignment is sometimes not yet determined at the time of ordering.

During material procurement, enter a material and the relevant data for each item. During service procurement, the item has only a short text to describe the general procurement project. To list the individual services with description, quantity specification, price, and other details, use the service specifications (SS). Maintain this at item detail level. You can summarize both services with master records and services without master records in the service specifications.

Item category *D* (service) activates the service function and enables creation of a service specification and setting of value limits for unplanned services.

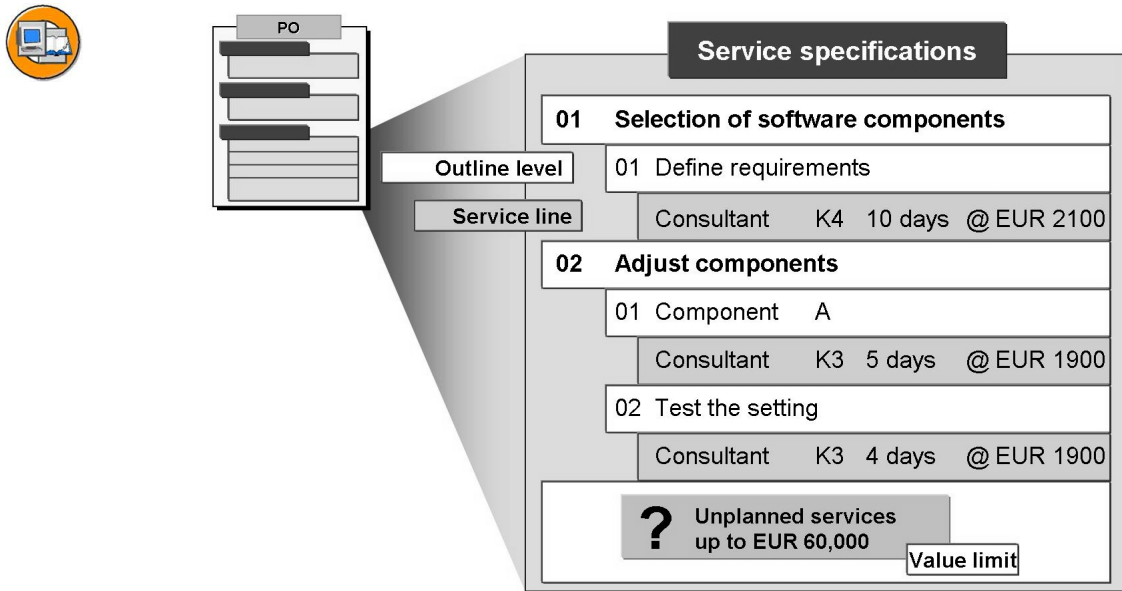


Figure 141: Service Specification in Purchasing Document

A service specification can consist of any number of service lines. For a better overview, you can use the SS outline to structure the services in the service specification into a hierarchy of outline levels, similar to a table of contents. A maximum of four hierarchy levels is possible. You can change the numbers of the levels and their short and long texts at any time. You can assign as many service lines as you wish to each outline level.



Demonstration: Purchase Order for Services

Purpose

(Duration approx. 15 minutes)

Create a purchase order with service specification and limit.

CATT: ZT_SCM500

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions: None

1. Give a demo according to the data of the task from the exercise. Use the data with group number ## = 00.
2. **Alternative: Purchase order for fire safety inspection**

Create a new purchase order with the following data:

Field name	Field value
Vendor	T-K500E00
Item overview: item 10	
Account assignment category	K
Item category	D
Short text	Fire safety inspection
Plant	1000

<i>Services tab page</i>	
Line 10	
Service no.	100131
Quantity	5
Cost center	1000
Line 20	
Service no.	100132
Quantity	2
Cost center	1000
Limits tab page	
Overall limit	500
Expected value	150
Cost center	1000

The system determines prices for both services (own estimate or vendor-specific conditions). Check whether the conditions with the following values match and change them if necessary:

Service **100131**: **35 EUR**.

Service **100132**: **40 EUR**.



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Exercise 17: Procurement of External Services

Exercise Duration: 15 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create a purchase order for external services, taking into account value limits for unplanned services

Business Example

The fluorescent tubes in your offices have to be replaced due to wear and tear. An external service provider will be carrying out this work. Test the procurement process for external services.

System Data

System:	Training System
Client:	8xx
User ID:	SCM500-##
Password:	The password set by the participant
CATT:	ZT_SCM500
Set up instructions:	None

Task: Purchase Order Handling for Services

The company Elektrolitz is responsible for the exchange of fluorescent tubes in your office buildings. Enter a purchase order for this upcoming maintenance work.

1. For the exchange of fluorescent tubes, create a purchase order in plant **1000** for vendor **T-K500E##**.

In the item overview, enter a relevant **short text** that generally describes your service specifications.

Do not forget to select the **appropriate item category** (_____) and the **material group for services (007)**.

Because you do not know who will be debited for the goods when you order them, use account assignment category **U**.

Maintain services **T-LM1##** and **T-LM2##** on the *Services* tab page in the item detail. Both services are required in plant 1000 in quantities of **100 pieces**.

Continued on next page

On the *Limit* tab, determine a total limit of **200 EUR** for unplanned services.
The expected value is also **200 EUR**.

Save your purchase order after you have entered all the data.

PO number: _____

Solution 17: Procurement of External Services

Task: Purchase Order Handling for Services

The company Elektrolitz is responsible for the exchange of fluorescent tubes in your office buildings. Enter a purchase order for this upcoming maintenance work.

1. For the exchange of fluorescent tubes, create a purchase order in plant **1000** for vendor **T-K500E##**.

In the item overview, enter a relevant **short text** that generally describes your service specifications.

Do not forget to select the **appropriate item category** (_____) and the **material group for services (007)**.

Because you do not know who will be debited for the goods when you order them, use account assignment category **U**.

Maintain services **T-LM1##** and **T-LM2##** on the *Services* tab page in the item detail. Both services are required in plant 1000 in quantities of **100 pieces**.

On the *Limit* tab, determine a total limit of **200 EUR** for unplanned services. The expected value is also **200 EUR**.

Save your purchase order after you have entered all the data.

Continued on next page



PO number: _____

- Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*
- Enter *vendor T-K500E##*.
- Enter the following data in the item overview:

Item 10	
Account assignment category	U (unknown)
Item category	D (service)
Short text	Exchange of fluorescent tubes
Material group	007
Plant	1000

- In the item detail, enter the data for the services and limits:

Services tab	
Line 10	
Service no.	T-LM1##
Quantity	100
Line 20	
Service no.	T-LM2##
Quantity	100
Limits tab	
Overall limit	200
Expected value	200

- Save your purchase order and make a note of the purchase order number.



Lesson Summary

You should now be able to:

- Explain the structure of the purchase order item for services
- Create a purchase order item for services

Lesson: Service Entry and Invoice Verification



Lesson Duration: 50 Minutes

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.



Lesson Objectives

After completing this lesson, you will be able to:

- Create a service entry sheet referencing a purchase order
- Add unplanned services during the service entry process
- Accept a service entry sheet
- Check an invoice for a service PO



Introduce the objectives and the business scenario. Discuss and show the creation and acceptance of service entry sheets and the entry of an invoice for services.

Business Example

The service provider reports that he has completed the task of replacing spent fluorescent tubes. He also advises you that lamp ballasts also had to be replaced. You are responsible for checking these services are performed and entering them in the system. You must also check the invoice.

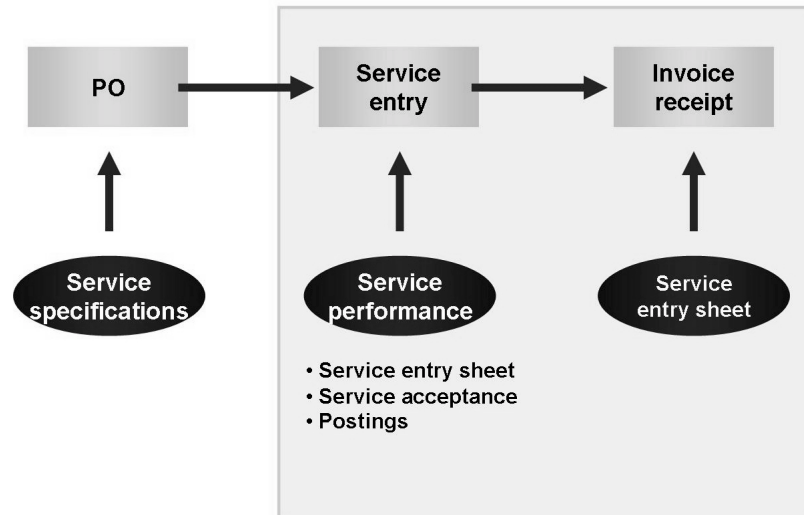


Figure 142: Procurement of Ext. Services: Entry of Services Performed, IE

In the process of procuring external services, the issue of the purchase order is followed not by the receipt of goods - as in the case of material procurement - but by the entry of the service actually performed (work actually done) in a service entry sheet. Subsequently, the service entry sheet is accepted and the incoming invoice entered.

Service Entry and Acceptance



Discuss with participants why services that have been performed are entered in the system in “two steps” - create entry sheet, accept entry sheet - and not in a single step (as in the case of material that is delivered).



Note: There is also a parallel to service acceptance in the entry of a delivery of goods. At the time of goods receipt (GR), material is posted to stock in quality inspection, from which it subsequently has to be 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.

Services that have been performed are recorded in service entry sheets. When entering services, you reference the purchase order. You can copy planned services directly from the purchase order into the service entry sheet. Unplanned services are not described in detail, neither are their quantities and prices specified until the

work actually done is recorded. The system checks that the unplanned services do not exceed the limit set in the purchase order. Postings are not made in Financial Accounting when the service entry sheets are saved.

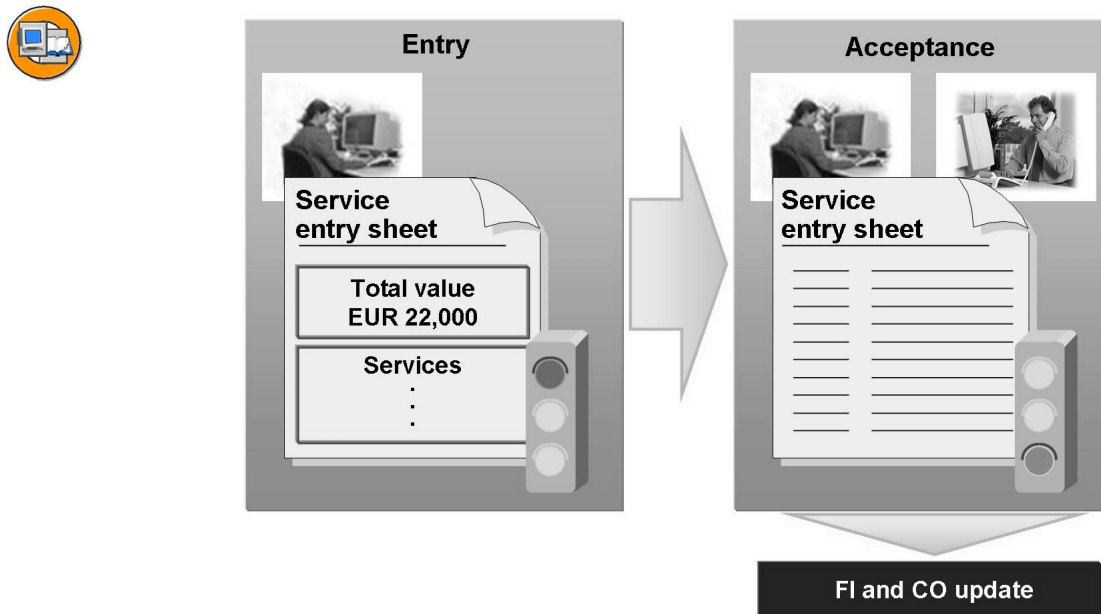


Figure 143: Service Entry and Acceptance

The relevant postings are not made in Financial and Cost Accounting until the service entry sheets are accepted. Service entry sheets can be entered and accepted in one step or two, depending on authorization.

You can set up release procedures for service entry sheets.

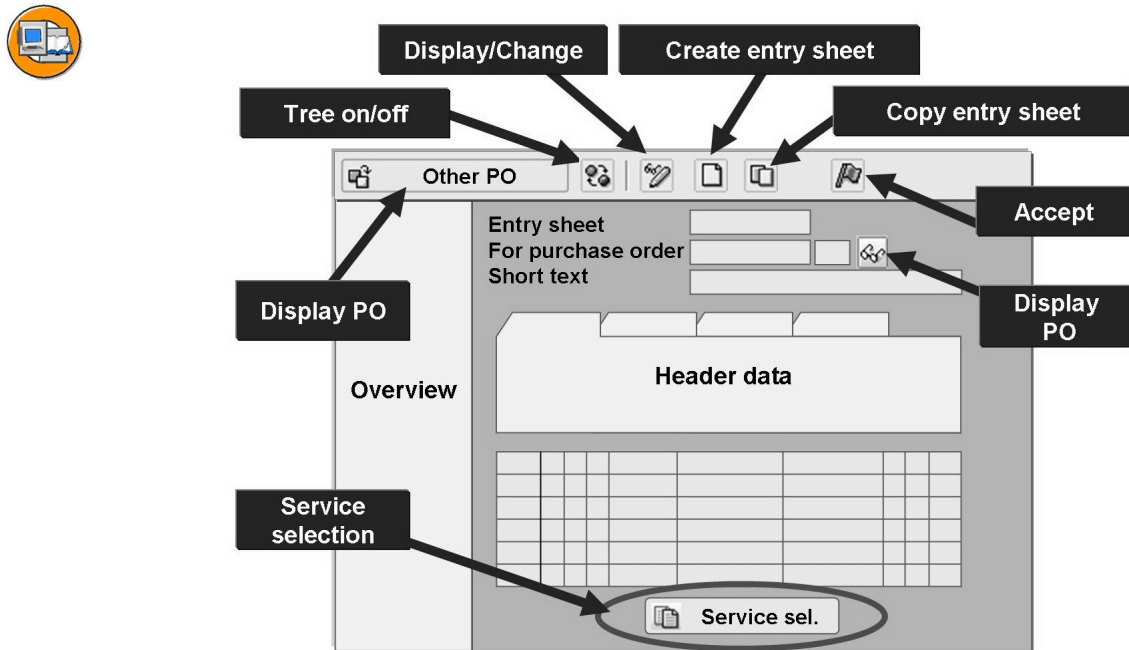


Figure 144: Entry of Services Performed – Transaction ML81N


In the service entry transaction ML81N, all data (header and service data) is maintained on one screen (single-screen transaction).

When you invoke the function, you are initially in display mode. Enter the purchase order for which the service entry sheet is to be created with *Other purchase order*.

Note: If the purchase order is already displayed in the overview, all you have to do is double-click on the document number to adopt the data.


Then choose with the quick info-text *Create entry sheet*, to start the entry process. You can enter the services manually in the service entry sheet, or with *Service selection* from the purchase order or from a set of model service specifications. If you have defined a limit in the purchase order, you can also enter unplanned services manually, up to this limit. If necessary, you can print out service entry sheets.

You can also accept the services actually performed when creating an entry sheet, provided that separate acceptance is not required as part of a release strategy. To do so, choose with the quick-info text *Accept*, before saving the service entry sheet. Service entry sheets can also be accepted collectively (transaction ML85).


By clicking , with the quick-info text *Hide/display overview*, you can call up a list of the purchase orders for which services actually performed have recently been entered (in the left-hand part of the screen). You can also call up the associated service entry sheets. Double-click on the service entry sheets to select them for display, change, and copy purposes.








Creating and Accepting a Service Entry Sheet

1. Choose *Logistics* → *Materials Management* → *Service Entry Sheet* → *Maintain*.
2. Choose  *Other purchase order* and enter the number of the purchase order. The relevant purchase order is shown preselected in the document overview.
If the PO is shown unselected in the document overview, select it and adopt the data with a double-click.



Hint: Choose  to open or close the document overview.

3. To create a new service entry sheet, choose , with the quick-info text *Create entry sheet*.
4. Maintain a short text for the service entry sheet.
5. Enter the necessary data, such as an account assignment category (in the case of account assignment unknown in the PO) or the external number.
6. If you wish to adopt services from the service specifications in the purchase order, choose  *Service Sel.*. The system automatically suggests the purchase order number for selection of the services. Acknowledge with *Enter*.
7. To adopt the desired services in the service entry sheet, select the service lines and choose  *Services*. You are taken back to the service entry sheet.
8. After adopting the relevant services, make any necessary changes (such as correction of the quantity or specifying the cost center).
9. If necessary, enter unplanned services.
10. Choose , with the quick-info text *Accept*, to immediately accept the entry sheet.
11. Choose , with the quick-info text *Save*, to immediately accept the entry sheet at the same time as you create it.

Invoice Entry and Purchase Order History



Explain the process of entering invoices relating to service entry sheets and indicate which data is updated in the PO history.

You cannot enter a service provider's invoice against a PO until the relevant service entry sheet has been accepted.

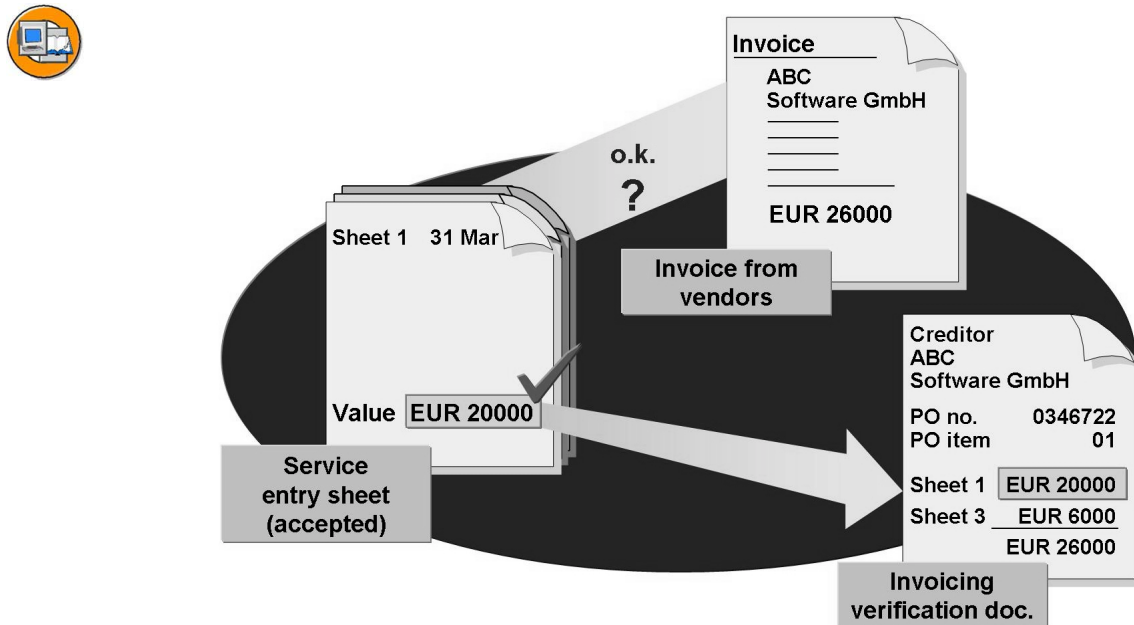


Figure 145: Invoice Verification for Entry Sheet

Invoice verification can be carried out with reference to the purchase order. In this case, the system suggests all accepted service entry sheets relating to this PO for invoice verification purposes.

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.

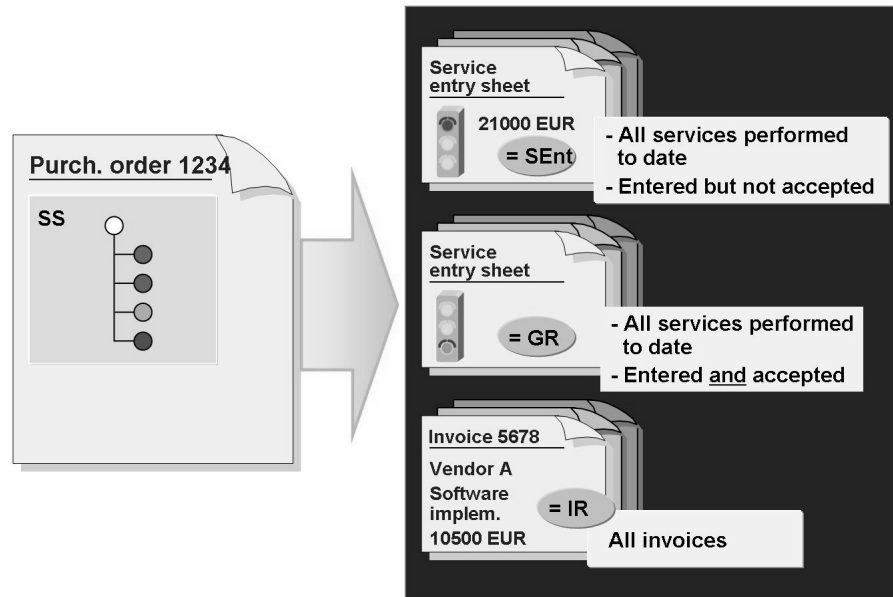


Figure 146: Purchase Order History

In the purchase order history, (PO history) all follow-on activities relating to a PO item are listed, that is, all services performed and entered (service entry sheet), all accepted services (material document) and all invoices that have been entered.

External Services: Notes

- The various options for available for managing external services in *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 the SAP Library.



Demonstration: Service Entry and Invoice Verification

Purpose

(Duration approx. 15 minutes)

Introduction of transaction ML81N and invoice verification with reference to the service entry sheet.

CATT: ZT_SCM500

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00

Password: Ask the instructor

Set up instructions:



Caution: A prerequisite for this demo is the performance of the demo from the “Ordering External Services” lesson.

1. Give a demo with the data of the task from the exercise. Use the data with group number ## = 00.
2. **Alternative: Service entry and invoice verification for the purchase order for inspection of fire safety measures.**

Create two service entry sheets for your purchase order (a separate entry sheet for each service). In the second entry sheet, also record the unplanned service with the following data:

Short text	Fire extinguisher refilled
Quantity/Un	1 pc
Gross price	80
Cost center	1000

Save the second entry sheet without saving it and then display the PO history. Both service entry sheets are shown, but only one GR document.

Accept the second entry sheet. In the process, change the entry sheet.

Display the purchase order history again.

Enter an invoice referencing the purchase order. Enter the following data:

Invoice date	<Current date>
Amount	368,50
Tax amount	33,50
Tax code	1I (10%)



Exercise 18: Service Entry and Invoice Verification

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create and accept service entry sheets
- Use Logistics Invoice Verification to post a vendor invoice for external services

Business Example

The fluorescent tubes in your offices have to be replaced due to wear and tear. An external service provider will be carrying out this work. Test the procurement process for external services.

System Data

System:	Training System
Client:	8xx
User ID:	SCM500-##
Password:	The password set by the participant
CATT:	ZT_SCM500
Set up instructions:	None

Task: Entry and Settlement of External Services

The Elektrolitz company has been given the job of replacing the fluorescent tubes in your office building. You now receive a list of the actual services performed on each floor of the building. After completion of the maintenance work, you receive the invoice.

1. Service entry and acceptance - 1st floor


Service provider **T-K500E##** sends you a service entry sheet for the **1st floor** in which he informs you that he has completed **60 pc** of each service.


Continued on next page



Maintain the service entry sheet in the system and reference your purchase order in the process.





Hint: Choose  *Other purchase order* in the service entry transaction and enter your PO number.


Choose  to create a new service entry sheet.

Enter the short text **Service entry, 1st floor** as a description of the service entry sheet. The number of the entry sheet used by the service provider is **4700##**. Enter this number in the *External number* field. The cost of this procurement transaction will be borne by cost center **T-L##**.

Now enter the services performed, T-LM1## and T-LM2##, in lines 10 and 20. Also enter the quantities and the cost center.



Hint: You can also adopt the planned services from the purchase order. To adopt the services from the purchase order, choose  *Service Sel.*. Then select the two items and choose  *Services*. Ensure that you modify the quantity by **60** per service.

Accept the service entry sheet () and then save it.

Service entry sheet number: _____

Do not exit the service entry transaction after this step.

2. Service entry and acceptance - 2nd floor

The service provider sends you the service entry sheet for the **2nd floor**. Enter the the **remaining 40 pc** of your planned services in each case.

The service entry sheet has the description **Service entry sheet, 2nd floor**. The external service provider has assigned the number **4800##** to the entry sheet. The costs are to be charged to cost center **T-L##**.

During the maintenance work on the **2nd floor**, it was discovered that two lamp ballasts were faulty and had to be replaced. After consultation, the defective units were replaced by new ones. Enter the **replacement of two lamp ballasts** as an unplanned service with a value of 75 EUR/pc. Note that a service master record has not been created for this service.

Enter the planned services and the replacement of the ballasts with the value specified above. Accept the service entry sheet prior to saving.

Service entry sheet number: _____

3. Enter the vendor invoice

Continued on next page

Enter the following invoice for your purchase order. Note that you can only choose service entry sheets that have already been accepted.

Invoice	Elektroblitz GmbH Gr.## Mozartstraße 12 60123 Frankfurt
IDES AG Hamburg Plant Altersdorferstr. 13 22299 Hamburg	Invoice number: RE-E1## Invoice date [current date]
With reference to purchase order no. 450000####, we hereby charge you for the following services in accordance with the items in sheets nos. 4700## and 4800##:	
	Total net value: 800 EUR plus 10 % VAT 80 EUR Invoice amount <u>880 EUR</u>
Subject to the agreed terms of payment. Best regards, Elektroblitz GmbH Gr.##	

Figure 147: Invoice RE-E1##

Invoice document number: _____

4. **Check follow-on activities for the purchase order**

Display your purchase order issued to service provider T-K500E## and check which transactions/events are shown in the PO history.

How many service entry sheets are there?

Which of the service entry sheets have already been accepted?

Is there an accounting document for the service entry sheets that have been accepted? Give a reason for your answer.

Solution 18: Service Entry and Invoice Verification

Task: Entry and Settlement of External Services


The Elektroblitz company has been given the job of replacing the fluorescent tubes in your office building. You now receive a list of the actual services performed on each floor of the building. After completion of the maintenance work, you receive the invoice.


1. Service entry and acceptance - 1st floor

Service provider **T-K500E##** sends you a service entry sheet for the **1st floor** in which he informs you that he has completed **60 pc** of each service.

Maintain the service entry sheet in the system and reference your purchase order in the process.





Hint: Choose  *Other purchase order* in the service entry transaction and enter your PO number.


Choose  to create a new service entry sheet.

Enter the short text **Service entry, 1st floor** as a description of the service entry sheet. The number of the entry sheet used by the service provider is **4700##**. Enter this number in the *External number* field. The cost of this procurement transaction will be borne by cost center **T-L##**.

Now enter the services performed, T-LM1## and T-LM2##, in lines 10 and 20. Also enter the quantities and the cost center.



Hint: You can also adopt the planned services from the purchase order. To adopt the services from the purchase order, choose  *Service Sel.*. Then select the two items and choose  *Services*. Ensure that you modify the quantity by **60** per service.


Accept the service entry sheet () and then save it.

Service entry sheet number: _____

Do not exit the service entry transaction after this step.


- a) Choose *Logistics* → *Materials Management* → *Service Entry Sheet* → *Maintain (ML81N)* .

Continued on next page



- b) Choose  *Other purchase order*. Enter your PO number in the *Select Purchase Order/Entry Sheet* dialog box and confirm your input with *Enter*.



Hint: If you do not know the number of your purchase order, choose the input help (F4 help) for the *Purchase Order* field and search for *Purchasing Documents per Vendor T-K500E##*.

- c) To create a new entry sheet, choose , with the quick-info text *Create entry sheet*.
- d) Enter the following data and confirm your entries with *Enter*.

Shrt Txt	Service entry sheet, 1st floor
Basic Data tab	
Account assignment category	Cost center
External number	4700##
Line 10	
Service no.	T-LM1##
Quantity	60
Cost center	T-L##
Line 20	
Service no.	T-LM2##
Quantity	60
Cost center	T-L##

- e) Choose , with the quick-info text *Accept*, to accept the service entry sheet.
- f) Choose , with the quick info text *Save*, and note the number of the service entry sheet.

2. Service entry and acceptance - 2nd floor

Continued on next page

The service provider sends you the service entry sheet for the **2nd floor**. Enter the the **remaining 40 pc** of your planned services in each case.


The service entry sheet has the description **Service entry sheet, 2nd floor**. The external service provider has assigned the number **4800##** to the entry sheet. The costs are to be charged to cost center **T-L##**.

During the maintenance work on the **2nd floor**, it was discovered that two lamp ballasts were faulty and had to be replaced. After consultation, the defective units were replaced by new ones. Enter the **replacement of two lamp ballasts** as an unplanned service with a value of 75 EUR/pc. Note that a service master record has not been created for this service.



Enter the planned services and the replacement of the ballasts with the value specified above. Accept the service entry sheet prior to saving.

Continued on next page

Service entry sheet number: _____

- a) To create the second entry sheet, choose , with the quick-info text *Create entry sheet*.
- b) Enter the following data and confirm your entries with *Enter*.

Shrt Txt	Service entry sheet, 2nd floor
Basic Data tab	
Account assignment category	Cost center
External number	4800##
Line 10	
Service no.	T-LM1##
Quantity	40
Cost center	T-L##
Line 20	
Service no.	T-LM2##
Quantity	40
Cost center	T-L##
Line 30	
Shrt Txt	Replacement of lamp ballast
Quantity	2
Unit of measure	pc
Gross price	75
Cost center	T-L##

- c) Choose , with the quick-info text *Accept*, to accept the service entry sheet.
- d) Choose , with the quick info text *Save*, and note the number of the service entry sheet.

Continued on next page

3. Enter the vendor invoice

Enter the following invoice for your purchase order. Note that you can only choose service entry sheets that have already been accepted.

Invoice		Elektroblitz GmbH Gr.##
		Mozartstraße 12
		60123 Frankfurt
IDES AG		
Hamburg Plant		
Altersdorferstr. 13	Invoice number:	RE-E1##
22299 Hamburg	Invoice date	[current date]
<p>With reference to purchase order no. 450000####, we hereby charge you for the following services in accordance with the items in sheets nos. 4700## and 4800##:</p>		
<hr/>		
	Total net value:	800 EUR
	plus 10 % VAT	80 EUR
	Invoice amount	<u>880 EUR</u>
<p>Subject to the agreed terms of payment.</p> <p>Best regards, Elektroblitz GmbH Gr.##</p>		


Figure 148: Invoice RE-E1##

Continued on next page

Invoice document number: _____

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

Basic Data tab	
Invoice date	<Current date>
Reference	RE-E1##
Amount	880
Tax amount	80
PO Reference tab	
Purch. order/sched. agmt	<Your PO number>

- c) Choose , with the quick info text *Post*, and note the number of the invoice document.

4. Check follow-on activities for the purchase order


Display your purchase order issued to service provider T-K500E## and check which transactions/events are shown in the PO history.

How many service entry sheets are there?

Which of the service entry sheets have already been accepted?

Is there an accounting document for the service entry sheets that have been accepted? Give a reason for your answer.

Continued on next page

-
- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Display (ME23N)*.
 - b) If your service PO is not displayed, choose  with the quick info text *Other purchase order*. Enter your PO number in the *Select Document* dialog box and confirm your input with *Enter*.
 - c) Choose the *PO history* tab page in the item details.
 - d) Two service entry sheets are listed under the transaction service entry (short text *SEnt*).

Both service entry sheets have already been accepted. You can tell this from the material documents shown under the transaction/event “goods receipt” (short text *GR*).

When the services were accepted, an accounting document was generated. This is because the acceptance process caused the accounts in financial accounting to be updated.



Lesson Summary

You should now be able to:

- Create a service entry sheet referencing a purchase order
- Add unplanned services during the service entry process
- Accept a service entry sheet
- Check an invoice for a service PO



Unit Summary

You should now be able to:

- Name the most important master data used in the procurement of external services
- Describe and handle the basic procurement process for services.
- Display a service master record and service conditions
- Explain the structure of the purchase order item for services
- Create a purchase order item for services
- Create a service entry sheet referencing a purchase order
- Add unplanned services during the service entry process
- Accept a service entry sheet
- Check an invoice for a service PO



Test Your Knowledge

1. Which of the following master data is relevant to the procurement of external services?

Choose the correct answer(s).

- A Vendor master record
- B Material master record
- C Service master record
- D Purchasing info record
- E Bill of materials
- F Service conditions

2. The individual steps in the procurement of services are similar to those in the procurement process for materials. Name the step or steps that are specific to (only take place in) the process of procuring external services.

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. During service procurement, the item has only a _____ to describe the _____ procurement project. The individual services are summarized in a service _____ that can be maintained at _____ detail level.

Fill in the blanks to complete the sentence.

5. Which of the following statements are correct?

Choose the correct answer(s).

- A For service procurement, 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 a single limit in a service item. One service specification must have at least one service.

6. During the service entry process, you can also always enter unplanned services.

Determine whether this statement is true or false.

- True
- False

7. Services that have been performed are recorded in _____ . When entering services, you _____ the purchase order. Service entry sheets must be entered and _____ .

Fill in the blanks to complete the sentence.

8. 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



Answers

1. Which of the following master data is relevant to the procurement of external services?

Answer: A, C, F

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. Name the step or steps that are specific to (only take place in) the process of procuring external services.

Answer: The creation of a set of service specifications and the steps of service entry and acceptance are unique to external services procurement.

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).

Answer: False

Service conditions are entered for each vendor. You can enter conditions for several services for one vendor at the same time.

4. During service procurement, 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.

Answer: short text, general, specification, item

5. Which of the following statements are correct?

Answer: A, D

For B: Account assignment category U is also allowed for item category B (limit).

For C and E: It is possible, but not necessary, to enter a limit for unplanned services. You are also allowed to specify a single limit, but no services.

6. During the service entry process, you can also always enter unplanned services.

Answer: False

Unplanned services can be entered only if a limit has been specified in the PO item and the value of the unplanned services does not exceed this limit.

7. Services that have been performed are recorded in service entry sheets. When entering services, you reference the purchase order. Service entry sheets must be entered and accepted.

Answer: service entry sheets, reference, accepted

8. 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.

Answer: 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.

Unit 6



Reporting and Analysis Functions



To conclude the procurement process demonstrated so far, this unit introduces some ways in which data can be evaluated and analyzed. A distinction is made between reports and analyses that are run at document or master data level and those which relate to aggregated data. Aggregated data is evaluated and analyzed using the Logistics Information System.

Unit Overview

This unit deals with reports and analyses run at document level and those run in the *SAP Logistics Information System (LIS)*. In connection with list displays, the *SAP List Viewer* and *ALV Grid Control* are introduced together with their basic functions.

The second lesson provides information on the *LIS*. The *LIS* is an information system in which data can be continuously updated on an aggregated basis and evaluated and analyzed with various reporting tools.



Unit Objectives

After completing this unit, you will be able to:

- Use standard reports and analyses in purchasing
- Search for material documents using the material document list
- Display a list of your manually created invoices
- Name the most important functions of the *SAP List Viewer* and *SAP Grid Control*
- Describe the basic features of the Logistics Information System
- Perform standard analyses in the Logistics Information System

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Lesson: Standard Reports at Document Level



382

Lesson Duration: 60 Minutes

Lesson Overview

This lesson is intended to provide some insight into reports using *SAP ERP Central Component*. It introduces you to the *SAP List Viewer* and *ALV Grid Control*, and reviews individual reports and analyses from the areas of purchasing, inventory management, and invoice verification.



Lesson Objectives

After completing this lesson, you will be able to:

- Use standard reports and analyses in purchasing
- Search for material documents using the material document list
- Display a list of your manually created invoices
- Name the most important functions of the *SAP List Viewer* and *SAP Grid Control*



Introduce the objectives and the business scenario. Discuss and show the standard reports from the areas of purchasing, inventory management, and invoice verification. It is important for the participants to understand 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 POs according to a variety of criteria. For example, you need a list of all open POs in a certain period. You are testing to see which functions the SAP system provides to support you in this activity.

Reporting: General



This section is intended to review material that is already familiar to you and complete 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 environment, you generate a wide variety of documents including purchasing documents, material documents, invoice documents, and accounting documents. The documents are posted in the system and stored in database tables. Standard reports enable you to evaluate this document information.

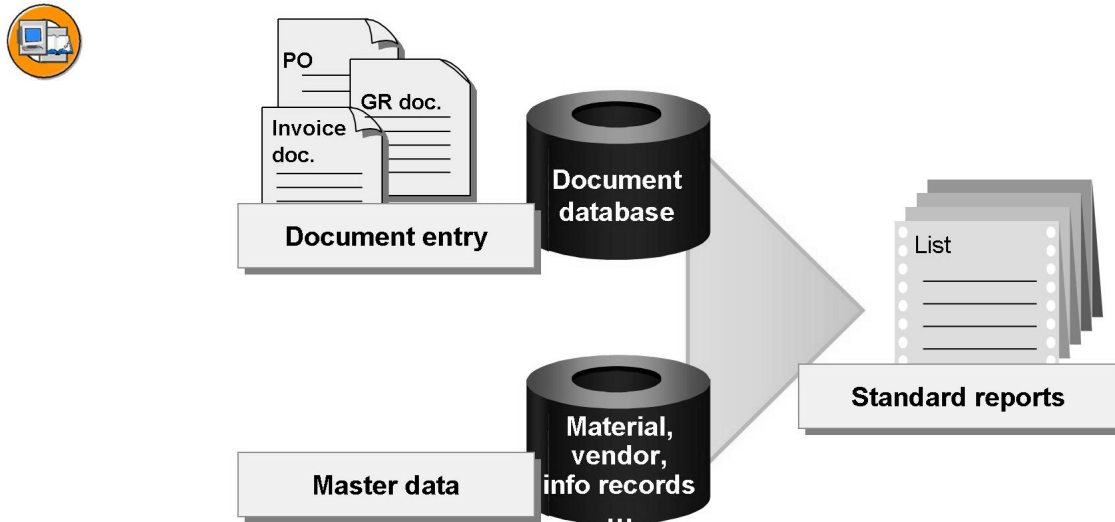


Figure 149: Standard Reports

As well as analyzing documents, you can also run analyses of master data. For example, you can output a list of all purchasing info 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 image shows two overlapping screenshots of SAP list displays. The top-left screenshot is titled 'Material document list' and 'SAP List Viewer'. It shows a list of material documents with columns for Material, Material description, Plant Name, SLoc, MvT, S, Mat. doc., Item, Pstg date, and Quantity in UnE EUn. The data is grouped by material (M-01, M-05, M-06) and shows various document items with their respective dates and quantities.

The bottom-right screenshot is titled 'Material document list' and 'ALV Grid Control'. It shows a similar list of material documents but in a grid format. The columns are: Material, Plant, SLoc, MvT, S, Material doc., Item, Posting date, z, Qty in unit of entry, and EUn. The data is grouped by material (M-01, M-05, M-06) and shows various document items with their respective dates and quantities. The grid format allows for more detailed viewing and filtering of the data.

Figure 150: SAP List Viewer and ALV Grid Control

The *SAP List Viewer* and *ALV Grid Control* standardize and simplify the handling of lists in SAP systems. There is a uniform user interface and list format for lists. In this way, redundant functions can be avoided. *ALV Grid Control* is used not only in list displays (such as the list of material documents), but also in other transactions (for example, purchase requisition).

Note that not all lists use the full range of *SAP List Viewer* functions. Some lists, on the other hand, offer special functions over and above the scope of the *SAP List Viewer*. You can change the appearance and content of the lists using the layout (display variant).

The key elements of the *SAP List Viewer* and *ALV Grid Control* can be summarized as follows:

- Uniform design of all lists and tables
- Cross-application, standardized function with uniform icons
- Simple creation and changing of layouts (display variants)



Note: For more information about the *SAP List Viewer* and the *ALV Grid Control*, see the SAP Library under *Getting Started* → *Working with the SAP GUI* → *Lists*.

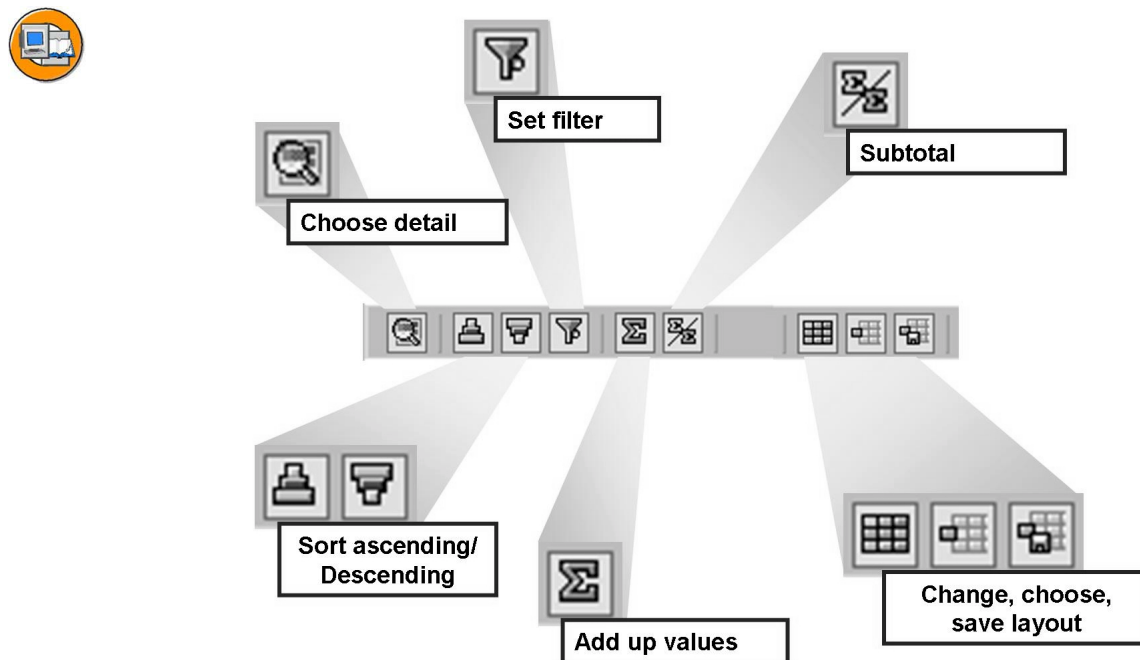


Figure 151: Functions of the SAP List Viewer / ALV Grid Control

The functions provided by the *SAP List Viewer* and *ALV Grid Control* include the following:

- **Choose detail:** This gives you further information on 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 select Set filter. In the dialog box, enter the desired restrictions for the chosen columns.
- **Sort:** Lists can be sorted in ascending or descending order. Select the column with the desired sort criterion and choose one of the sort functions.
- **Add values:** Within a list, you can create totals from the data in one or more selected columns. You can total both value and quantity columns.
- **Create subtotals:** If you have created a total for at least one column within a list, you can create additional subtotals. Subtotals can be generated 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.

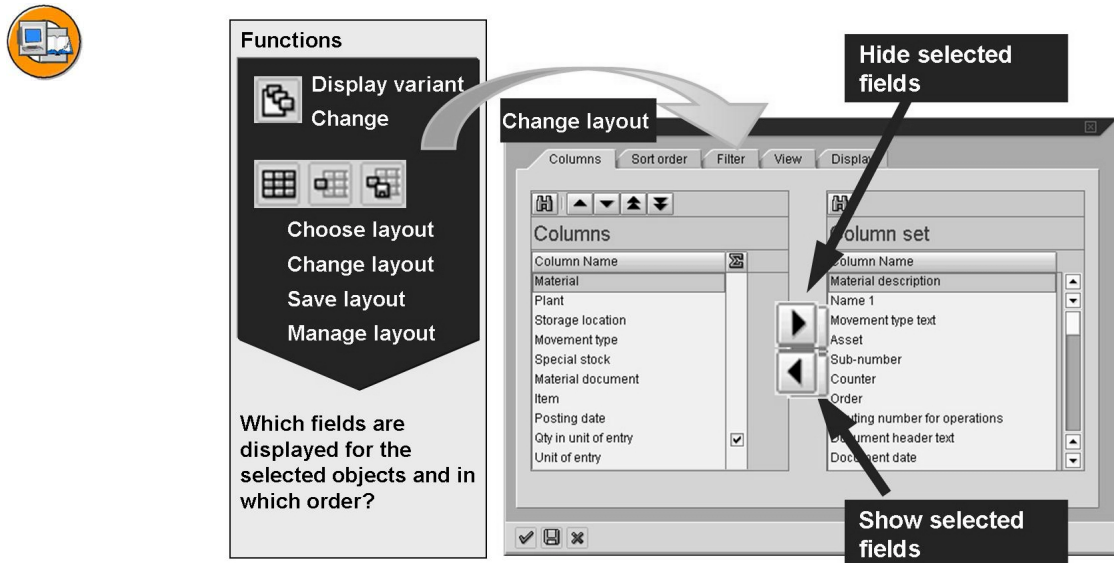


Figure 152: Layout (Display Variant)



You can use layouts or change variants to change the appearance of many lists. You can then display additional fields from the column set or hide unwanted fields from the column selection. You can also arrange the fields in the order of your choice and generate totals. In addition, you can adjust the size of the columns.


You have the option of saving these changes as your own layout. You can usually create your own variants on a multi-user or user-specific basis. SAP supplies standard layouts for some lists.

➔ **Note:** The figure “Layout (Display Variant)” shows the Change Layout dialog box for the detailed version of the list of material documents.

Variants

If you have to run reports or analyses with the same selection values at regular intervals, it is advisable to use variants. This saves input 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, first enter the desired selection values on the initial screen for the report. Then choose *Goto* → *Variants* → *Save as Variant...* or  *Save*. On the following screen, you enter a *Variant Name* and a *Description* for the variant and reselect  *Save*.

If, during the execution of a variant you want to access a variant, choose *Goto* → *Variants* → *Get...* or  *Get Variants...* .

When you run a report or analysis, first consider which information you really need. Use the selection criteria to narrow down your report to make the result as clear and informative as possible.

In Purchasing, you can influence the appearance of your list by using the scope-of-list and selection parameters.

- The **selection parameter** determines which purchasing documents are analyzed by the report. You can generate reports that select only open purchase orders, POs for which no invoice has yet been received, or expired scheduling agreements, for example.
- The **scope-of-list parameter** determines which data is displayed for a selected document (which lines appear in your report). You can decide whether you want a list in short form or whether the list should contain more information (lines for the open PO quantity and value, or the validity period of outline agreements, for example). Furthermore, you can have the PO history displayed in additional lines in the list.

As of *SAP R/3 Enterprise*, you can use the scope-of-list parameter to determine whether or not the list is outputted with *ALV Grid Control*.

You can create your own selection parameters and scope of list parameters in the Customizing of *Purchasing* under *Reporting* → *Maintain Purchasing Lists* → *Selection Parameters* → *Define Selection Parameters* or *Reporting* → *Maintain Purchasing Lists* → *Scope of List* → *Define Scope of List*. For the scope-of-list parameter, you also specify in Customizing whether *ALV Grid Control* is to be used to output the list. Depending on the selection parameter, you can decide whether documents on hold are also to be selected.

In addition to the list displays for documents and master data, the purchasing menu also contains general analyses, the purchase order value analysis, and goods receipt forecast.



Demonstration: List Displays in Purchasing

Purpose

(Duration approx. 10-15 minutes)



Generate purchase order list


System Data

System:	Training System
Client:	8xx
User ID:	Own or SCM500-00
Password:	Ask the instructor
Set up instructions:	None


1. Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *List Displays* → *For Vendor* (transaction ME2L).
2. Enter the following data on the initial screen:


Vendor	<Leave blank>
Purchasing organization	1000
Scope of list	BEST (purchase orders)
Selection parameters	<Leave blank>
Document type	NB (standard POs)
Purchasing group	000 to 020
Plant	1000
Document date	01.01.2000 to <today>

Save your selection values as a variant. Choose  and enter the variant name **SCM500-00** and an appropriate text for the description. Choose 

Then choose  to execute the selection.

Discuss the data displayed in the list. **Do not exit the list display afterwards.**

3. Open a second mode and reselect *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *List Displays* → *For Vendor* (transaction ME2L).
4. Choose  *Choose Variant...* and choose variant **SCM500-00**. Change the scope-of-list parameter to **ALLES**

Then choose  to execute the selection.

Explain the differences between this list and the list generated using the scope-of-list parameter **BEST**.

5. Repeat the selection with the variant SCM500-00. In doing so, choose the scope-of-list parameter **BEST_ALV**. If you enter this scope-of-list parameter, the list will be outputted with *ALV Grid Control*.
In this list, you can introduce some *ALV Grid Control* functions.
6. Repeat the selection with the variant SCM500-00. In doing so, choose the scope-of-list parameter **BEST_ALV** and the selection parameter **RECHNUNG**. The system has now only selected POs for which an invoice has still to be received.
7. **Optional:** Show further reports/analyses in purchasing.

Reporting and Analysis Functions in Inventory Management



Explain and show the grouping of reports and analyses in inventory management. The stock overview and the stock/requirements list were discussed in the previous lesson. The demo for this lesson introduces the list of material documents.

The reports and analyses in inventory management can be divided roughly into three groups.

- Analyses of stock situation
- Analyses of goods movements
- Analyses that serve to identify inconsistencies in stock data

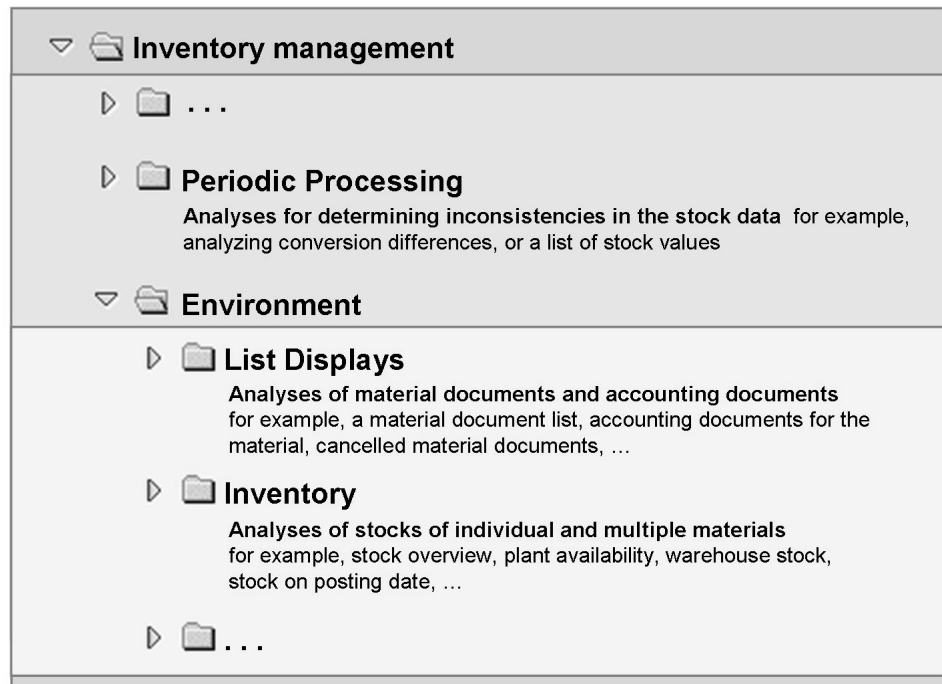


Figure 154: Valuations in Inventory Management

If you want more information about the stock situation, or about goods movements that have occurred, in the menu, choose *Inventory Management Environment* → *List Displays*. There you will find analyses of material and accounting documents relating to goods movements. In contrast, choose *Environment* → *Stock* to access the valuations of the stocks. Here is a list of some of the reports and analyses from both areas:

Document lists:

- Material documents
- Accounting documents for material
- Cancelled material documents
- Reason for movement

Stock lists:

- Stock overview
- Stock/requirements list
- Plant stock availability
- Warehouse stock
- Stock for posting date

You will find the analyses for determining inconsistencies in the *Inventory Management* menu under *Periodic Processing*.



Demonstration: Reporting and Analysis Functions in Inventory Management

Purpose

(Duration approx. 5-10 minutes)


Generate list of material documents

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions: None

1. Choose *Logistics* → *Materials Management* → *Inventory Management* → *Environment* → *List Displays* → *Material Documents (transaction MB51)*.
Go into detail in the selection fields.
2. Enter the following data on the initial screen:

Material	M-01 to M-20
Document date	01.01.1997 bis <today>

Then choose  to execute 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*.

3. Choose *Goto* → *Detail List*. The list is now displayed with *ALV Grid Control*.
4. Display some functions, such as
 - Add values.
 - 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. (*Settings* → *Display Variant* → *Current...*)
5. **Optional:** Show further reports/analyses in inventory management.

Valuations in Invoice Verification

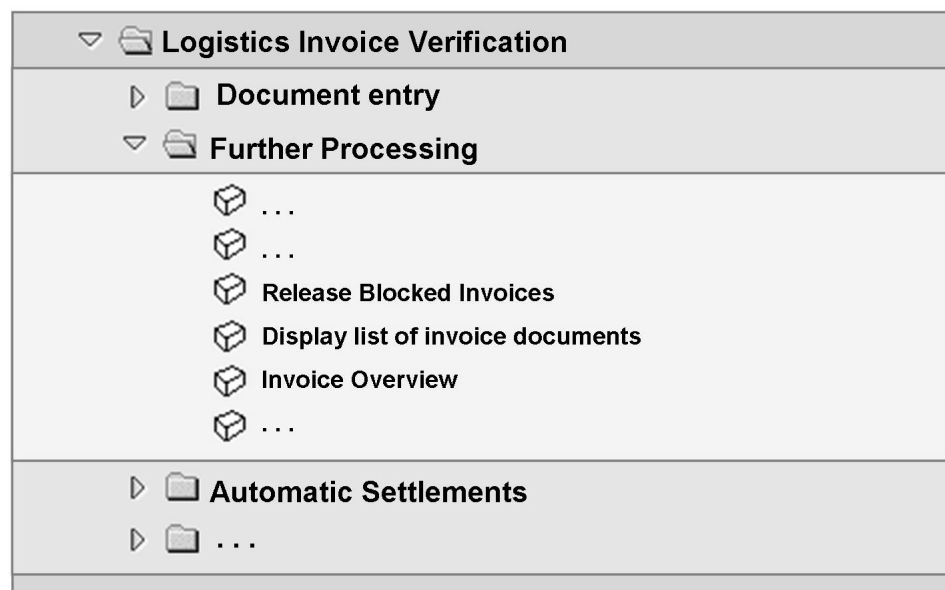


Figure 155: Valuations in Invoice Verification

In Logistics Invoice Verification, there is a general analysis of invoice documents, the *Invoice Overview*. You use this function to generate a list of invoices. You might need to do this to check which documents have been entered manually by a certain user or for a certain invoicing party over a specific period, for example.

Aside from manually posted invoices, you can also select invoices generated by a 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 information provided by the list of invoice documents includes the following:

- Person who entered the invoice
- Document date
- Posting date
- Number of invoice document
- Number of associated accounting document
- Status of invoice (for example, posted, parked, on hold)

Since *SAP ERP Central Component* there is another report which you can use to display a list of invoice documents, **Display Invoice Document List**. In addition to the *Invoice Overview* you have extended selection criteria and display options here. You cannot perform changes to invoice documents in the list however.

A third analysis in invoice verification facilitates the selection and release of invoices that have been blocked for payment.



Demonstration: Invoice Overview

Purpose

(Duration approx. 5 minutes)


Generate list of invoices

System Data

System:	Training System
Client:	8xx
User ID:	Own or SCM500-00
Password:	Ask the instructor
Set up instructions:	None

1. Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* → *Overview* → *Invoice Overview (transaction MIR6)*.
Go into detail in the selection fields.
2. Enter the following data on the initial screen:

Document date	01.01.1997 bis <today>
Entry type	Invoice verified online and Cancellation

Then choose  to execute the selection.

Discuss the data displayed in the list. Discuss the fact that the list is displayed with *Table Control*.

3. Show that you can branch to the invoice document or follow-on documents.
 4. Show other analyses in the logistics invoice verification.
-



Exercise 19: List Displays

Exercise Duration: 15 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create list displays for various documents and transactions

Business Example

To optimize internal processes, you regularly create list displays to inform yourself about the status of your purchase orders, info records, and other documents in the system.

System Data

System: Training System
Client: 8xx
User ID: SCM500-##
Password: The password set by the participant
CATT: ZT_SCM500
Set up instructions:



Caution: Applies only if 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. If this lesson is taken out of the context of the course, it is possible that there will be no data satisfying the stipulated selection criteria.

Task 1: List Displays for Purchase Orders

As a buyer in plant 1000, you are checking the purchase orders issued over the past 24 months. In the process, you are primarily interested in POs against which no goods receipts have been entered.

1. Open goods receipts

Display a list of all POs for purchasing organization **1000** and plant **1000** for which no goods have yet been received. Select all POs with a document date within the last 24 months.

Choose the scope of list **BEST_ALV**, so that the list of selected purchase orders is displayed with *ALV Grid Control*.

Continued on next page

2. The list is sorted by vendor and purchasing document. However, you need 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. You wish to have the *Quantity still to be delivered* and *Value still to be delivered* columns displayed directly after the material group for the individual items. You also want to display the **total value** of the materials still to be delivered in the list.

Change the order of the columns and create the desired total. Save these changes to your layout SCM500##.

Task 2: List of Material Documents

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.

1. **Goods movements entered**

Generate a list of all material documents for the materials **T-M500A##**, **T-M500B##**, **T-M500C##**, and **T-M500D##** that were posted this week.

2. **Display the detail list**

Since you wish to work with a more flexible display, you switch from the hierarchical to the non-hierarchical display.

3. **Released quality inspection stock**

Determine for which materials stock in quality inspection was transferred to unrestricted-use stock this week. Remember to take into account any possible reversals for this goods receipt.

Solution 19: List Displays

Task 1: List Displays for Purchase Orders

As a buyer in plant 1000, you are checking the purchase orders issued over the past 24 months. In the process, you are primarily interested in POs against which no goods receipts have been entered.

1. Open goods receipts

Display a list of all POs for purchasing organization **1000** and plant **1000** for which no goods have yet been received. Select all POs with a document date within the last 24 months.




Choose the scope of list **BEST_ALV**, so that the list of selected purchase orders is displayed with *ALV Grid Control*.

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *List Displays* → *For Vendor (ME2L)*.
- b) Enter the following data on the initial screen:



Vendor	<Leave blank>
Purchasing organization	1000
Scope of list	BEST_ALV
Selection parameters	WE101
Purchasing group	<Leave blank>
Plant	1000
Document date	<today - 24 months> to <today>

- c) Choose  *Ausführen*.

Continued on next page

2. The list is sorted by vendor and purchasing document. However, you need 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-##**.
- Choose *Settings* → *Layout* → *Change...*
 - Choose the *Sort order* tab.
 - On the left hand side of the screen, position the cursor on *Sort Criteria* on *Purchasing Document* and choose  *Remove Sort Criteria*.
 - On the right hand side of the screen, position the cursor on *List of Columns* on *Material* and choose  *Add Sort Criteria*.
 - Choose  *Save Layout*.
 - Enter the following data on the *Save as* tab of the *Save layout* dialog box:

Save layout	SCM500-##
Name	Layout SCM500-##
User-specific	✓
Default setting	<any>




- Choose  *Continue* to save the new layout.
 - The *Change layout* dialog box reappears. Choose  *Adopt* to display the list with the new layout.
3. You wish to have the *Quantity still to be delivered* and *Value still to be delivered* columns displayed directly after the material group for the individual items. You also want to display the **total value** of the materials still to be delivered in the list.

Continued on next page

Change the order of the columns and create the desired total. Save these changes to your layout SCM500##.

- a) Select the *Still to be delivered (quantity)* column and move the column to the right of and next to the *Material group* column with *drag and drop*.

Repeat the procedure for the *Still to be delivered (value)* column.



- b) Select the *To be delivered (value)* column and choose  *Total*.
- c) Choose  *Save Layout*. Select your SCM500-## layout and choose  *Continue* to adopt the proposed values for the layout.
- d) Then confirm the message “*This layout already exists ...*” using *Yes*

Task 2: List of Material Documents

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.


1. Goods movements entered

Generate a list of all material documents for the materials **T-M500A##**, **T-M500B##**, **T-M500C##**, 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 the four materials, select  *Multiple Selection* on the right hand side next to the fields for the material. In the dialog box for *Multiple Selection for Material*, enter the four materials **T-M500A##**, **T-M500B##**, **T-M500C##** and **T-M500D##**. You adopt the selection made using  *Adopt*.



Hint: If you want to use one material number T-M500<at your discretion>## to select all materials, then, on the initial screen, you can enter **T-M500*##** as the selection value for the material.

- c) Enter **<today - 7 days>** bis **<today>** as a constraint for the *Posting Date*:
- d) Choose  *Ausführen*.

2. Display the detail list



Continued on next page

Since you wish to work with a more flexible display, you switch from the hierarchical to the non-hierarchical display.

- a) Choose  *Detail List*.

3. Released quality inspection stock

Determine for which materials stock in quality inspection was transferred to unrestricted-use stock this week. Remember to take into account any possible reversals for this goods receipt.

- a) Select the *Movement Type* column and choose  *Set filter*.
- b) In the dialog box *Set values for filter criteria*, enter the movement type **321 to 322** and confirm your entry using  *Execute*.

A transfer posting has occurred for material T-M500B## in plant 1200.



Lesson Summary

You should now be able to:

- Use standard reports and analyses in purchasing
- Search for material documents using the material document list
- Display a list of your manually created invoices
- Name the most important functions of the *SAP List Viewer* and *SAP Grid Control*

Lesson: Logistics Information System (LIS)



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Lesson Duration: 45 Minutes

Lesson Overview

This lesson takes a look at the concept of the *SAP Logistics Information System (LIS)*. It introduces the basic structure of the *LIS*, explains the information structures involved in the data updating process, and gives you an overview of the analysis tools.



Lesson Objectives

After completing this lesson, you will be able to:

- Describe the basic features of the Logistics Information System
- Perform standard analyses in the Logistics Information System



Introduce the objectives and the business scenario. Explain that these analyses are performed on aggregated data and selection typically does not extend down to document level.

In contrast to the standard reports at document level, this data can also be evaluated if the documents have already been deleted.

Business Example

You are head of the purchasing department and will shortly be negotiating end-of-period volume rebates. In this connection, you wish to run an analysis to identify the vendors with whom you achieved the highest business volumes in the last year. You therefore test whether the SAP system is capable of quickly providing you with aggregate key figures on relevant business transactions.

Basic Structure and Concept of the LIS



Explain the structure of the LIS. It is important to make clear that separate tables are filled for the analyses: the information structures. You should also explain that there are different info systems in SAP depending on the various application components. However, the basic concept underlying them all is the same.

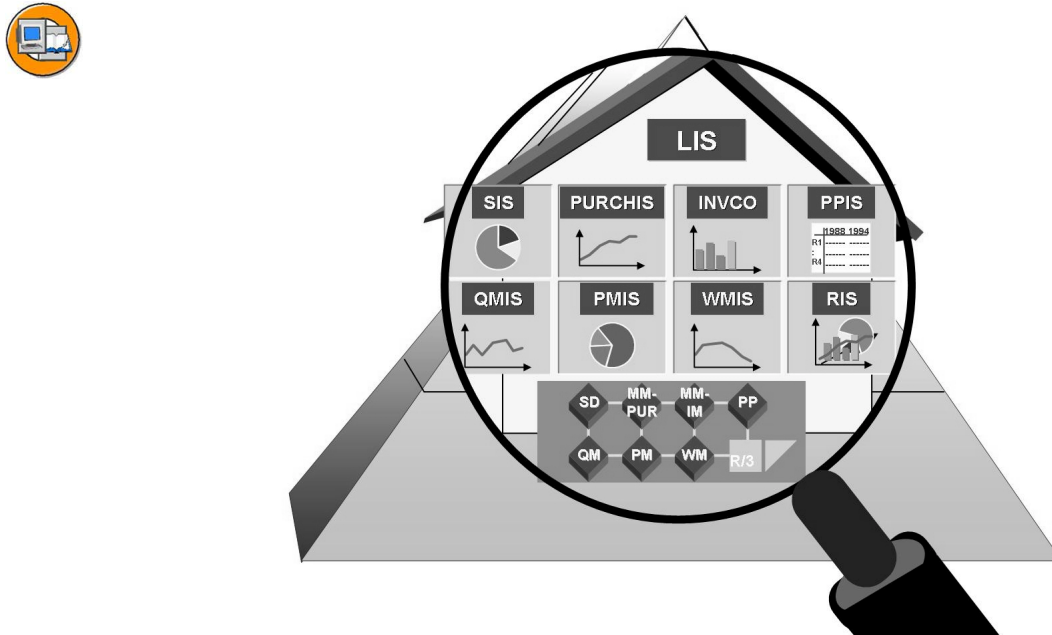


Figure 156: SAP Logistics Information System (LIS)

SAP Logistics offers a range of application-related (modular) information systems. All have a standard interface and similar basic functionality. At the same time, the modular structure also caters for 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 underscore the typical character of a data warehouse in the *LIS*.

In Logistics, 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)

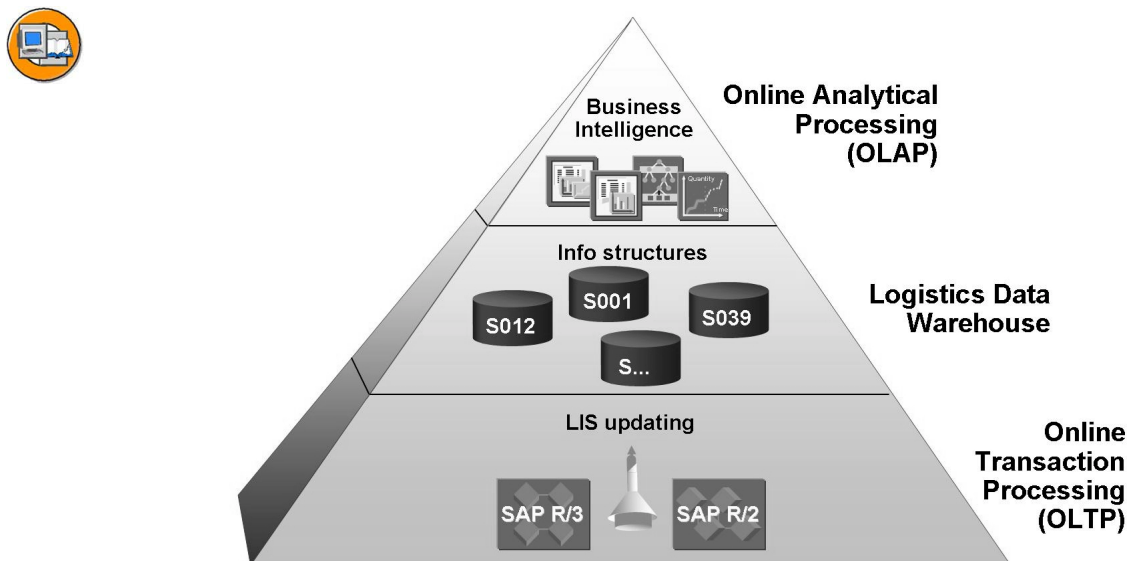


Figure 157: Logistics Data Warehouse

The information systems of the *LIS* are continuously supplied with data from the operative applications (Sales and Distribution, Purchasing, Production, Plant Maintenance and so on). This level is also known as Online Transaction Processing (*OLTP*). The data is derived from documents from *SAP R/2*, *SAP R/3*, or external/non-SAP systems.

Above the *OLTP* level is the *Logistics Data Warehouse*. For each business transaction within the operative application, important information is stored in aggregated form in separate databases of the *Logistics Data Warehouse* parallel to the *OLTP* level. In the process, first a quantitative reduction in the data volume takes place as a result of the period-wise updating, and second the information is qualitatively reduced to the statistically relevant portions.

The databases of the *Logistics Data Warehouse* are known as **information structures**. They constitute the data basis of the *LIS*.

The evaluation of the data is carried out at *Online Analytical Processing (OLAP)* level. A variety of reporting and analysis tools are available at this level.

Information Structures



Explain the make-up of an info structure. Discuss the magnitudes *characteristic*, *period*, and *key figure*. In doing so, refer to the graphic “Info Structures: Data Updating”.

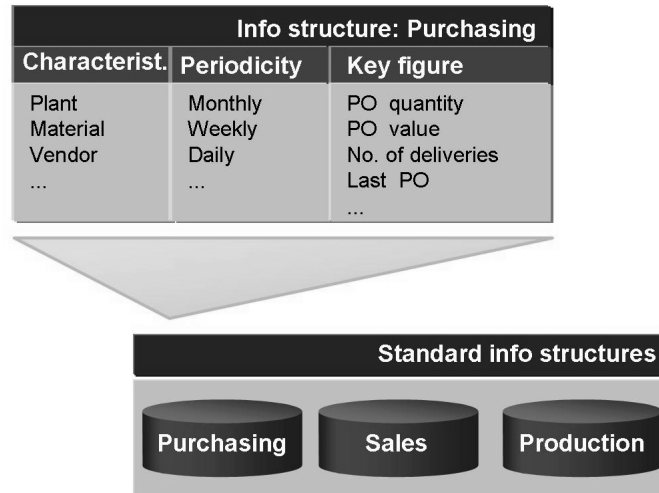


Figure 158: Information Structures

The individual physical tables of the *Logistics Data Warehouse* are termed **information structures**. Information structures (or info structures for short) have a typical form containing three types of information:

- Characteristics
- Periodicity (time base)
- Key figures

Under **characteristics**, we understand information that is suitable for aggregation. Thus, the analysis objects of the real business world are included in info structures as classification keys in the form of characteristics. Statistical information on characteristics, such as vendor, customer, or material is updated 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 affords another option for aggregation. The data is cumulated not only per characteristic, but also per **period**. Possible periods are day, week, month, and posting period.

Key figures are updated for each characteristic combination and periodicity. Key figures are quantitative magnitudes providing information on measurable facts. Key figures can be derived for each classification key by cumulation (examples: purchase or production order quantity). However, key figures can also be simple counters, such as the “number of deliveries” or “number of purchase orders”.

The standard SAP R/3 system contains various info structures for different application areas. With the aid of easy-to-use tools, you can group characteristics and key figures into individual info structures to meet your own specific requirements. Separate update programs can be used to supply these info structures with data.

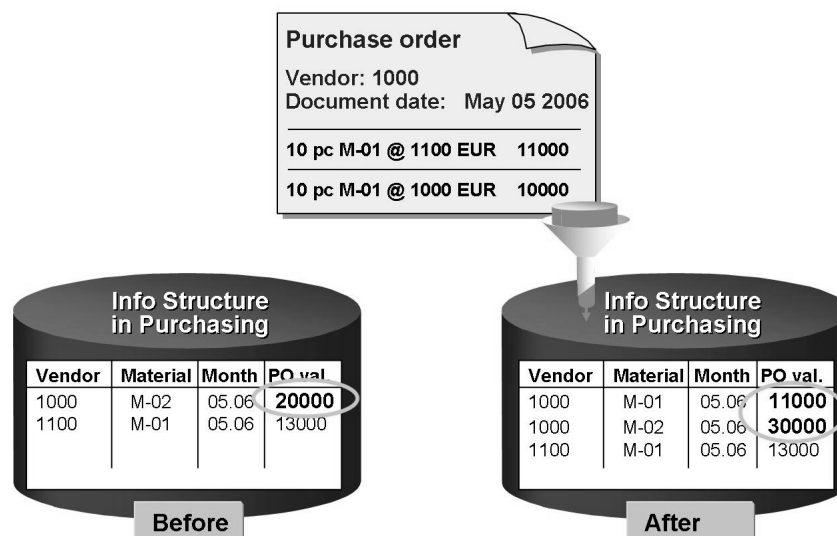


Figure 159: Info Structures: Data Updating

When a document is posted, the key figures of the info structures are updated for the relevant characteristic combinations.

The following explanations are based on the example shown in the graphic “Info Structures: Data Updating.” The focus here is on the order placed with vendor 1000 for two materials M-01 and M-02 in May 2006.

If no data record yet exists in the information structure for the characteristic combination in the document, a new data record is generated and the characteristics and key figures are entered.

In the example, this is the case for the purchase order item for material M-01. The system creates a new data record in the information structure with the following information:

- Characteristic combination: vendor 1000, material M-01
- Period: month 05.06
- Key figure: order value 11000

If 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, this applies to the PO item for material M-02. The system thus updates the relevant data record with the following information:

- Characteristic combination: vendor 1000, material M-02
- Period: month 05.06
- Key figure: 20000 (old order value) + 10000 (document order value) = 30000 (new order value)



Explain that when an analysis is run over an info structure, a variety of questions may be of interest.

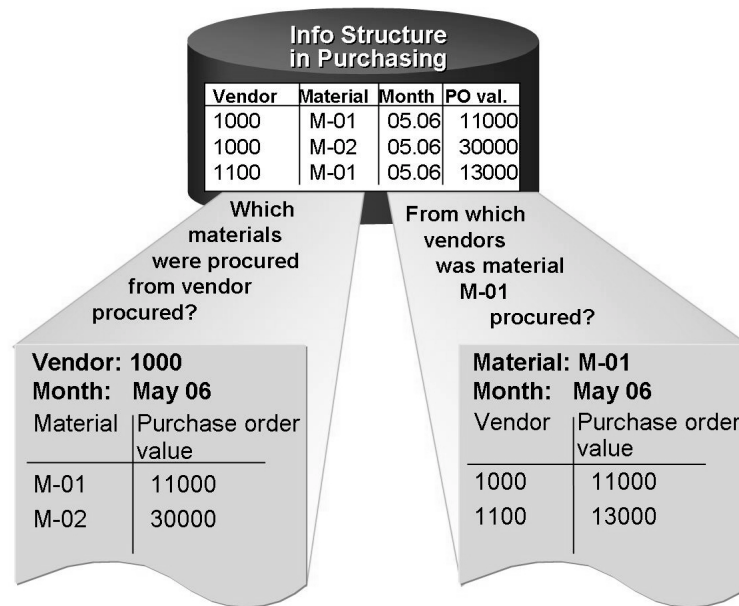


Figure 160: Info Structures: Evaluation

In the various analyses, lists can be created for all possible characteristic combinations on the basis of data in the info structures.

Functions of the LIS - Overview



Give an overview of the functions of the LIS and briefly explain the individual functions.

The reporting tools available to you at the *OLTP* level of the *LIS* include the following:

- Standard analyses
- Flexible analyses
- Early warning system

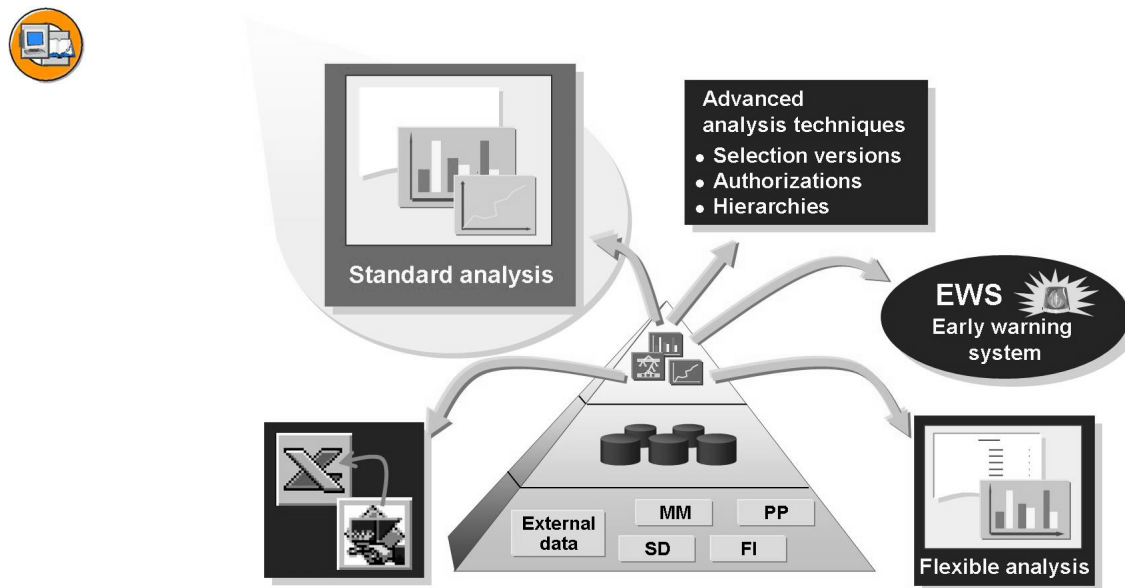


Figure 161: Reporting in LIS

The **standard analyses** in the *LIS* provide comprehensive data evaluation options based on the data in the standard information 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 either preset or made interactively during the analysis.

You can use the **early warning system (EWS)** to search for unusual patterns. This enables you to react in time to previously defined exception situations and correct them.

With the aid of **flexible analyses**, you can compile and aggregate key figures on an individual basis. In this connection, the possibility of structuring the layout of your report to meet your own specific requirements is particularly useful. For reports, you can also define key figures whose content is derived from existing key figures through the application of calculation formulas. You can multiply key figures or calculate the quotient of two key figures, for example. The data in the list can be shown in the form of a graphic.

The *Logistics Data Warehouse* is open and therefore allows you to run analyses using external programs, such as MS-EXCEL.

Standard Analyses – Examples of Functions

The data basis for a standard analysis is established by specification of the object to be analyzed (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.

Various functions are available when performing standard analyses. Some of these are included in the following list:

- Drilldown function
- Choose key figures and change their order
- Sort list
- Create ranking sequence
- ABC analysis

In standard analyses, a fundamental distinction is made between the basic list and a drilldown list. The basic list gives you an overview of the characteristic values for the key figures in accordance with the previously chosen selection criteria.

With the aid of the drilldown function, you can vary the depth of information. That is, you can display the data that appears in a list in greater detail with regard to certain criteria. You can either determine the order in which the information is broken down yourself, or follow a predefined analysis path, the standard drilldown.

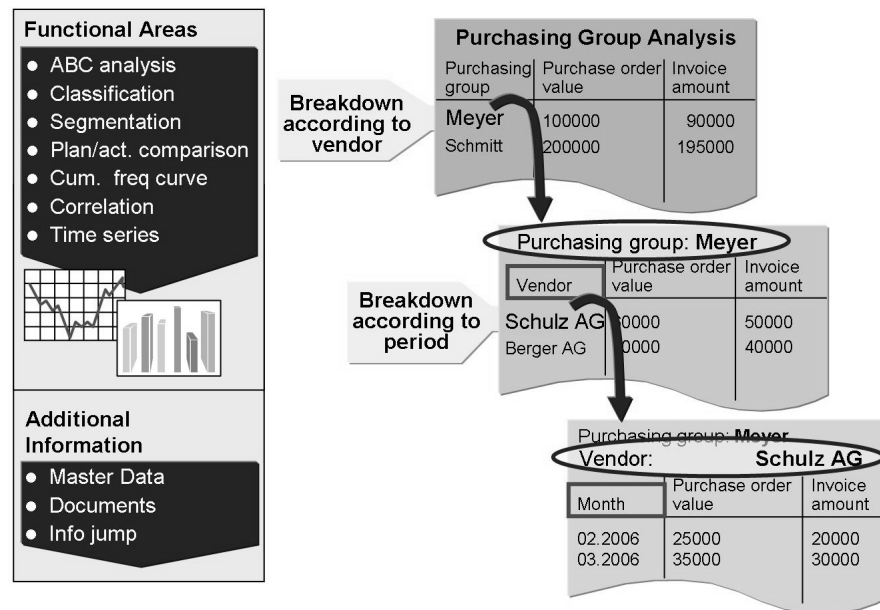


Figure 162: Reporting in Standard Analyses

For all list levels, you can perform a number of further functions, such as cumulative frequency curve, correlation, ABC analysis, classification, segmentation, and ranking lists. All results can be presented in the form of graphics. Moreover, you can display the complete master record and document information using the standard transactions of the application from within the various breakdown levels.



Demonstration: Standard Analysis for Material

Purpose

Performance of a standard analysis for the materials in the purchasing information system to demonstrate some LIS functions.

System Data

System:	Training System
Client:	8xx
User ID:	Own or SCM500-00
Password:	Ask the instructor
Set up instructions:	None

1. Give a demo using the data from the tasks in the exercise.

Use the specified alternative selection values for task 1 (analyze purchase values for purchasing groups).

- Purchasing organization: none
 - Purchasing group: 000 to 018
 - Period to analyze (month): 01.1997 to 12.2002
-



Exercise 20: Logistics Information System

Exercise Duration: 15 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Run a standard analysis in the *LIS*
- Interpret aggregated information from standard analyses

Business Example

As head of the purchasing department, you wish to gain an overview of the activities of your buyers. You are particularly interested in the total value of the purchase orders issued by the individual buyers.

As an exception, you also need an overview of the stock situation at individual storage locations, because there has recently been a spate of incorrect postings due to wrong storage location data in purchase orders.

For both analyses, you use standard reports from the *LIS*, since you do not wish to evaluate the data at document level.

System Data

System: Training System
Client: 8xx
User ID: SCM500-##
Password: The password set by the participant
CATT: ZT_SCM500

Set up instructions:



Caution: This applies only if 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. If this lesson is taken out of the context of the course, there will be no data for the stipulated selection.

If the exercise is to be carried out nevertheless, stipulate the following as alternative selection values:

- Purchasing organization: none
- Purchasing group: 000 to 018
- Period to analyze (month): 01.1997 to 12.2002

Task 1: Analyze purchasing values for purchasing groups

You wish to use the Purchasing Information System to determine a standard analysis of the procurement volume of several purchasing groups for purchasing organization **1000**.

1. Standard analysis for purchasing group

Invoke the standard analysis for purchasing groups **T00** to **T18** for the procurement transactions of purchasing organization **1000**. Limit the period to be analyzed 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 wish to show the key for this characteristic. Choose the relevant characteristic display.

3. Add key figures

You need information about the number of purchase order items and the number of deliveries. Add these two key figures to the basic list. Make a note of the total order value, the total number of PO items, the number of deliveries, and the amount already invoiced for your purchasing group T##.

Purchase order value	
Invoice amount	
PO items	
Deliveries	

4. 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 5 purchasing groups

Which purchasing groups had the five highest purchase order values over the analysis period?

Continued on next page

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 key figure “purchase order value”. As analysis strategy, choose the percentage total of the purchase order value.

The size of segment A is 70 %, segment B 20 %, and segment C 10 %. Take a look at 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, it is important to know the selection criteria used for it. You should therefore take a 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: _____

Task 2: Analysis of Storage Location

You wish to 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. Standard analysis of storage location

Call up the standard analysis for storage location **0001** of plant **1000** for the period current month - 12 months up to and including the current month.

2. Drilldown by material group

Choose drilldown by material groups. Display the receipt quantity per material group as a graphic.

- Sort the material groups in descending order according to quantity received. Then 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 graphic before working on this task.

Solution 20: Logistics Information System

Task 1: Analyze purchasing values for purchasing groups

You wish to use the Purchasing Information System to determine a standard analysis of the procurement volume of several purchasing groups for purchasing organization **1000**.

1. Standard analysis for purchasing group

Invoke the standard analysis for purchasing groups **T00** to **T18** for the procurement transactions of purchasing organization **1000**. Limit the period to be analyzed 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:

Purch. organization	1000
Purchasing group	T01 to T18
Period to analyze	<Last month> to <Current month>

- c) Choose  *Ausführen*.

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 wish to show the key for this characteristic. Choose the relevant characteristic display.

- a) Choose *Settings* → *Characteristic display* → *Key and description*.


If the column width is insufficient, you can increase it by double-clicking on the column header and entering a higher value for the width.

3. Add key figures

Continued on next page

You need information about the number of purchase order items and the number of deliveries. Add these two key figures to the basic list. Make a note of the total order value, the total number of PO items, the number of deliveries, and the amount already invoiced for your purchasing group T##.

Purchase order value	
Invoice amount	
PO items	
Deliveries	

- a) Select *Edit* → *Choose key figures...* . The *Choose key figures* screen appears.
- b) In the pool, select the key figures **purchase order items** and **deliveries** and choose  *select*. Confirm your choice with *Continue (Enter)*.

The *PO items* and *Deliveries* columns are additionally displayed in the basic list.

4. Standard drilldown

What are the steps in the standard drilldown in the purchasing group analysis?

Answer: Choose *Extras* → *Display standard drilldown.* . The standard drilldown follows 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 purchasing group T## **SCM500-##** and choose *View* → *Drill Down by* → *Vendor*.

Alternatively, you can double-click on the purchasing group and then follow the standard drilldown.

6. Determine the top 5 purchasing groups

Continued on next page

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 *Purchase Order Value* column and choose *View* → *Top N...* . Enter 5 as the number and confirm your entry with *Enter*.

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 key figure “purchase order value”. As analysis strategy, choose the percentage total of the purchase order value.

The size of segment A is 70 %, segment B 20 %, and segment C 10 %. Take a look at 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.
Now all vendors are displayed in the list.
- d) Position the cursor on the *purchase order value* column and choose *Edit* → *ABC Analysis...* .
- e) Choose the analysis *Total Purchase Order Value (%)* and confirm your choice with *Enter*.
- f) Adopt the suggested segment sizes.
- g) In the graphic displayed, choose the *Total list* button to show the complete list of the ABC analysis.

8. Display the selection log

Continued on next page

To understand the result of your analysis, it is important to know the selection criteria used for it. You should therefore take a 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) Choose  *Exit*, to exit the list for the ABC analysis and to display the original list..
- b) Then choose *Extras* → *Select Log...* . A dialog box with the selection values appears.

The info structure is S011 – purchasing groups

Task 2: Analysis of Storage Location

You wish to 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. Standard analysis of storage location

Call up the standard analysis for storage location **0001** of plant **1000** for the period current month - 12 months up to and including the current month.

- a) Choose *Logistics* → *Logistics Controlling* → *Inventory Controlling* → *Standard Analyses* → *>Storage Location (MCBC)*.
- b) Enter the following values on the selection screen:

Plant	1000
Storage location	0001
Period to analyze	<Current month - 12 months> to <Current month>

- c) Choose  *Ausführen*.

The basic list of the storage location analysis is displayed according to your selection values.

2. Drilldown by material group

Continued on next page



Choose drilldown by material groups. Display the receipt quantity per material group as a graphic.

- a) Choose *View* → *Switch drilldown...* .
- b) Choose the *Material Group* in the *Switch drilldown* dialog box.
Now material groups are displayed in the list.
- c) Choose *Goto* → *Graphic...* .
- d) Select the key figure *Val. stock receipts* in the *Graphic: Choose Key Figures* dialog box. Confirm your input with *Enter*.

3. Sort the material groups in descending order according to quantity received. Then 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 graphic before working on this task.

- a) Position the cursor on the *Receipt Quantity* 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* → *Drilldown by* → *Month*.
- c) Position the cursor on the *Receipt Quantity* 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* → *Drilldown by* → *Material*.



Lesson Summary

You should now be able to:

- Describe the basic features of the Logistics Information System
- Perform standard analyses in the Logistics Information System

Related Information

For more information about *LIS* see the SAP Library under *SAP ERP Central Component* → *Logistics* → *Logistics General(LO)* → *Logistics Information System (LO-LIS)*.



Unit Summary

You should now be able to:

- Use standard reports and analyses in purchasing
- Search for material documents using the material document list
- Display a list of your manually created invoices
- Name the most important functions of the *SAP List Viewer* and *SAP Grid Control*
- Describe the basic features of the Logistics Information System
- Perform standard analyses in the Logistics Information System



Test Your Knowledge

1. What are the names of the two SAP tools for presenting lists? Name some functions of these tools.

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. List some analyses of stocks (inventories) and documents within inventory management.

4. The invoice overview enables you to display a list of invoices. When selecting documents, you can restrict the volume of data with the data entry type. Which of the following data entry types are possible?

Choose the correct answer(s).

- A Evaluated receipt settlement
 B Online entry
 C Blocked
 D Parked
 E Partially entered
 F Delivery costs only
 G EDI

5. What are the three types of information that an info structure contains?

6. In a standard analysis, you can perform an ABC analysis.

Determine whether this statement is true or false.

- True
- False



Answers

1. What are the names of the two SAP tools for presenting lists? Name some functions of these tools.

Answer: *SAP List Viewer* and *ALV Grid Control*

Functions provided by these tools include, sorting, totalling, subtotals, filtering, and layout.

2. The scope-of-list parameter determines which purchasing documents are analyzed by the report.

Answer: False

The selection parameter determines which purchasing documents are analyzed. The scope-of-list parameter determines which data is outputted in the list for the selected documents.

3. List some analyses of stocks (inventories) and documents within inventory management.

Answer: Stock overview, stock/requirements list, storage location stock, list of material documents, cancelled material documents

4. The invoice overview enables you to display a list of invoices. When selecting documents, you can restrict the volume of data with the data entry type. Which of the following data entry types are possible?

Answer: A, B, D, G

The following data entry types are possible: background, online posted invoices, EDI, BAPI, ERS, invoicing plan, cancellation/reversal, held/parked.

5. What are the three types of information that an info structure contains?

Answer: Characteristics, period, and key figures

6. In a standard analysis, you can perform an ABC analysis.

Answer: True

To do so, in the analysis, choose *Edit* → *ABC Analysis* ...

Unit 7



Basics of Consumption-Based Planning



In this unit, the instructor will provide an overview of the overall process of material requirements planning, then display and explain the necessary system settings in the *SAP system*. The instructor is to explain the MRP views in the material master record and material master maintenance in great detail. The most important differences between consumption-based planning and materials requirements planning should be discussed.

First of all, the instructor is to give a brief insight into the different MRP procedures of consumption-based planning in this unit, but describe the reorder point planning procedure in detail.

Since the participants learnt about the material master during the previous days, you can restrict this demonstration to the MRP profile.



Hint: The participants should enter consumption values in the material master record exercise. This is not necessary in TSCM50, since no forecasts are performed here. The values were chosen specifically for SCM525, from which this lesson was copied.

Unit Overview

This unit provides an overview of the complete material requirements planning process. You will learn about the basic prerequisites that you need to use consumption-based planning in your company. The MRP data in the material master record and the material master maintenance are explained here. The most important differences between consumption-based and material requirements planning are discussed. You will gain a brief insight into the different MRP procedures of consumption-based planning. The manual reorder point planning procedure is covered in detail in this unit.



Unit Objectives

After completing this unit, you will be able to:

- Describe the overall process of MRP
- Name the planning levels in consumption-based planning
- Describe the prerequisites for executing consumption-based planning.
- Differentiate between consumption-based planning and material requirements planning (MRP)
- Name the MRP procedures of consumption-based planning
- Define MRP types in the system
- Create material master records and explain the MRP data
- Describe the functions of a MRP profile and create own MRP profiles
- Explain the meaning of the material status
- Explain the principle of reorder point planning and its process
- Describe the meaning of the reorder point and safety stock
- Comprehend net requirements calculation for materials planned with reorder point planning
- Explain how materials planned with reorder point planning are scheduled.

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Lesson: Overview of Material Requirements Planning



421

Lesson Duration: 30 Minutes

Lesson Overview

In this lesson, you will gain an overview of the overall process of material requirements planning and learn about the basic prerequisites so that you can use consumption-based planning in your company. You will also learn about the possible planning levels of consumption-based planning in the *SAP R/3 system*.



Lesson Objectives

After completing this lesson, you will be able to:

- Describe the overall process of MRP
- Name the planning levels in consumption-based planning
- Describe the prerequisites for executing consumption-based planning.



In this lesson, the instructor will give a brief overview of the material requirements planning process, explaining the differences between in-house production and external procurement.

The instructor will only outline the separate storage location MRP and the MRP areas, then give a more detailed explanation in lessons *Separate Storage Location MRP* and *MRP Areas*.

He or she will explain the Customizing settings necessary to use consumption-based planning and show them in the system. Then the instructor will explain the plant parameters in detail in lesson *Executing the Planning Run*.

Business Example

To optimize logistical processes, IDES AG wants to use *mySAP SCM*. First, check whether consumption-based planning is to be used and which settings therefore need to be made.

Overview of Material Requirements Planning

The main function of material requirements planning is to ensure material availability, that is, to procure the requirement quantities 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.

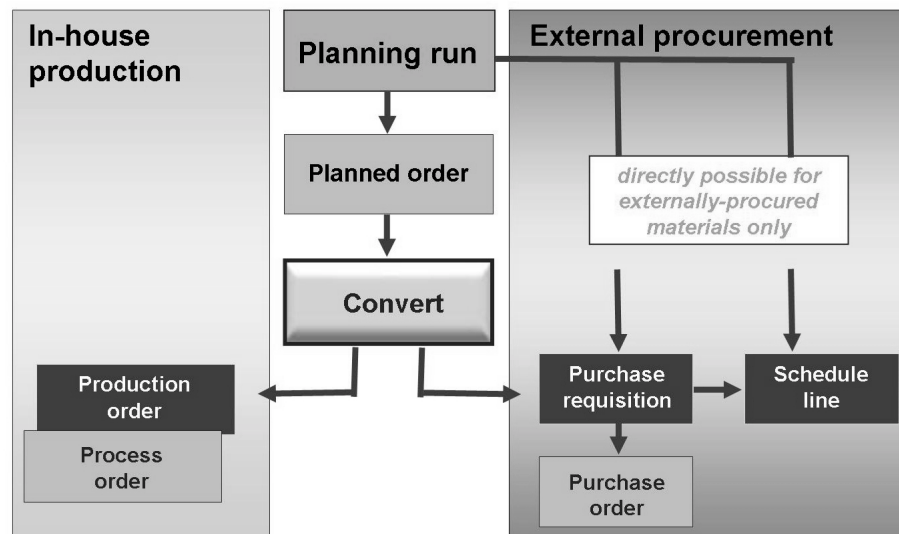


Figure 163: Overall Procedure

MRP supports and helps the MRP controller in the task areas. These tasks include determining 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 are planned orders, purchase requisitions and scheduling agreement schedule lines. The planned order and purchase requisition are internal planning elements that can be changed, rescheduled or deleted at almost any time.

In in-house production, the system creates planned orders for planning production quantities. When planning has finished, the system converts the planned orders into production orders. 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 for direct planning of external procurement quantities. Whether purchase requisitions are created for direct planning, or planned orders are created first, you can use the creation indicator for purchase requisitions/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 first is the additional procurement proposal check that is executed by the MRP controllers. Purchasing can only order the material when the MRP controller has checked the planned order and converted it into a purchase requisition. Otherwise, the procurement proposal is immediately available for Purchasing.

If a scheduling agreement exists for a material and it is indicated as MRP-relevant in the source list, it is also possible to create scheduling agreement schedule lines directly during the requirements planning run. Unlike the planned order and

purchase requisition, scheduling agreement schedule lines are fixed, mandatory elements; in the broader sense, they belong to the procurement proposals. The creation indicator for scheduling agreement schedule lines in the initial screen of the planning run, or the plant parameters or MRP groups control whether or not direct scheduling agreement schedule lines are created.



At this point, the instructor can refer to the fact that scheduling agreement schedule lines are covered in this course in lesson *Source Determination in MRP*.



Note: The procurement types that are permitted are defined in Customizing for Material Types. You can decide whether in-house production only, external procurement only, or both are possible.

Planning Levels of Consumption-Based Planning

Requirements planning takes place at plant level. In other words, the entire stock that exists in the plant is considered in planning. However, the stocks of individual storage locations can be excluded from MRP or planned independently. These stocks are then not included in MRP at plant level. You can also execute requirements planning for individual MRP areas. You can define the MRP areas yourself. This means that several storage locations can be grouped together for one MRP area and that requirements planning can be executed separately from the plant for these MRP areas. 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.)



Planning level for materials planning is either

the plant or individual MRP areas



Figure 164: Planning Levels

Basically, MRP areas are optional. You can plan all material requirements without referring to MRP areas.

There are three different types of MRP areas:

1. Plant MRP areas (obligatory) that are automatically created by activating planning with MRP areas. Their numbers match the number of the plant. If no more MRP areas are defined, the plant MRP area covers the entire plant.
2. Storage location MRP areas that are defined by the storage locations assigned to them.
3. Subcontractor MRP areas that provide planning of the requirement of the material provided for a subcontractor and are defined by the assignment of this subcontractor.



Note: Many settings for controlling materials planning can be made separately for each plant or for each MRP area. The actual planning process, however, is exactly the same.



Here, you can point out that planning at plant level will be discussed in the rest of the course. The particular features of MRP areas are covered in this course in lesson *MRP Areas*.

Prerequisites for Consumption-Based Planning

To be able to use consumption-based planning at all, you need to make certain settings.

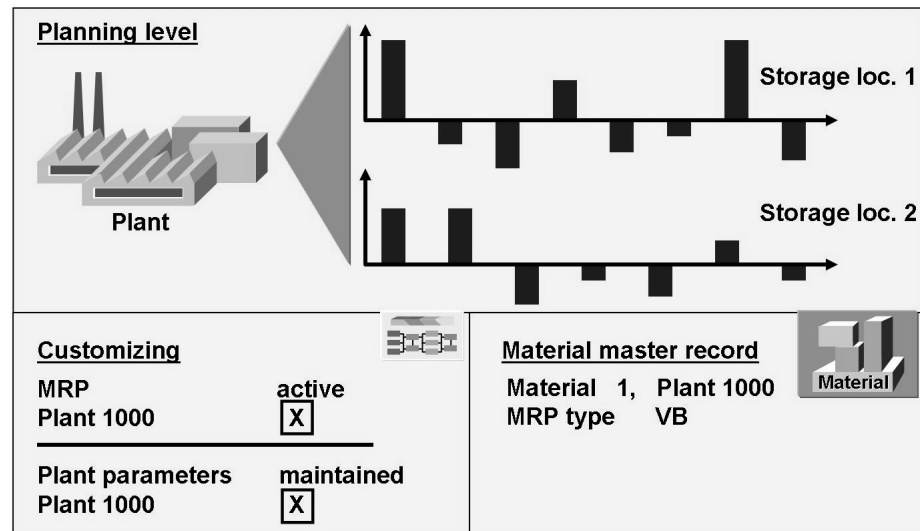


Figure 165: Prerequisites for Materials Planning

If material requirements planning is carried out at plant level, the system adds together available stocks from all of the individual storage locations to determine shortages.

The following prerequisites must have been fulfilled in order to carry out requirements planning for a plant:

- Requirements planning for the corresponding plant must be activated in Customizing for *Materials Management* under *Consumption-Based Planning* → *Planning* → *Activate Material Requirements Planning*.
- The plant parameters for the corresponding plant must be activated in Customizing for *Materials Management* under *Consumption-Based Planning* → *Plant Parameters* → *Carry Out Overall Maintenance of Plant Parameters*.
- In the material master record, you have to maintain the MRP data of the materials that are subject to automatic planning.



Note: Automatically planned materials are not assigned the material type ND (= not planned).



Demonstration: Activation of Requirements Planning

Purpose

In this demo, the instructor will show which settings have to be made in Customizing in order to use consumption-based planning. The plant parameters will be mentioned briefly and discussed more thoroughly in the lesson *Executing the Planning Run*.

System Data

System:	Assigned training system
Client:	Assigned client
User ID:	Own user ID
Password:	Own password
Set up instructions:	None

1. Accessing Customizing

From the *SAP Easy Access* screen, choose *Tools* → *Customizing* → *IMG* → *Edit Project* to access Customizing.

Choose *SAP Reference IMG* to display the Implementation Guide (IMG).

2. Activation of Requirements Planning

In Customizing for *Materials Management* under *Consumption-Based Planning* → *Planning* → *Activate Material Requirements Planning*, you must first activate requirements planning under *Material Requirements Planning* for each plant.

3. Plant Parameters

In Customizing for *Materials Management* under *Consumption-Based Planning* → *Plant Parameters* → *Carry Out Overall Maintenance of Plant Parameters*, planning-relevant Customizing settings are made for each plant.



Facilitated Discussion

For a material procured externally, you can create a planned order first or a direct purchase requisition in requirements planning. As a result of the discussion, the participants should now be aware of the two procurement proposals and be able to weigh up the advantages and disadvantages of the two options.

Discussion Questions

Use the following questions to engage the participants in the discussion. Feel free to use your own additional questions.

For a material procured externally, you can create a planned order first or a direct purchase requisition in requirements planning. What are the advantages and disadvantages of a planned order compared with a purchase requisition?



Lesson Summary

You should now be able to:

- Describe the overall process of MRP
- Name the planning levels in consumption-based planning
- Describe the prerequisites for executing consumption-based planning.

Lesson: Overview of MRP Procedures



427

Lesson Duration: 30 Minutes

Lesson Overview

This lesson shows the most important differences between consumption-based planning and material requirements planning, and provides a brief description of the different MRP procedures in consumption-based planning.

Use the MRP type to control which procedure you use to plan a material. In this lesson, you will learn about the most important parameters of a MRP type.



Lesson Objectives

After completing this lesson, you will be able to:

- Differentiate between consumption-based planning and material requirements planning (MRP)
- Name the MRP procedures of consumption-based planning
- Define MRP types in the system



In this lesson, the instructor will go into the differences between consumption-based planning and material requirements planning in detail. He/she will only briefly mention the possibility of considering external requirements as exceptions in consumption-based planning during reorder point planning, and will explain this in more detail in lesson *Reorder Point Planning*.

The instructor will only outline the different MRP procedures of consumption-based planning. Detailed information about the individual procedures will be discussed in later lessons.

Business Example

As an employee in MRP, you decide which materials use material requirements planning, and which use consumption-based planning. For consumption-based planning, also check which MRP procedures are to be used in IDES AG.

MRP Procedures

As opposed to MRP, consumption-based planning procedures are only based on previous material consumption. External requirements such as sales orders, planned independent requirements, and reservations, are generally not relevant to planning. However, to guarantee the MRP controllers with information about the current issues at the same time, sales orders, dependent and manual reservations, and so on, display in the current stock/requirements list. The planning procedures in consumption-based planning are easy-to-use methods of requirements planning

that assist in achieving certain aims with relatively little effort. The use of these MRP procedures is preferable in areas without in-house production or in manufacturing plants to plan B and C materials and operating supplies. The following are planned directly as requirements in MRP: sales orders, planned independent requirements, reservations, and so on. MRP is especially useful for planning finished products and important assembly groups and components (A materials).

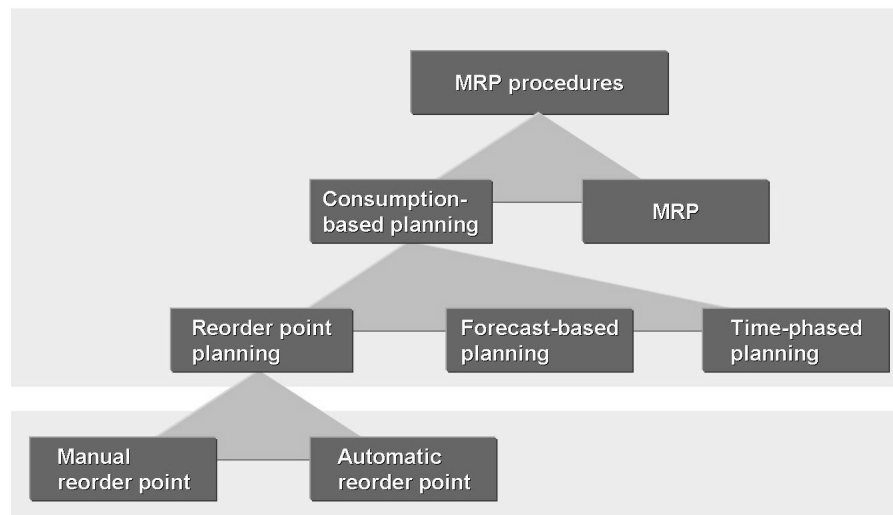


Figure 166: Overview of MRP Procedures

The following MRP procedures are available in consumption-based planning:

- Reorder point planning
- Forecast-based planning
- Time-phased 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 must be triggered. The reorder point should cover the expected average material requirements during the replenishment lead time. 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 uses historical values in the material forecast to estimate future requirements. These requirements are forecast requirements and are immediately available in planning. The system executes the forecast calculation at regular intervals.

Time-phased planning also uses historical values in the material forecast to estimate future requirements. However, in this procedure, the planning run is only executed according to predefined intervals in a particular rhythm. It may 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.

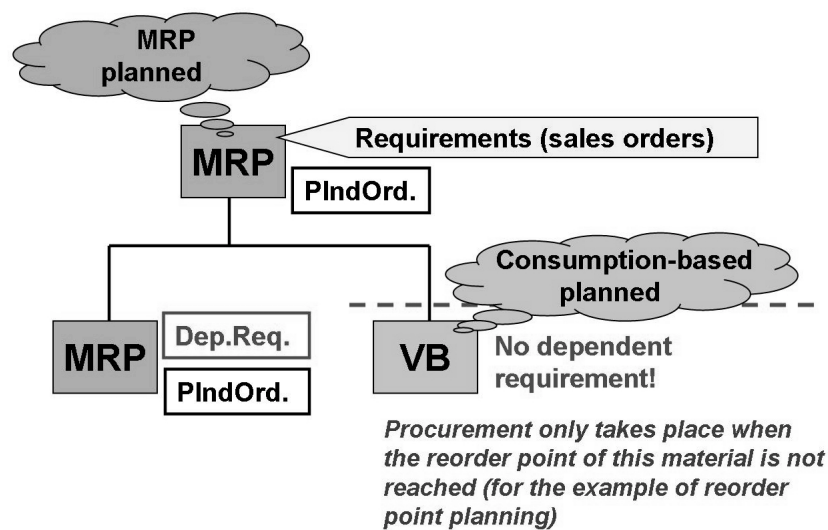


Figure 167: Material Requirements Planning / Consumption-Based Planning

Material requirements planning is based on current and future requirements. The planned requirement quantities trigger requirements calculation. In MRP, the requirement elements include sales orders, planned independent requirements, material reservations, as well as the dependent requirements that BOM explosions create.

Consumption-based planning, generally based on historical values, uses material forecasts or statistical procedures to determine future requirements. Consumption-based planning procedures do not refer to the production plan; in other words, net requirements calculation is not triggered by independent or dependent requirements. 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:

- You need an efficient, up-to-date inventory management.
- If you are working with forecast requirements, the consumption history is to run according to a certain legality and only show low random fluctuations.



In reorder point planning

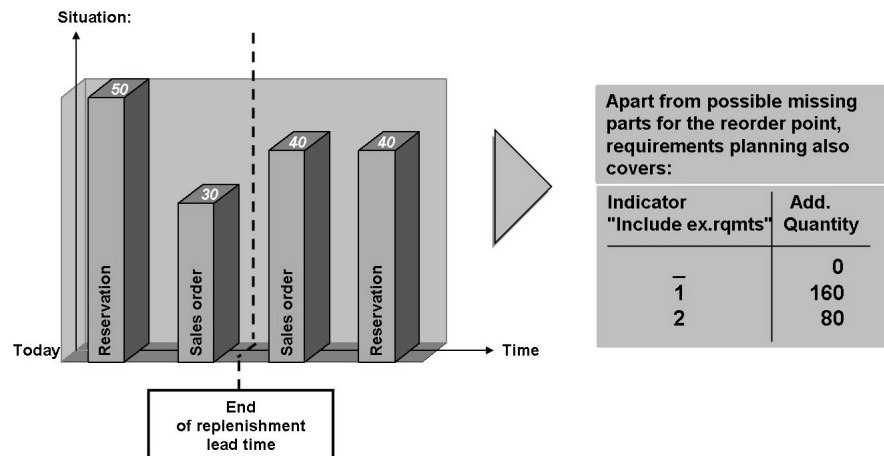


Figure 168: Considering External Requirements

As a rule, only the shortfall of the reorder point causes a planning file entry during reorder point planning, and this then triggers net requirements calculation. To avoid overplanning, sales orders, dependent requirements, reservations, and so on, are not generally included in the net requirements calculation, as these future requirements have already been scheduled with the reorder point. Under certain circumstances, you must also consider particular external requirements during reorder point planning in net requirements calculation. In Customizing for *Materials Management* under *Consumption-Based Planning* → *Master Data* → *Check MRP Types*, use the indicator *Include ext. requirements* for the MRP type in reorder point planning to determine whether external requirements (sales orders and manual reservations) are considered. You can also take other requirements (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 only within the replenishment lead time.

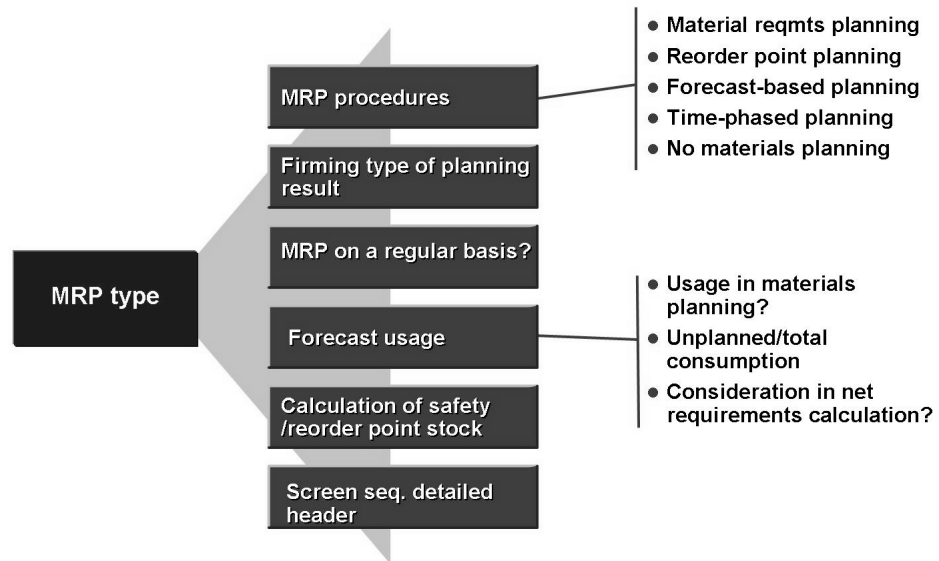


Figure 169: Setting MRP Types

MRP types are defined in Customizing for *Materials Management* under *Consumption-Based Planning* → *Master Data* → *Check MRP Types*. The MRP type is a key you use to determine the procedure to use for planning a material, and to determine the MRP parameters that can/must be entered during maintenance of the material master record. The MRP type is part of the plant data (MRP area data of a material) that you define 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. You can use the forecast indicator to determine whether the forecast results are to be used in planning. The consumption indicator for the forecast determines which historical values 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 reorder point and safety stock are to be automatically calculated.



Demonstration: MRP Type

Purpose

In this demo, the instructor will explain the most important settings for the MRP types in Customizing.

System Data

System:	Assigned training system
Client:	Assigned client
User ID:	Own user ID
Password:	Own password
Set up instructions:	None

1. Show MRP type *VB (manual reorder point planning)* and *VM (automatic reorder point planning)*.

You define the corresponding parameters for the particular MRP type in Customizing for *Materials Management*, under *Consumption-Based Planning* → *Master Data* → *Check MRP Types*.

In the reorder point planning procedure, you can set the indicator for considering external requirements.



Facilitated Discussion

You can decide for each material, whether the material is to be planned using consumption-based or material requirements planning. After the discussion, the participants should be aware of the difference between consumption-based and material requirements planning, and they should consider which MRP procedure is the best choice for particular materials.

Discussion Questions

Use the following questions to engage the participants in the discussion. Feel free to use your own additional questions.

For which materials is it better to use consumption-based planning, and for which materials MRP?



Lesson Summary

You should now be able to:

- Differentiate between consumption-based planning and material requirements planning (MRP)
- Name the MRP procedures of consumption-based planning
- Define MRP types in the system

Lesson: Material Master Record



433

Lesson Duration: 45 Minutes

Lesson Overview

This lesson provides an overview of the most important MRP data in the material master record. You will learn about the MRP profile that serves as an entry aid for creating and changing the MRP data in the material master record, therefore easing the MRP data management. This lesson also covers the material status where you can restrict the usability of a material.



Lesson Objectives

After completing this lesson, you will be able to:

- Create material master records and explain the MRP data
- Describe the functions of a MRP profile and create own MRP profiles
- Explain the meaning of the material status



The instructor is to explain the MRP views in the material master record in great detail. He/she will only briefly mention other views such as the Purchasing or Accounting views. In this context, the instructor explain the MRP profile and describe the important points for when working with a MRP profile.

As an additional entry aid for creating and changing material master records, he/she might like to mention the option of mass maintenance.

Business Example

As an employee in MRP, you are responsible in the IDES AG for the maintenance of the MRP data in the material master records. For fast entry, use the MRP profile you created especially for your company.

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 of a company for calling material-specific data. This data is saved in the individual material master records.

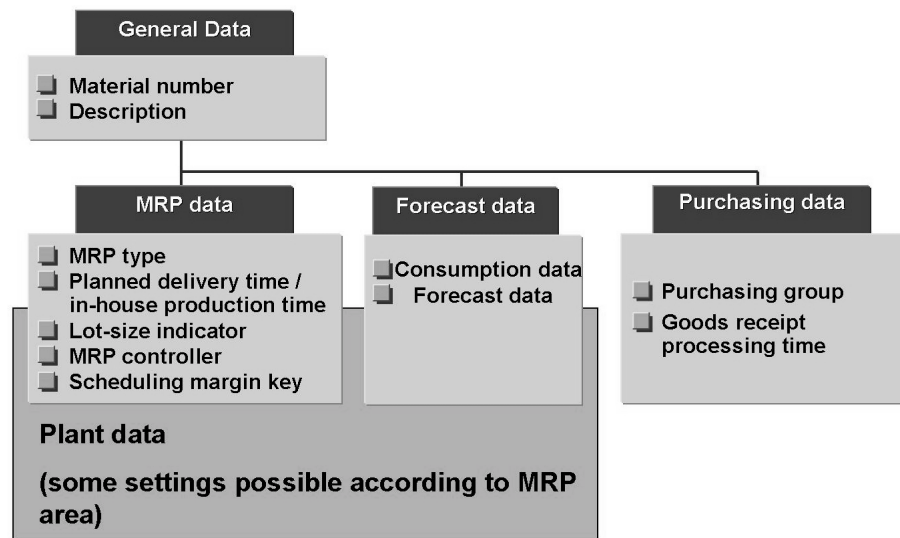


Figure 170: MRP Data in the Material Master Record

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 planning allows for a more flexible display with MRP areas. Maintain settings for MRP areas in the material master record (*MRP 1* view).

MRP data in the material master record can be subdivided into the following categories:

- General data that you must/can always define for a planning material
- Data dependent on MRP procedure
- Data required for scheduling
- Data required for lot-size calculation

To create the MRP views in the material master record, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create (General)* → *Immediately*.

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 needed again and again in a similar combination when maintaining different materials. A profile simplifies maintenance and administration of MRP data.



<table border="1"> <tr> <td>MRP profile</td> <td>0001</td> </tr> <tr> <td colspan="2">Standard values:</td> </tr> <tr> <td>MRP type</td> <td>VB</td> </tr> <tr> <td>MRP controller</td> <td>001</td> </tr> <tr> <td>Sched. margin key</td> <td>001</td> </tr> <tr> <td colspan="2">Default values:</td> </tr> <tr> <td>Reorder point</td> <td>500</td> </tr> <tr> <td>Safety stock</td> <td>50</td> </tr> </table>	MRP profile	0001	Standard values:		MRP type	VB	MRP controller	001	Sched. margin key	001	Default values:		Reorder point	500	Safety stock	50	▶	<table border="1"> <tr> <td>Material</td> <td>1</td> </tr> <tr> <td>Plant</td> <td>1000</td> </tr> <tr> <td>MRP profile</td> <td>0001</td> </tr> <tr> <td colspan="2">MRP type: <input type="text" value="VB"/></td> </tr> <tr> <td colspan="2">MRP controller: <input type="text" value="001"/></td> </tr> <tr> <td colspan="2">Sched. margin key: <input type="text" value="001"/></td> </tr> <tr> <td colspan="2">Reorder point: <input type="text" value="500"/></td> </tr> <tr> <td colspan="2">Safety stock: <input type="text" value="50"/></td> </tr> </table>	Material	1	Plant	1000	MRP profile	0001	MRP type: <input type="text" value="VB"/>		MRP controller: <input type="text" value="001"/>		Sched. margin key: <input type="text" value="001"/>		Reorder point: <input type="text" value="500"/>		Safety stock: <input type="text" value="50"/>	
MRP profile	0001																																	
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<table border="1"> <tr> <td>Change MRP profile</td> <td>0001</td> </tr> <tr> <td colspan="2">Standard values:</td> </tr> <tr> <td>MRP controller:</td> <td>002</td> </tr> </table>	Change MRP profile	0001	Standard values:		MRP controller:	002	▶	<table border="1"> <tr> <td>Material 3</td> <td></td> </tr> <tr> <td>Material 2</td> <td></td> </tr> <tr> <td>Material 1</td> <td></td> </tr> <tr> <td>Plant 1000</td> <td></td> </tr> <tr> <td>MRP profile 0001</td> <td></td> </tr> </table>	Material 3		Material 2		Material 1		Plant 1000		MRP profile 0001																	
Change MRP profile	0001																																	
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MRP controller:	002																																	
Material 3																																		
Material 2																																		
Material 1																																		
Plant 1000																																		
MRP profile 0001																																		

Figure 171: MRP profile

Specify the following in a MRP profile:

- Which fields are to be completed when entering MRP data in the material master record
- Which values are to be entered in these fields
- Which of these values in the material master record can be overwritten (default values) and which cannot (fixed values)

To create a MRP profile, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Profile* → *MRP Profile* → *Create*.

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.



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.

When changing a profile, the system not only updates the changed values in the profile, but also creates a background job (PROFILE) that updates all material master records allocated to a changed profile. For all materials with changes, a change document is automatically created. The time at which the batch job PROFILE is started is defined in the system administration in *Customizing for Logistics - General* under *Material Master* → *Tools* → *Define Start Time of*

Background Jobs. If the background job terminates for any reason, you must manually update the material master records by creating a background job for program RMMM0001. As a job name or job group, you can use PROFILE again; a variant is not necessary.



Hint: During the updating of the values in the material master record when 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. Or you can choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Profile* → *MRP Profile* → *Usage*.

As well as 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.



Demonstration: Material Master Record Maintenance

Purpose

In this demo, the instructor will 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 in this course until lesson *Reorder Point Planning*, the most important characteristics of a reorder point-planned material are only briefly mentioned. The instructor will explain the most important fields on the MRP views. In the demo, the instructor will show the function of the MRP profile and teach the participants about the important points for working with a MRP profile.

System Data

System:	Assigned training system.
Client:	Assigned client
User ID:	Own user ID
Password:	Own password
Set up instructions:	None

1. Create a material master record

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create (General)* → *Immediately*.

Material number: T-SCM525-1

Industry: Mechanical Engineering

Material type: Raw material

Plant: 1000

Storage location: 0001

Purchasing:

Short Text: VB Material

Base Unit of Measure: PC (piece)

Purchasing Group: 020

Material Group: 001

MRP 1:

MRP Type: VB

Reorder Point: 50

MRP Controller: 025

Lot Size: FX

Fixed Lot Size: 200

MRP 2:

Planned delivery time: 10

GR processing time: 1

Scheduling margin key: 001

Safety stock: 10

Accounting 1:

Valuation Cass: 3000

Moving Price: 10



Additional data level:

Tab *Consumption*

Period indicator: M

Period	Total consumption
Previous month	440
Previous month 1	420
Previous month 2	410

Previous month 3	380
Previous month 4	370
Previous month 5	360


 **Note:** To reach the additional data level, choose  *Additional Data*.

Save the material master record.

2. Create a MRP profile

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Profile* → *MRP Profile* → *Create*.

MRP profile: 525. Description: MRP profile SCM525.

 **Note:** First select whether the contents of the fields can be changed or not. Then choose *Data screen 1* and maintain the values. Fields in blue cannot be overwritten (fixed values), fields in black can be overwritten (default values).

Values that cannot be overwritten (fixed values):

MRP Type: VB

MRP Controller: 025

Lot size (matls planning): FX

Values that can be overwritten (default values):

Planned delivery time: 7

Scheduling margin key: 002

Reorder point: 60

Fixed lot size: 250

Save the MRP profile.

3. Change the material master record T-SCM525-1

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Change* → *Immediately*.

Select view *MRP 1* and choose plant 1000 and storage location 0001.

Use the menu bar *Edit* → *MRP profile...* to assign the newly created MRP profile 525 and show which values have changed in the material master record, and which have not changed.




Hint: For the subsequent assignment of a MRP profile, only the values defined in the profile as fixed values (cannot be overwritten) are copied from the profile in the material master record.

Save the material master record.

4. Usage of a MRP profile


Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Profile* → *MRP Profile* → *Usage*.

Enter the MRP profile number and choose  *Execute*.

Profile 525 was previously only assigned material T-SCM525-1 in plant 1000.

5. Changing the MRP profile

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Profile* → *MRP Profile* → *Change*.

Enter the MRP profile number and choose  *Enter*.

Choose *Data screen 1* and change the value of the MRP controllers from 025 to 020. Save your entry.



Double-click on the status bar to display the system message.



Hint: When changing a MRP profile, the background job PROFILE is automatically created. When this is started, all material master records that the MRP profile is assigned to are changed. The time at which the batch job PROFILE is started is defined in the system administration in Customizing for *Logistics - General* under *Material Master* → *Tools* → *Define Start Time of Background Jobs*. In our training systems, this is generally 23:00. You therefore have to manually start the job for this course. To do this, you request an update of the material master records by hand, by creating a background job for program RMMM0001. As the job name or job group, you can use PROFILE again. A variant is not required.

6. Start the job PROFILE


From the menu bar, choose *System* → *Services* → *Reporting*.

Enter the program name RMMM0001 and choose  *Execute*. Choose  *Execute* again.

A message will confirm that your material has been changed.



Note: To show the participants the time at which the job would automatically run, use the menu bar *System* → *Services* → *Jobs* → *Job Overview*.

Enter PROFILE as the job name and choose  *Execute*.
Double-click on the line of the job PROFILE.

7. Display the material master record T-SCM525-1 in plant 1000

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current*.

Select view *MRP I* and enter plant 1000 and storage location 0001.

The value for field *MRP Controller* was changed from 025 to 020.



Hint: When changing a MRP profile, only the values defined in the profile as fixed values (cannot be overwritten) are copied from the profile in the material master records.

8. Display the change document

There are two ways of displaying a change document in a material master record:

1. Directly in the material master record:

To display the material master record T-SCM525-1, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current*.

Select view *MRP I* and choose plant 1000 and storage location 0001.

From the menu bar, choose *Environment* → *Display Changes*. Double-click on the first line to display the last change document.

2. In another transaction:

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display Changes* → *Active Changes*.

Enter material T-SCM525-1, plant 1000 and choose  *Execute*.

Double-click on the first line to display the last change document.

Material Status

The material status restricts the usability of a material and determines which functions in Materials Management or Production Planning and Control result in a warning or an error message. In other words, with the assignment of a material status to a material, you determine for which business usages the material is intended.

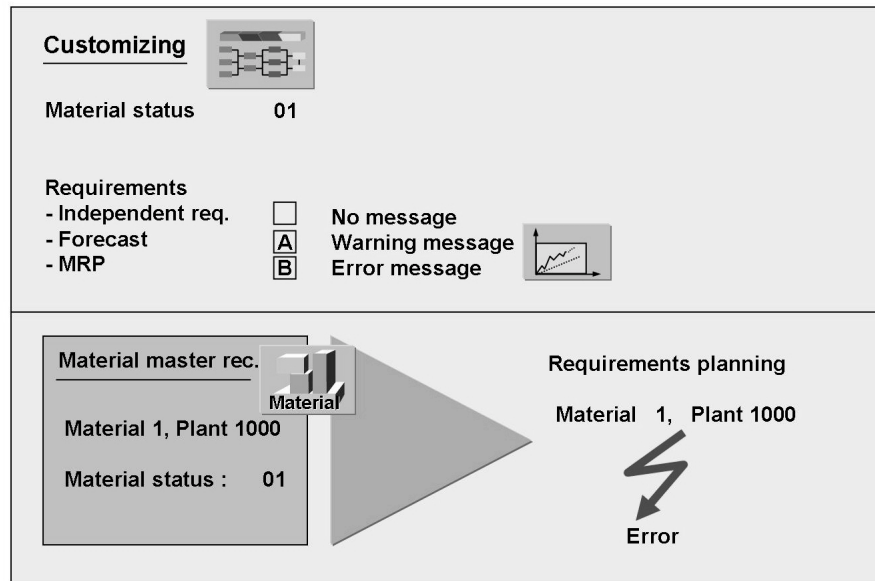


Figure 172: Material Status

You determine the material status and its controlling characteristics in Customizing for *Logistics - General* under *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.



Demonstration: Material Status

Purpose

The participants should be clear about the function of the material status.

System Data

System:	Assigned training system
Client:	Assigned client
User ID:	Own user ID
Password:	Own password

Set up instructions: None

1. **Customizing settings for the material status**

Create a material status in Customizing for *Logistics - General* under *Material Master* → *Settings for Key Fields* → *Define Material Statuses*.

Select the **Material Status 01** and choose *Details* to show the settings for this material status.

In the *Material requirements* area, a *B* is already entered. Use the F4 help 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**

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Change* → *Immediately*.

Select view *MRP 1* and choose plant 1000 and storage location 0001.

Assign the plant-specific material status 01 to the material and save your entry.




Hint: A material status can be assigned to a material plant-specifically, or on view *Basic data 1* cross-plant.

3. **Single-level, single-item planning**



Note: In this demo, show the participants that this material cannot be planned with material requirements, after material status *01 (Blocked for Procmnt/Whse)* was assigned to the material.

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single-Item, Single-Level*.

Enter material T-SCM525-1 and plant 1000. You can copy the control parameters proposed by the system. Choose  *Enter*.

Double-click on the status bar and show the error message.

4. **Change to the material master record T-SCM525-1**

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Change* → *Immediately*.

Select view *MRP 1* and choose plant 1000 and storage location 0001.

Delete the plant-specific material status, so that in a later demo, you can execute a planning run for the material, and then save the master record.



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Exercise 21: Material Master Record Maintenance

Exercise Duration: 25 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Maintain a material master for materials planning
- Use MRP profiles

Business Example

A new raw material is to be used in plant 1000. The new material is to be planned using consumption-based planning.

System Data

System: Assigned training system
Client: Assigned client
User ID: SCM525-##
Password: If there are any previous exercises, the user assigned an own password then. If this is the first exercise, use the password assigned by the instructor.
Set up instructions: None

Task 1:

You are going to use a new raw material in plant 1000. When creating the material master record, use the existing MRP profile ZVB1 as an entry aid.

1. Create a new material master record with the following data:

Material number: **T-M525A##**

Industry: **Mechanical Engineering**

Material type: **Raw material**

Views: **Purchasing, MRP 1, MRP 2, Accounting 1**

Plant: **1000**

Storage location: **0001**

MRP profile: **ZVB1**

Purchasing view:

Short text: **Raw material T-M525A##**

Continued on next page



Base Unit of Measure: **PC (piece)**

Purchasing Group: **001**

Material Group: **001**

Accounting view:

Valuation Class: **3000**

Moving Price: **10,00 EUR**

Before saving your material, go back to the *MRP 1* view and check the MRP data.

2. Where do the default values for the *MRP Type*, *Reorder Point* and *MRP Controller* fields come from?

3. Can you change the lot size? Why not?

4. On the *MRP 1* view, change the proposed reorder point to **50** and delete the safety stock in the *MRP 2* view. Save your entries.
5. You have been using a similar raw material for a long time, but no material master record exists. In order 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.

Branch to the material master record and go to the additional data level. Choose the *Consumption* tab. The consumptions are to be managed monthly. Determine the corresponding period indicator. Then enter the following total consumption values:

Previous month	430
Previous month 1	400
Previous month 2	390
Previous month 3	370
Previous month 4	350
Previous month 5	340
Previous month 6	350
Previous month 7	360

Continued on next page

Previous month 8	340
Previous month 9	350
Previous month 10	340

Task 2:

Check the MRP profiles ZVB1 and ZVB2 in plant 1000.

1. Check the use of the MRP profile ZVB1 in plant 1000. How many materials is this MRP profile assigned to?

2. Display the MRP profile ZVB2. Which values of this MRP profile are default values, and which values are fixed values that you cannot overwrite? Complete the following table.

Description	Value?	Fixed value?	Default value?
MRP type			
MRP controller			
Scheduling margin key			
Planned delivery time (days)			
Safety stock			
Reorder point			
Lot size			
Fixed lot size			

Task 3:

You have discovered that the settings of the MRP profile ZVB2 are more appropriate for your material T-M525A## than the values of the profile you have allocated to it.

1. Change the material master record and assign MRP profile **ZVB2**. The change takes effect immediately. (Note: Choose one of the MRP views from the menu bar *Edit* → *MRP profile...*)
2. Check the change by examining the *Lot size* field. After assigning MRP profile ZVB2, what is the value in the *Lot size* field and what is the characteristic (ready for input/not ready for input) of this field? (Note: the *Lot size* field is in the *MRP 1* view.)

Continued on next page

3. Check the change by examining the *Planned delivery time* field. What value and what characteristic (ready for input/not ready for input) does the field have after allocating the profile ZVB2? (Note: *Planned delivery time* field is in the *MRP 2* view.)

4. Was the safety stock copied from the profile ZVB2 in the material master? (Note: The *Safety stock* field is in the *MRP 2* view.)

5. Save your changes.
6. Display the change document.

Solution 21: Material Master Record Maintenance

Task 1:

You are going to use a new raw material in plant 1000. When creating the material master record, use the existing MRP profile ZVB1 as an entry aid.

1. Create a new material master record with the following data:

Material number: **T-M525A##**

Industry: **Mechanical Engineering**

Material type: **Raw material**

Views: **Purchasing, MRP 1, MRP 2, Accounting 1**

Plant: **1000**

Storage location: **0001**

MRP profile: **ZVB1**

Purchasing view:

Short text: **Raw material T-M525A##**

Base Unit of Measure: **PC (piece)**

Purchasing Group: **001**

Material Group: **001**

Accounting view:


Valuation Class: **3000**


Moving Price: **10,00 EUR**


Continued on next page



Before saving your material, go back to the *MRP 1* view and check the MRP data.

- a) To create a material master record, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create (General)* → *Immediately*.
- b) Enter the material number **T-M525A##**, **mechanical engineering** as the industry, and **raw material** as the material type. Confirm your entry and choose  *Enter*.

Select views *Purchasing*, *MRP 1*, *MRP 2* and *Accounting 1*, and choose  *Enter*.

Enter plant **1000**, storage location **0001** and MRP profile **ZVB1**. Confirm your entry and choose  *Enter*.

Enter the corresponding values manually in the *Purchasing* and *Accounting* views. The values for the MRP views automatically fill with the data from the MRP profile ZVB1.


2. Where do the default values for the *MRP Type*, *Reorder Point* and *MRP Controller* fields come from?

-
- a) The default values for the *MRP Type*, *Reorder Point* and *MRP Controller* fields come from the MRP profile ZVB1.

3. Can you change the lot size? Why not?

-
- a) 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 delete the safety stock in the *MRP 2* view. Save your entries.


- a) Overwrite the reorder point in the *MRP 1* view and delete the safety stock in the *MRP 2* view.
- b) Choose  *Save* to save the material master record.


5. You have been using a similar raw material for a long time, but no material master record exists. In order 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.


Branch to the material master record and go to the additional data level. Choose the *Consumption* tab. The consumptions are to be managed monthly. Determine the corresponding period indicator. Then enter the following total consumption values:


Continued on next page

Previous month	430
Previous month 1	400
Previous month 2	390
Previous month 3	370
Previous month 4	350
Previous month 5	340
Previous month 6	350
Previous month 7	360
Previous month 8	340
Previous month 9	350
Previous month 10	340

- a) To change a material master record, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Change* → *Immediately*.
- b) Enter material number T-M525A##. Confirm your entry and choose  *Enter*.

Select the *MRP 1* view and choose  *Enter*.


Enter plant 1000 and storage location 0001. Check your entry and choose  *Enter*.

Choose  *Additional data* to get to the additional data level. Branch to the *Consumption* tab page. Enter period indicator **M**. Maintain the historical consumption values from the last months in the *Total Consumption* column and save your entries.

Task 2:

Check the MRP profiles ZVB1 and ZVB2 in plant 1000.

1. Check the use of the MRP profile ZVB1 in plant 1000. How many materials is this MRP profile assigned to?

-
- a) Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Profile* → *MRP Profile* → *Usage*.
 - b) Enter the MRP profile **ZVB1** and plant **1000**. Check your entry and choose  *Execute*.


The materials assigned to the MRP profile ZVB1 display in a list.

Continued on next page

2. Display the MRP profile ZVB2. Which values of this MRP profile are default values, and which values are fixed values that you cannot overwrite? Complete the following table.

Description	Value?	Fixed value?	Default value?
MRP type	<u>VB</u>		<u>X</u>
MRP controller	<u>025</u>	<u>X</u>	
Scheduling margin key	<u>001</u>		<u>X</u>
Planned delivery time (days)	<u>2</u>	<u>X</u>	
Safety stock	<u>30</u>		<u>X</u>
Reorder point	<u>80</u>		<u>X</u>
Lot size	<u>FX</u>		<u>X</u>
Fixed lot size	<u>400</u>		<u>X</u>

- a) To display the MRP profile data, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Profile* → *MRP Profile* → *Display*.

Enter the MRP profile number (ZVB2) and choose  *Enter*.

On the first screen, you see the fields with fixed values, and those with default values.


Choose *Data screen 1* to display the defined values.


Continued on next page


Task 3:


You have discovered that the settings of the MRP profile ZVB2 are more appropriate for your material T-M525A## than the values of the profile you have allocated to it.

1. Change the material master record and assign MRP profile **ZVB2**. The change takes effect immediately. (Note: Choose one of the MRP views from the menu bar *Edit* → *MRP profile...*)
 - a) To change the material master record, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Change* → *Immediately*.

Enter material number **T-M525A##**. Confirm your entry and choose  *Enter*.

Select the *MRP 1* view and choose  *Enter*.



Enter plant 1000 and storage location 0001. Confirm your entry with  *Enter*.
 - b) From the menu bar, choose *Edit* → *MRP profile...* and overwrite the current assigned MRP profile ZVB1 with profile ZVB2.

Confirm your entry and choose  *Enter*.
2. Check the change by examining the *Lot size* field. After assigning MRP profile ZVB2, what is the value in the *Lot size* field and what is the characteristic (ready for input/not ready for input) of this field? (Note: the *Lot size* field is in the *MRP 1* view.)

 - a) The *Lot size* field still has value FX after the assignment of profile ZVB2, but is now ready for input.
3. Check the change by examining the *Planned delivery time* field. What value and what characteristic (ready for input/not ready for input) does the field have after allocating the profile ZVB2? (Note: *Planned delivery time* field is in the *MRP 2* view.)

 - a) The *Planned delivery time* field has value 2 after the assignment of profile ZVB2, and is not ready for input.
4. Was the safety stock copied from the profile ZVB2 in the material master? (Note: The *Safety stock* field is in the *MRP 2* view.)

Continued on next page

-
- a) The safety stock was not copied because it is only defined in the subsequently assigned MRP profile as a default value.
5. Save your changes.
 - a) Choose  *Save*.
 6. Display the change document.
 - a) Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display Changes* → *Active Changes*.
Enter T-M525A##, plant 1000 and choose  *Execute*.
Double-click on the first line to display the last change document.
 - b) 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*.



Lesson Summary

You should now be able to:

- Create material master records and explain the MRP data
- Describe the functions of a MRP profile and create own MRP profiles
- Explain the meaning of the material status

Lesson: Reorder Point Planning



449

Lesson Duration: 60 Minutes

Lesson Overview

This lesson provides detailed information about reorder point planning. You will learn about the general principle of reorder point planning, net requirements calculation, and scheduling during reorder point planning.



Lesson Objectives

After completing this lesson, you will be able to:

- Explain the principle of reorder point planning and its process
- Describe the meaning of the reorder point and safety stock
- Comprehend net requirements calculation for materials planned with reorder point planning
- Explain how materials planned with reorder point planning are scheduled.



In this lesson, the instructor will discuss the principle of reorder point planning in detail and in this context, explain the meaning and determination of reorder point and safety stock. The instructor will also discuss the net requirements calculation executed by the system during the planning run, and scheduling for a material planned with reorder point planning.

The possibility of considering external requirements for a material planned with reorder point planning was already mentioned in the *Overview of MRP Procedures* lesson but will be described in detail in this lesson. The instructor will therefore show and explain the possible Customizing settings.

Business Example

IDES AG procures particular materials using safety stock and reorder points. For each material, you must enter the corresponding MRP data. You want to check whether it is better to define the reorder point and safety stock manually or automatically by the system.

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.

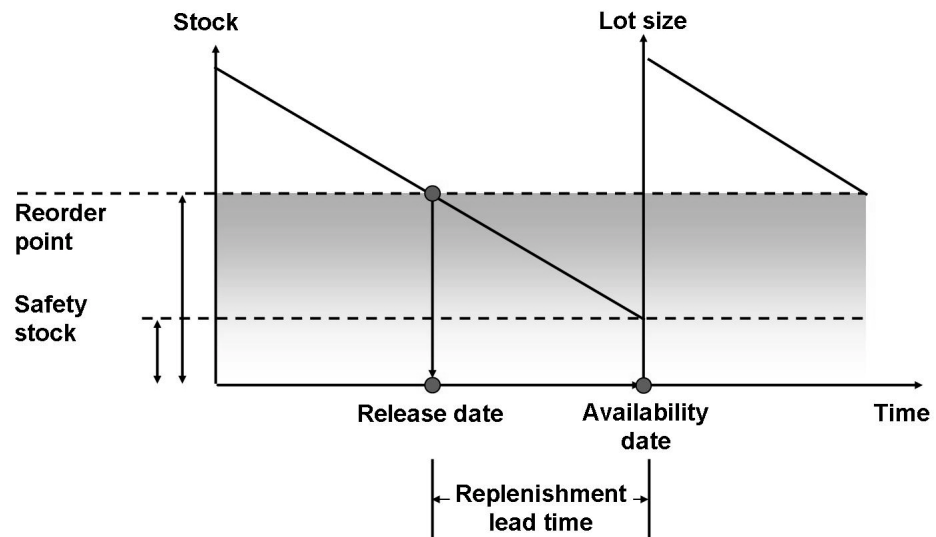


Figure 173: Reorder Point Planning

The **reorder point** should cover the expected average material requirements during the replenishment lead time.

The **safety stock** should cover both excess material consumption during the replenishment lead time and the additional consumption caused by delayed deliveries. The safety stock is therefore part of the reorder point.

The reorder point is composed of the expected average material requirements during the replenishment lead time and the safety stock. You must therefore consider the following points when defining the reorder point:

- Safety stock
- Previous consumption or future requirements
- Replenishment lead time

During automatic reorder point planning, you determine the reorder point and the safety stock in the material master. During automatic reorder point planning, the integrated forecast program determines the reorder point and safety stock.

The reorder point is calculated as follows: $\text{reorder point} = \text{safety stock} + \text{daily requirement} * \text{lead time}$.

Inventory management continuously monitors the plant stock during reorder point planning. At each material withdrawal, the system checks whether the withdrawal falls short of the reorder point. If this is the case, an entry is created in the planning file for the next planning run. In the same way, the system checks whether the plant stock still falls short of the reorder point during a material return. If so, a planning flag is created so that the planning run can delete superfluous

procurement proposals. If return deliveries become superfluous as a result of fixed scheduled receipts, the planning run proposes that these receipts are deleted. In this case, the MRP controller must check with Purchasing whether the purchase order can be retracted.

The system calculates net requirements during the planning run.

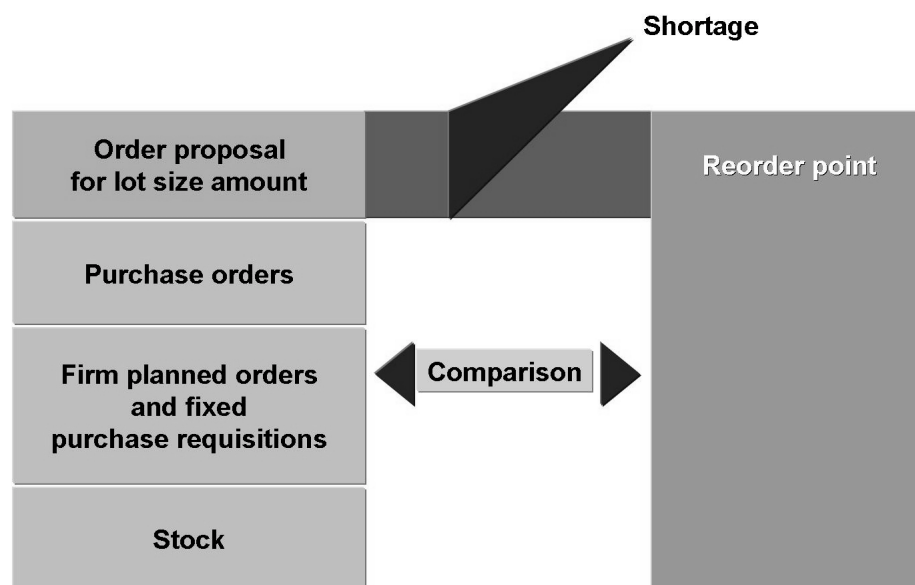


Figure 174: Net Requirements Calculation for Reorder Point Planning

During reorder point planning, the existing **MRP warehouse stock** is a result of:

Warehouse stock + on-order stock

The on-order stock is composed of fixed and firm receipt elements (purchase orders, firm planned orders, firm purchase requisitions). The plant stock also includes the safety stock.

There will be a material shortage if the available warehouse stock level is lower than the reorder point.

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-size 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.

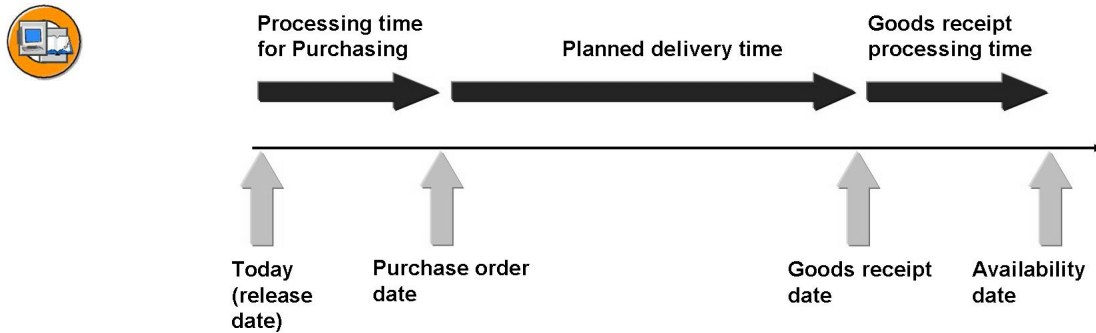


Figure 175: Forward Scheduling for External Procurement

The shortage quantity date for materials planned using reorder points is the date of the planning run. If the reorder point is fallen short of, 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. This 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 therefore stands firm (for planned orders, this means the order finish date). Finally, the goods receipt processing time is calculated in workdays with the delivery date and thus the availability date is known.

The purchasing department processing time is the time available for the buyer to convert a purchase requisition into a purchase order. You determine this in Customizing for *Materials Management* under *Consumption-Based Planning* → *Plant Parameters* → *Carry Out Overall Maintenance of Plant Parameters*.

The planned delivery time is the number of days required to procure the material from external procurement.

The **goods receipt processing time** is the timeframe between receiving the material and the receipt in the warehouse. It is required for unpacking, checking, storing material and so on.

The planned delivery time and the goods receipt processing time are determined for each material. (You can also determine the planned delivery time in the outline agreement or purchasing info record according to vendor).



The following demo uses material T-SCM525-1 that the instructor could have created in lesson *Material Master Record*. If the instructor has not yet created this material, use another material of MRP type *VB* or create a new material with this MRP type *VB*.



Demonstration: Reorder Point Planning

Purpose

In this demo, the instructor will show the Customizing settings for MRP type *VB* (*manual reorder point planning*). He or she will 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. The scheduling process for materials planned with reorder point planning will also be discussed.

System Data

System:	Assigned training system
Client:	Assigned client
User ID:	Own user ID
Password:	Own password
Set up instructions:	None

1. Customizing settings for MRP type *VB* (manual reorder point planning)

In Customizing for *Materials Management*, under *Consumption-Based Planning* → *Master Data* → *Check MRP Types*, you can define the corresponding parameters for the particular MRP type.

Show the settings for the MRP type *VB* (*manual reorder point planning*):

- Indicator *Include external requirements*: empty (for *No consideration*). There are no *Additional external requirements for reorder point planning* selected
- MRP indicator forecast: Empty (for *Not to be included in planning*)
- The safety stock is not calculated by the system
- The reorder point is not calculated by the system.



Note: The selection *Additional external requirements for reorder point planning* is only effective in connection with the indicator *Include external requirements*.

2. Show material master record T-SCM525-1

Choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current*.

Show the views *MRP 1* and *MRP 2* 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.

The safety stock can be maintained at *MRP view 2*. It can also be 0. The safety stock is part of the reorder point.

Planned delivery time: 10 days

GR processing time: 1 day

3. **Plant parameter for plant 1000**

In Customizing for *Materials Management* under *Consumption-Based Planning* → *Plant Parameters* → *Carry Out Overall Maintenance of Plant Parameters*, you can make planning-relevant Customizing settings.

Choose *Maintain*. Enter plant 1000 and choose *Maintain* again.

Choose *External Procurement*. For plant 1000, a purchasing department processing time of one day is maintained.

Possible question to the participants: If you were to start a planning run now, which availability date would be determined for the procurement proposal?

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).



Caution: The subsequent exercise is to be started assuming that the participants have completed the exercise from lesson *Material Master Record* in course SCM525 (Consumption-Based Planning). If this lesson is used on its own, the instructor must have created material T-M525A## in preparation for the corresponding number of participant groups. The instructor can use the data from lesson *Material Master Record* for the material master records.



Exercise 22: Reorder Point Planning

Exercise Duration: 15 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Discuss the settings in the material master record of a material planned with reorder point planning
- Set the different times for calculating the availability date during forward scheduling

Business Example

In your company, some materials are planned with reorder point planning. Check the settings in the material master record for one of these materials. Calculate the availability date of the material if you were to start a planning run today.

System Data

System:	Assigned training system
Client:	Assigned client
User ID:	SCM525-##
Password:	If there are any previous exercises, the user assigned an own password then. If this is the first exercise, use the password assigned by the instructor.
Set up instructions:	None

Task 1:

Display the material master record.

1. Display the material master record for material T-M525A## in plant 1000.

What procedure 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?

Continued on next page



Task 2:

Determine the availability date.

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##.

Solution 22: Reorder Point Planning

Task 1:

Display the material master record.

1. Display the material master record for material T-M525A## in plant 1000.


What procedure 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 from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current*.

Select the *MRP 1* and *MRP 2* views. Choose  *Enter*.

Enter plant 1000 and choose  *Enter*.

- b) The following values are entered in the material master record:

MRP procedure: **Manual reorder point planning (VB)**

Planned delivery time: **2 days**

GR processing time: **0 days**

Task 2:

Determine the availability date.

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?

Continued on next page

Based on today's date, determine the availability date for material T-M525A##.

- a) You determine the purchasing processing time for each plant in Customizing for *Materials Management* under *Consumption-Based Planning* → *Plant Parameters* → *Carry Out Overall Maintenance of Plant Parameters*.

Choose *Maintain* and enter plant **1000**. Confirm your entries and choose *Maintain* again.

Choose *External procurement* to display the purchasing department processing time for plant 1000.

- b) The purchasing processing time for plant 1000 is 1 day.

The purchasing processing time is determined in workdays.

Starting with today's date, the availability date is calculated as follows:

Purchasing processing time + planned delivery time + GR processing time.



Lesson Summary

You should now be able to:

- Explain the principle of reorder point planning and its process
- Describe the meaning of the reorder point and safety stock
- Comprehend net requirements calculation for materials planned with reorder point planning
- Explain how materials planned with reorder point planning are scheduled.



Unit Summary

You should now be able to:

- Describe the overall process of MRP
- Name the planning levels in consumption-based planning
- Describe the prerequisites for executing consumption-based planning.
- Differentiate between consumption-based planning and material requirements planning (MRP)
- Name the MRP procedures of consumption-based planning
- Define MRP types in the system
- Create material master records and explain the MRP data
- Describe the functions of a MRP profile and create own MRP profiles
- Explain the meaning of the material status
- Explain the principle of reorder point planning and its process
- Describe the meaning of the reorder point and safety stock
- Comprehend net requirements calculation for materials planned with reorder point planning
- Explain how materials planned with reorder point planning are scheduled.



Test Your Knowledge

1. Which procurement proposals can be created for a material procured externally by a requirements planning run?

Choose the correct answer(s).

- 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 consumption-based planning procedures are generally only based on the previous consumptions of the material.

Determine whether this statement is true or false.

- True
- False

4. In forecast-based planning, you can consider external requirements.

Determine whether this statement is true or false.

- True
- False

5. What is the function of a MRP profile?

6. What is the function of the material status?

7. Outline the principle of reorder point planning.

8. The safety stock should clear errors made by the MRP controllers.

Determine whether this statement is true or false.

- True
- False

9. During net requirements calculation of a material planned with reorder point planning, the warehouse stock available for MRP results from the plant stock and the on-order stock. Which of the documents below belong to on-order stock?

Choose the correct answer(s).

- A Purchase requisitions
- B Purchase orders
- C Sales orders
- D Firm planned orders
- E Fixed purchase requisitions
- F Planned orders

10. How do you schedule a material planned with reorder point planning?



Answers

1. Which procurement proposals can be created for a material procured externally by a requirements planning run?

Answer: B, D

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; in the broader sense, they belong to the procurement proposals.

The purchase order 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.

Answer:

- The plant
- A separately planned storage location
- MRP areas

3. The consumption-based planning procedures are generally only based on the previous consumptions of the material.

Answer: True

As opposed to MRP, consumption-based planning procedures are only based on material consumption. External requirements such as sales orders, planned independent requirements, and reservations, are generally not relevant to planning.

4. In forecast-based planning, you can consider external requirements.

Answer: False

In consumption-based planning, it is only possible to consider external requirements in reorder point planning and time-phased planning.

As a rule, only the shortfall of the reorder point causes a planning file entry during reorder point planning; this then triggers net requirements calculation. Under certain circumstances, you must consider particular external requirements during reorder point planning in net requirements calculation. In Customizing, you can indicate the MRP type in reorder point planning that external requirements are to be taken into consideration.

5. What is the function of a MRP profile?

Answer: A profile is a collection of information for the configuration of material master records. The information determined in the profile is standard information that is needed again and again in a similar combination when maintaining different materials. A profile simplifies maintenance and administration of MRP data.

6. What is the function of the material status?

Answer: The material status restricts the usability of a material and determines which functions in Materials Management or Production Planning and Control result in a warning or an error message. In other words, with the assignment of a material status, you determine for which business usages the material is intended.

7. Outline the principle of reorder point planning.

Answer: In *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. The safety stock should clear errors made by the MRP controllers.

Answer: False

The safety stock should cover both excess material consumption during the replenishment lead time and the additional consumption caused by delayed deliveries. The safety stock is therefore part of the reorder point.

9. During net requirements calculation of a material planned with reorder point planning, the warehouse stock available for MRP results from the plant stock and the on-order stock. Which of the documents below belong to on-order stock?

Answer: B, D, E

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.

10. How do you schedule a material planned with reorder point planning?

Answer: Forwards scheduling. During scheduling, the system defines the date on which the material will be available starting from the date of the planning run.

The availability date is calculated as follows: Starting from the date of the planning run, add the purchasing department processing time (in workdays), planned delivery time (in calendar days) and the GR processing time (in workdays).

Unit 8



Cost Planning



In this unit, the instructor will execute, display, and elaborate on all options for a planning run in the *SAP system*. In this context, he/she will explain the control parameters for requirements planning, and discuss the different subprocesses that the system runs during a planning run. In addition, the instructor will give a detailed presentation of the various evaluation methods for planning results in the *SAP system*.

Unit Overview

In the second unit, you will learn about the different ways of executing a planning run in the *SAP system* and the control parameters for requirements planning. This unit provides an overview of the different subprocesses that the system runs during a planning run. The unit also covers the evaluation methods of the planning results.



Unit Objectives

After completing this unit, you will be able to:

- Name the different options for a planning run
- Describe the planning file and explain its functions
- Describe the individual subprocesses of a planning run
- Explain the meaning of the low-level code.
- Name the different control parameters for MRP
- Differentiate between the different planning process types and creation indicators for the requirements planning run
- Execute requirements planning.
- Describe the structure of the MRP lists
- Name the ways of converting a planned order.
- Explain the differences between the MRP list and the current stock/requirements list
- Describe the differences between the individual and collective lists
- Use the various functions for evaluating the planning result

- Make the most important Customizing settings for evaluations.
- Explain the different static and period lot-sizing procedures
- Describe additional restrictions for the lot size.

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Lesson: Basics of the Planning Run



Lesson Duration: 20 Minutes

Lesson Overview

In this lesson, you will learn about the different ways of executing a planning run in the *SAP system*. The lesson provides an overview of the different subprocesses that the system runs during a planning run. You will become familiar with the planning file that contains all materials relevant for a planning run.



Lesson Objectives

After completing this lesson, you will be able to:

- Name the different options for a planning run
- Describe the planning file and explain its functions
- Describe the individual subprocesses of a planning run
- Explain the meaning of the low-level code.



In this lesson, the instructor will explain the individual subprocesses in a planning run (checking the planning file entry, net requirements calculation, lot-size calculation, scheduling and the type of procurement proposal) and go into particular detail for the planning file and the change indicators *NETCH* and *NETPL*.

The option of source determination in consumption-based planning will be mentioned here, but discussed in more detail in the subsequent lesson *Source Determination in Material Requirements Planning*.

The instructor will also describe the different possibilities for executing a planning run (single-item planning, total planning online and total planning in the background). He/she will briefly mention the function of the planning scope, but not discuss it at length.

Business Example

In the IDES AG, the planning run should be executed regularly for the entire plant, and only separately for individual materials in exceptional cases. You must decide whether total planning is to be executed in the background or online.

Executing the Planning Run

To determine the shortage situations of the individual materials, start a planning run in the *SAP system*. There are different ways of executing a planning run. Generally, you decide between total planning and single-item planning.

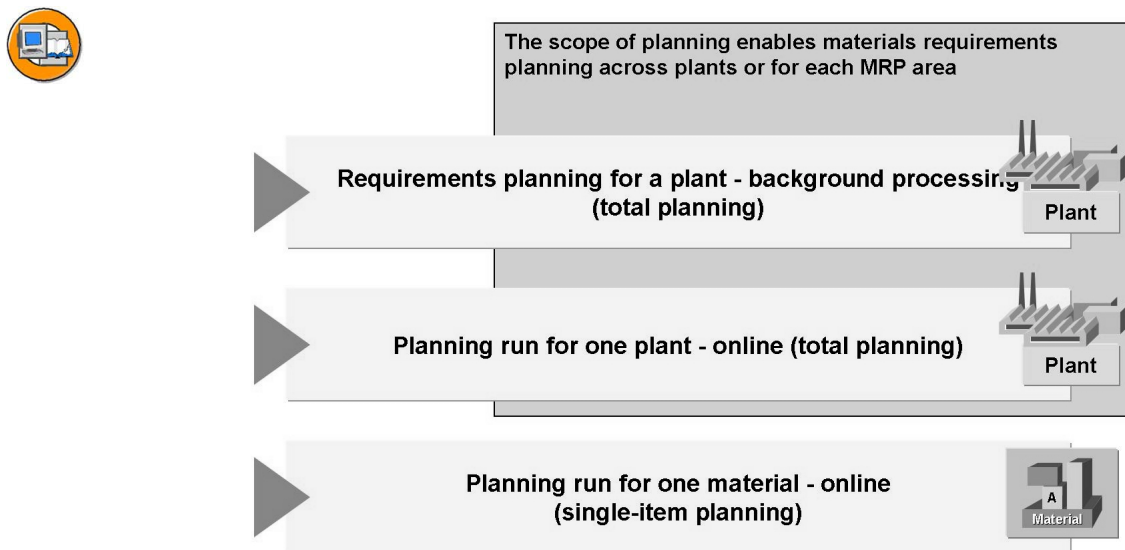


Figure 176: Executing the Planning Run

You can carry out the planning run as a **total planning** run for one specific plant (or MRP area). This procedure involves the planning of all materials that are relevant for planning for a particular plant, and includes BOM explosion for BOM materials.

To execute total planning, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning* → *MRP* → *Planning* → *Total Planning*.

The total planning run can be carried out either **online** or in the **background processing mode**. You can schedule a total planning run either once or periodically. If you have selected *Schedule once*, the total planning run executes once on the date you specified, with the control parameters that you define in the variant. If you have selected *Schedule periodically*, the total planning run runs at regular intervals.

Upon completion of the planning run, you will receive statistics with information about scope of planning, exceptional situations, and terminations. You can also see how much time was needed for the planning run in total, and for planning the individual materials. If you choose to have the total planning run running in the background, you can print the log and the results.

You can use the scope of planning function when you execute total planning for several plants and/or MRP areas, one after another. In *Customizing for Materials Management*, you can define as many scope of planning groups as you like, under *Consumption-Based Planning* → *Planning* → *Define Scope of Planning for Total Planning*. For each scope of planning, enter a counter to specify the sequence of

the individual MRP units (plants or MRP areas). This counter determines the sequence for planning. In a planning scope you can indicate plants or one or more MRP areas and thus restrict the overall planning run to this/these level(s).



Note: You need to set parallel processing first to plan using a scope of planning. For more information, see the documentation about the IMG activity *Materials Management* → *Consumption-Based Planning* → *Define Parallel Processing in MRP*.

You can carry out the requirements planning run as **single-item planning** for an individual material. Either a single or multi-level 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 multi-level, single-item planning, the system plans the level of the selected material plus all the lower BOM levels.

To execute single-level, single-item planning, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single-Item, Single-Level*.



Note: You can also use interactive single-item planning. Interactive planning, a single-level simulative planning, allows you to check the planning result in great detail, and to execute a fine-tuning. Therefore, this planning particularly is particularly suited for materials that urgently require a check, especially master schedule items. It enables the planning result to be checked especially carefully and fine adjustments to be made. During interactive planning, the system first displays the current stock/requirements list, but does not actually plan directly. You can use this stock/requirements list to then manually trigger the planning and simulation functions. To execute interactive planning, choose from the *SAP Easy Access* screen: *Logistics* → *Production* → *MRP* → *Planning* → *Single-Item, Interactive*.

Planning File Entry

The system executes different subprocesses during a planning run. The planning file entry check is the first process that runs in MRP.

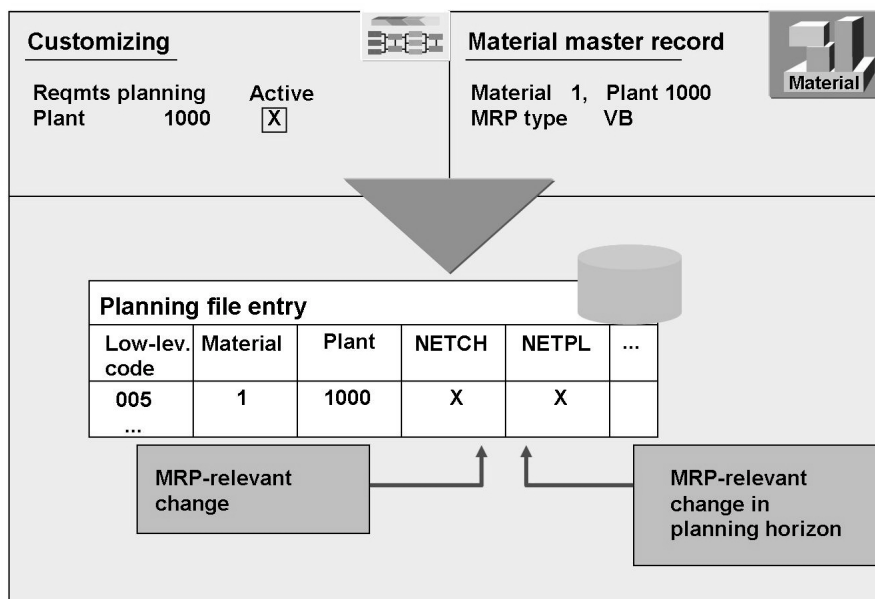


Figure 177: Planning File Entry

Basically, the **planning file** contains all materials relevant 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 you activate MRP for the plant in Customizing.

The planning file controls the planning run and scope of planning, in other words, the materials that are to be taken into account in the different types of planning run are determined.

The system automatically indicates materials that have undergone an MRP-relevant change (such as the creation of a purchase order) in the planning file, with a corresponding planning file entry (*NETCH* indicator). If changes relevant to planning become effective within the planning horizon, another indicator is set (file entry *NETPL*). The system checks in a planning run whether the particular material is marked for planning, in other words, 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 (an indicator is entered in the planning file) are considered in a planning run.

Changes relevant to planning can be:

- Changes in stocks, as long as they alter the stock and requirements situation of the material
- The addition of purchase requisitions, purchase orders, planned orders, sales requirements, forecast requirements, dependent requirements or reservations
- Changes to fields relevant to the planning of these goods receipts or issues or of the material master record
- The deletion of goods receipts or goods issues.

The planning horizon is defined in Customizing for *Materials Management* under *Consumption-Based Planning*, either in the *Overall Maintenance of Plant Parameters* for each plant, or in the *Overall Maintenance of MRP Groups* for each MRP group.



Hint: If materials were created before MRP was 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 for *Materials Management* under *Consumption-Based Planning* → *Planning* → *Activate Material Requirements Planning*, or from the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Planning File Entry* → *Set Up in Background*.

Because the entries in the planning file are permanent, 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. The same goes for materials that are subsequently assigned MRP type *ND (No MRP)* and therefore, excluded completely from MRP. In these cases, delete the entries in the planning file. Therefore, you need to execute a consistency check at regular intervals in Customizing for *Materials Management* under *Consumption-Based Planning* → *Planning* → *Activate Material Requirements Planning*. Choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Planning File Entry* → *Consistency Check*.

Process of Consumption-Based Planning

The automatic planning run for MRP determines shortage situations and generates the corresponding procurement elements. The planning run consists of several subprocesses

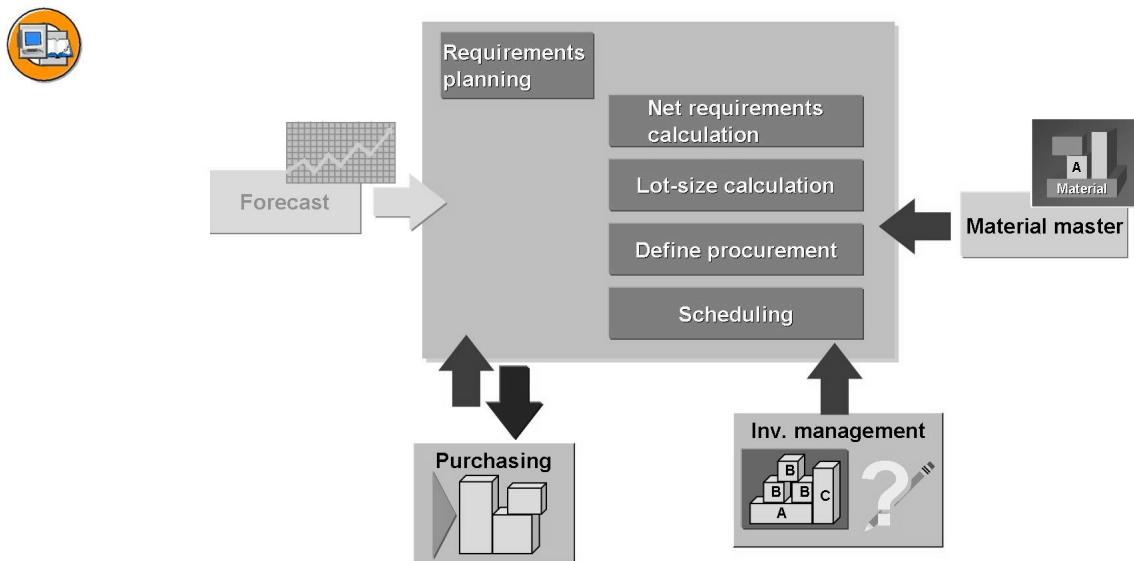


Figure 178: Process of Consumption-Based Planning

After the first step, in which the **planning file** determined the materials that are to be planned in the planning run, the system executes **net requirements calculation** for each material. This checks whether the requirement is covered by the existing stock and the scheduled receipts in Purchasing or Production. If there is a requirement shortage, the system generates a procurement proposal.

Subsequently, the system executes **lot-size calculation**. This calculation considers the lot-sizing procedures and any further restrictions defined in the material master record.

The fourth step in a planning run is **scheduling**. The system calculates release and delivery dates for purchase requisitions and start and end dates for planned orders. When scheduling externally-acquired materials, replenishment lead time is used as a basis. During forecast-based planning, the dates are determined using backward scheduling, and during reorder point planning, they are determined using forwards scheduling.

After scheduling, the system determines the **type of the procurement proposals**. The procurement type is checked in the material master record; in other words, the system checks whether the receipt is to take place as a result of in-house production or external procurement. If it 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 calculate a source of supply and allocate this to the procurement proposal.

After the planning run, the MRP controllers can check and edit the new procurement elements. The evaluations available for this are discussed in lessons *Planning Result* and *Planning Evaluation*.

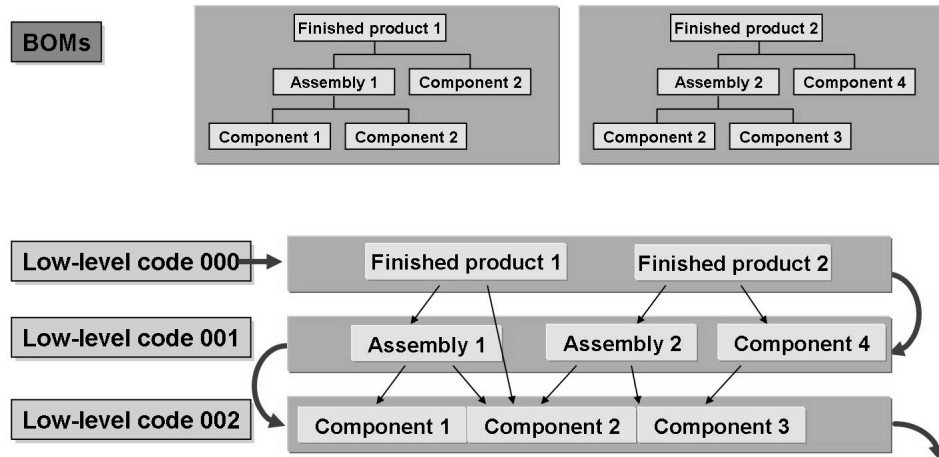


Figure 179: Planning Sequence

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 all BOMs.

The low-level code determines the sequence in which the materials are planned: The system first plans all materials with level 0, then all with level 1, and so on. The lower the low-level code, the higher the number assigned to the level.

During BOM maintenance, the low-level code is automatically defined in the material master and entered in the planning file.



Hint: If a material is not included in a BOM, the highest level (999) is set automatically (999 or *blank*).



The following demo assumes that the instructor created the material for the demo from lesson *Material Master Record*. If this is not the case, he/she must either create a new material or use another material for this demo.



Demonstration: Planning File

Purpose

In this demo, the instructor will explain the planning file and its functions to the participants.


System Data

System: Assigned training system

Client: Assigned client
User ID: Own user ID
Password: Own password
Set up instructions: None

1. Show planning file for material T-SCM525-1

To show the planning file, choose from the *SAP Easy Access* screen:
Logistics → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Planning File Entry* → *Display*.


Enter material T-SCM525-1 and plant 1000. Describe further selection options and choose  *Execute*.

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.



Hint: If a material is not included in a BOM, the highest level (999) is set automatically (999 or blank).



Note: You can also display the low-level code in the material master record in the  *Information on material* area.

2. Show the different planning run options

Show the ways of executing a planning run in the system:

- **Single-Item Planning:** From the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single-Item, Single-Level*.
- **Total Planning:** From the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Total Planning* → *Online*.
- **Total Planning in the background:** From the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Total Planning* → *As Background Job*.



Facilitated Discussion

Requirements planning can either be executed for an individual material (single-item planning) or for the entire plant (total planning). Total planning can be started online or in background processing. After the discussion, the participants should be aware of the difference between the options, and be able to weigh up the advantages and disadvantages.

Discussion Questions

Use the following questions to engage the participants in the discussion. Feel free to use your own additional questions.

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?



Lesson Summary

You should now be able to:

- Name the different options for a planning run
- Describe the planning file and explain its functions
- Describe the individual subprocesses of a planning run
- Explain the meaning of the low-level code.

Lesson: Executing the Planning Run



475

Lesson Duration: 50 Minutes

Lesson Overview

The following control parameters are available for requirements planning; you can select them on the initial screen of the planning run. In this lesson, you will receive an overview of these control parameters and learn about the different planning process types as well as their advantages and disadvantages. The lesson also covers the plant parameters and MRP groups that you set in Customizing to control requirements planning.



Lesson Objectives

After completing this lesson, you will be able to:

- Name the different control parameters for MRP
- Differentiate between the different planning process types and creation indicators for the requirements planning run
- Execute requirements planning.



In this lesson, the instructor will first briefly mention the change indicators *NETCH* and *NETPL* in the planning file (contents of lesson *Basics of the Planning Run*) before discussing the planning process types in a planning run in detail. He/she will also mention the advantages of planning in the planning horizon. The instructor will then explain the risk of *Planning Cases* to participants and demonstrate how to avoid these. He or she will also discuss other control parameters for a planning run, the plant parameters and MRP groups at length during this lesson.

Business Example

You are an employee in MRP and are responsible for executing the requirements planning run. You need to compare the types of planning runs available. You also need to compare the procurement elements that can be created during a planning run and define the corresponding creation indicator in Customizing.

Planning Run Types

The planning run type enables you to determine the scope of the materials to be planned and which materials are to be taken into account during a planning run. Define the planning run type using the *Processing key* field on the initial screen.



NEUPL - Regenerative planning					
Planning file entry					
L-lev. code	Material	Plant	...		
005	1	1000			
...					

NETCH - Net change planning in the total horizon				
Planning file entry				
L-lev. code	Material	Plant	NETCH	...
005	1	1000	X	
...				

NETPL - Net change planning in the planning horizon					
Planning file entry					
L-lev. code	Material	Plant	NETCH	NETPL	...
005	1	1000	X	X	
...					

Figure 180: Planning Run Types

There are three different types of planning run:

- Regenerative planning: processing key *NEUPL*
- Net change planning in the total horizon: processing key *NETCH*
- Net change planning in the planning horizon: processing key *NETPL*.

Planning with the **processing key *NEUPL*** is 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, the materials affected by these changes will not contain an indicator in the planning file. For a planning run with the processing key *NETCH* or *NETPL*, these materials will not be taken into account unless the planning file entry *NETCH* or *NETPL* has been set for the material for some other reason. It is therefore a good idea to start a planning run with the processing key *NEUPL* after such changes so that the changes undertaken in Customizing become effective.

In regenerative planning, change indicators *NETCH* and *NETPL* are reset in the planning file.

The disadvantage of regenerative planning is the high burden placed on the PC, as all materials are planned - even those that are not changed as a result of planning.

During **net change planning in the total horizon** with processing key *NETCH*, only materials where the indicator *NETCH* has been set in the planning file are planned.

The following changes lead to an entry being made in the planning file:

- Changes in stocks where these alter the stock and requirements situation of the material
- Additions, changes or 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 set

In net change planning in the total horizon, the indicators *NETCH* and *NETPL* are reset in the planning file.

During **net change planning in the planning horizon** with processing key *NETPL*, only materials where the indicator *NETPL* has been set in the planning file are planned. The scope of planning or number of materials to be planned is restricted even further, which reduces the runtime of the planning run.

During net change planning in the planning horizon, the *NETPL* indicator only is reset in the planning file.

The planning horizon is defined in Customizing for *Materials Management* under *Consumption-Based Planning*, either in the *Overall Maintenance of Plant Parameters* according to the plant, or in the *Overall Maintenance of MRP Groups* according to MRP group.



Note: In single-item planning, you can choose between net change planning (*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.

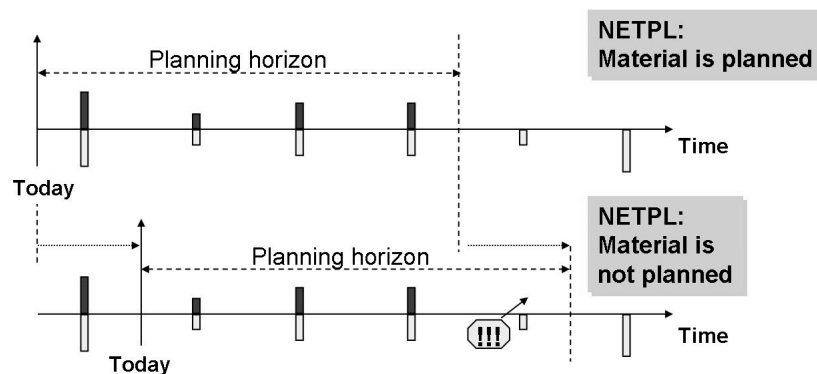


Figure 181: Planning in the Planning Horizon

In order to speed up requirements planning, it can be limited to a certain planning horizon using the processing key *NETPL*. Only those requirements that are within the planning horizon are then covered by receipts.

As time passes, requirements may fall in the planning horizon even though they have not yet been covered by receipts. If no other changes relevant to planning occur, these requirements will only be covered during the next planning run over the entire time frame (with processing key *NETCH* or *NEUPL*). To enable these requirements to be taken into consideration, you should execute a net change plan according to the net change procedure at greater time intervals using the *NETCH* processing key.

It is also possible to set the indicator *Plan Regularly* in Customizing for the corresponding MRP types. This indicator ensures that materials where it is set are also planned at regular intervals, even when no changes relevant to planning have been made. The maximum MRP time interval for which the corresponding materials are to be taken into account is defined in Customizing for each MRP group.

Control Parameters for the Planning Run

For requirements planning, the following control parameters are available; you can set them on the initial screen of the planning run. You can use these parameters to determine how the planning run is to be executed and what the results should be. As well as the processing key (planning process type), the control parameters include the creation indicator for procurement proposals for externally-procured materials, the creation indicator for MRP lists, the planning mode, and the scheduling.



Processing key	NEUPL NETCH NETPL	
Create purchase requisition	1	—————▶
	2	—————▶ <i>in the opening period</i>
	3	
Scheduling agr. sched. lines	1	
	2	—————▶ <i>in the opening period</i>
	3	—————▶
Create MRP list	1	<i>Basic</i>
	2	<i>Only if exception message</i>
	3	<i>No MRP list</i>
Planning mode	1	<i>Adjust data</i>
	2	<i>New BOM and routing</i>
	3	<i>Delete planning data</i>

Figure 182: Control Parameter Planning Run

Use the **processing key** to determine the planning type as regenerative planning (*NEUPL*), net change planning in the total horizon (*NETCH*) or net change planning restricted to the planning horizon (*NETPL*).

The **creation indicator for purchase requisitions** for externally-procured materials, control whether direct purchase requisitions or first planned orders are to be created for externally-procured materials.

You use the **creation indicator for scheduling agreement schedule lines** to decide whether direct scheduling agreement schedule lines are to be created for externally-procured materials. In order 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.

You use the **creation indicator for MRP lists** to determine whether the planning run should create MRP lists. It is also possible to create MRP lists that depend on certain exception messages appearing. The exception messages that lead to the creation of an MRP list can be defined in Customizing for *Materials Management* under *Consumption-Based Planning* → *Evaluation* → *Exception Messages* → *Define and Group Exception Messages*.



Note: Even if you do not save MRP lists, the procurement proposals created by the system are stored in the database. You then carry out postprocessing with the current stock/requirements list, not with the MRP list.

The **planning mode** specifies how non-fixed procurement proposals from the last planning run are to be handled in the next planning run. Fixed procurement proposals essentially remain the same. The following options are available:

- Adjust existing planning data (planning mode 1)
- Trigger BOMs again after BOM changes (planning mode 2)
- Delete all planning data and re-create procurement proposals (planning mode 3).



Hint: 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, the planning mode with the highest numerical value has priority: planning mode 2 (trigger BOMs again) overrides planning mode 1 (adjust planning data), planning mode 3 (delete and re-create planning data) overrides planning mode 1 (adjust planning data) and planning mode 2 (trigger BOMs again). As a rule, it is sufficient to set planning mode 1 on the initial screen of the planning run. If the material does actually have to be planned with another planning mode, then a corresponding planning file entry is automatically set in the planning file and then evaluated in the planning run. It is important to set planning mode 2 or 3 on the initial screen of the planning run if changes have been made in Customizing, as planning file entries are not automatically created for the affected materials. To find out when planning modes are set in the planning file, see the *SAP Library* under *SAP ERP Central Component* → *Logistics* → *Materials Management* → *Consumption-Based Planning* → *Planning Processes* → *Checking the Planning File* → *Planning Mode*.

You can also define the creation indicator for scheduling agreement schedule lines in Customizing under 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.

Plant Parameters and MRP Groups

Plant parameters are control parameters for requirements planning and are determined for each plant in Customizing for *Materials Management* under *Consumption-Based Planning* → *Plant Parameters* → *Carry out Overall Maintenance of Plant Parameters*.

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 for *Materials Management* under *Consumption-Based Planning* → *MRP Groups* → *Carry out Overall Maintenance*

of *Plant Parameters* 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.

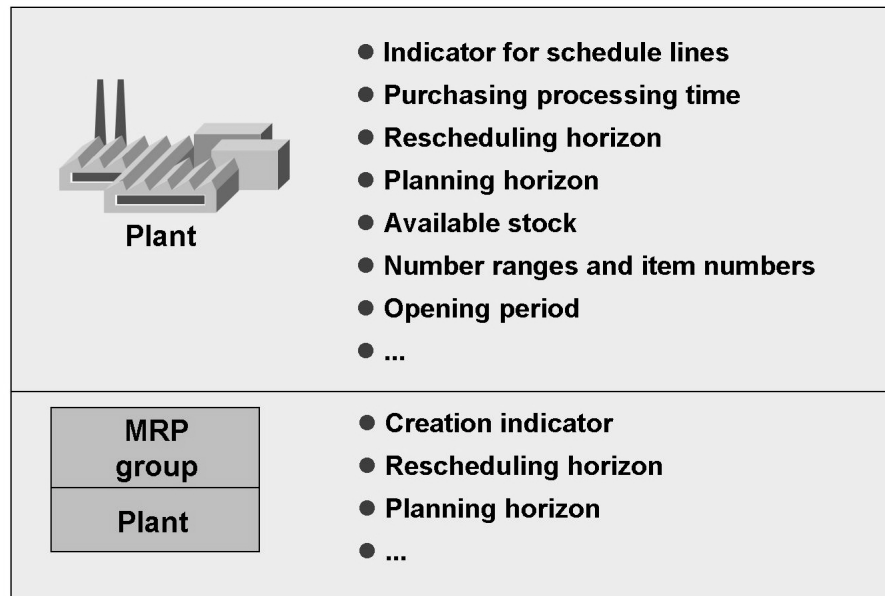


Figure 183: Plant Parameters / MRP Group Parameters

You can maintain different 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 also maintain different parameters such as the creation indicator for purchase requisitions, schedule lines and MRP lists, maximum MRP interval and the planning horizon.

The MRP group is assigned to the relevant master record according to the material.

A MRP can be suggested as default due to the material type in the material master record, if you have defined the corresponding settings in *Customizing for Materials Management* under *Consumption-Based Planning* → *MRP Groups* → *Define MRP Group For Each Material Type*.

In total planning, the system checks with each material 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.

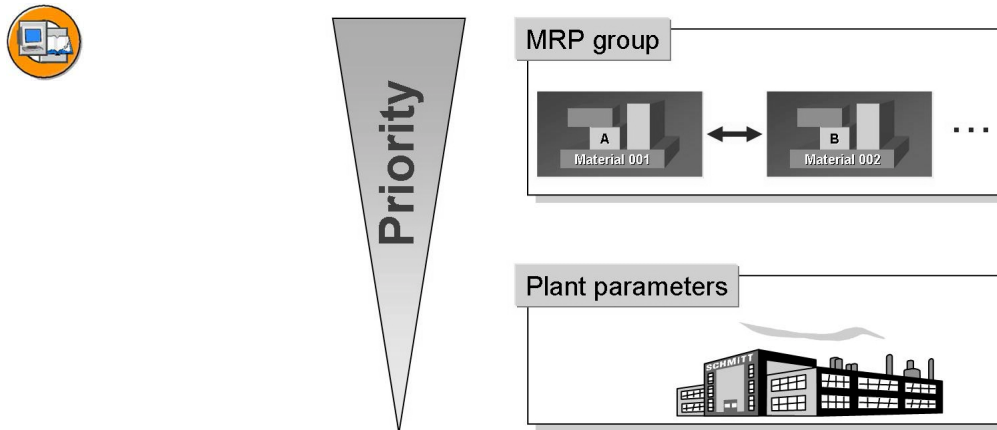


Figure 184: Settings in Materials Planning

If setting is possible on several levels, the setting in the MRP group that is assigned to the material has priority over the setting in the plant parameters.



The following demo assumes that the instructor created the material for the demo from lesson *Material Master Record*. If this is not the case, he or she must either create a new material or use another material for this demo.



Demonstration: Planning Run

Purpose


In this demo, the instructor will start a single-item planning run and explain the different control parameters of a planning run. He/she will also show and describe the settings for the plant parameters and MRP groups in Customizing.

System Data

System:	Assigned training system
Client:	Assigned client
User ID:	Own user ID
Password:	Own password
Set up instructions:	None

1. Show planning file for material T-SCM525-1

To show the planning file, choose from the *SAP Easy Access* screen:
Logistics → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Planning File Entry* → *Display*.

Enter material T-SCM525-1 and plant 1000. Describe the further selection options and choose  *Enter*.

Explain the individual entries in the planning file. In particular, explain the two planning indicators *NETPL* and *NETCH*, and the indicator *Reset procurement proposals*

2. **Execute a single-item planning run for material T-SCM525-1 in plant 1000**

Choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single-Item, Single-Level*.



Processing key: NETPL

Create purchase requisition: 3 (planned orders)

Creation indicator MRP list: 1 (create MRP list)

Planning mode: 1 (adjust planning data)

Set the indicator ***Display results before they are saved***

Choose  *Enter*. Confirm the warning message with  *Enter*.

Explain the result and save it.

Due to the creation indicator for purchase requisitions, a planned order was created. The quantity to procure is 200, as a fixed lot size of 200 pieces is entered in the material master record.


3. **Show the MRP list for material T-SCM525-1 in plant 1000**

To show the result of the last planning run, call the MRP list and choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *MRP List - Material*.

Briefly explain the structure of the MRP list.

4. **Show planning file for material T-SCM525-1 in plant 1000**

Choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Planning File Entry* → *Display*.


Enter material T-SCM525-1 and plant 1000 and choose  *Enter*.

The indicator *NETPL* is no longer set.

5. **Execute single-item planning for material T-SCM525-1 in plant 1000**

Choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single-Item, Single-Level*.

Processing key: NETCH

Create purchase requisition: 3 (planned orders)
Creation indicator MRP list: 1 (create MRP list)
Planning mode: 1 (adjust planning data)
Set the indicator **Display results before they are saved**.
Choose  Enter. Confirm the warning message.




Hint: For the planned order, a new document number was assigned, as in the planning field, the indicator *Reset procurement proposals* was set, which stands for planning mode 3.

Explain and save the result.

6. **Show planning file for material T-SCM525-1**

Choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Planning File Entry* → *Display*.

Enter material T-SCM525-1 and plant 1000 and choose  Enter.

The planning indicator *NETCH* and the indicator *Reset procurement proposals* are no longer set.

7. **Show material master record T-SCM525-1**

Choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current*.

Branch to view *MRP 1* in plant 1000.

MRP group 0000 was automatically assigned to the material.



Note: The material has material type *RAW* for raw materials. The assignment of the MRP groups can be linked to the material type.

8. **Assignment of MRP group to material type**

In Customizing for *Materials Management* under *Consumption-Based Planning* → *MRP Groups* → *Define MRP Group For Each Material Type*, you can show that material type *RAW* in plant 1000 was assigned MRP group 0000.



Caution: The subsequent exercise assumes participants have completed the exercise from the lesson *Material Master Record* in the course SCM525 (Consumption-Based Planning). If this lesson is used in

isolation, the instructor must have created material T-M525A## during preparation for the appropriate number of participant groups. The instructor can use the data from lesson *Material Master Record* for the material master records.



Exercise 23: Planning Run

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Display the planning file
- Carry out requirements planning as single-item planning.

Business Example

For the requirements planning run, you need to consider how the planning run is to be executed, how the number of materials to be planned can be limited appropriately, and what the result of the planning run should be.

System Data

System:	Assigned training system
Client:	Assigned client
User ID:	SCM525-##
Password:	If there are any previous exercises, the user assigned an own password then. If this is the first exercise, use the password assigned by the instructor.
Set up instructions:	None

Task 1:

Display the planning file entry for your material T-M525A## in plant 1000.

1. What low-level code is your material allocated to?

2. Which flags (change indicators) are set for your material in the planning file?

Task 2:

Carry out single-level, single-item planning for your material T-M525A## in plant 1000.

1. Choose the planning process type for *Net change planning for total horizon*. What processing key do you use?

Continued on next page

2. Make sure that the requirements planning run creates planned orders. What creation indicator do you use for purchase requisitions?

3. The result of the planning run should immediately display. Select *Display results before they are saved*.
4. Now 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?

Save your planning result.

Task 3:

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?

Task 4:

Display the MRP data for your material T-M525A## in the material master record.

1. What MRP group is allocated to your material?

2. Where does this allocation originate?

Task 5:

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?

Continued on next page

Task 6:

Display the control parameters for plant 1000.

1. What planning horizon is defined for plant 1000?

2. What planning horizon is relevant for planning material T-M525A## and why?


Solution 23: Planning Run

Task 1:

Display the planning file entry for your material T-M525A## in plant 1000.

1. What low-level code is your material allocated to?

 - a) Choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Planning File Entry* → *Display*

Enter material number T-M525A## and plant 1000 and choose  *Execute*.
 - b) Your material is assigned to low-level code 999.
2. Which flags (change indicators) are set for your material in the planning file?

 - a) Indicators *NETCH* and *NETPL* are set for the material.

Task 2:



Carry out single-level, single-item planning for your material T-M525A## in plant 1000.

1. Choose the planning process type for *Net change planning for total horizon*. What processing key do you use?

 - a) Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single-Item, Single-Level*.
 - b) For net change planning for total horizon, use processing key *NETCH*.
2. Make sure that the requirements planning run creates planned orders. What creation indicator do you use for purchase requisitions?


 - a) So that planned orders are created, enter value **3** for the creation indicator for purchase requisitions.

Continued on next page

3. The result of the planning run should immediately display. Select *Display results before they are saved*.
 - a) Select the *Display results before they are saved* indicator.
 - b) Choose  *Enter* to start the planning run.
Confirm the warning message with  *Enter*.
4. Now 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?

Save your planning result.

- a) A planned order of over 500 pieces was created, as a fixed lot size of 500 pieces was entered in the material master.
- b) Choose  *Save* to save the planning result.

Task 3:

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) Choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Planning File Entry* → *Display*.
 - b) No indicators are set for the material.

Task 4:

Display the MRP data for your material T-M525A## in the material master record.

1. What MRP group is allocated to your material?

Continued on next page

-
- a) Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display*.
Select the *MRP 1* view and choose ✓ *Enter*.
Enter plant 1000 and choose ✓ *Enter*.
 - b) The *MRP Group* field is under the *General Data* area.
The material is assigned to MRP group 0000.
2. Where does this allocation originate?

-
- a) This assignment depends on the material type *RAW* (raw material) that is assigned to the material.
 - b) The assignment of the MRP group for each material type is set in Customizing for *Materials Management* under *Consumption-Based Planning* → *MRP Groups* → *Define MRP Group For Each Material Type*.

Task 5:

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) Maintain the control parameters for the MRP groups in Customizing for *Materials Management* under *Consumption-Based Planning* → *MRP Groups* → *Carry Out Overall Maintenance of MRP Groups*.
Enter plant **1000** and choose *Maintain*.
Enter MRP group **1000** and choose *Maintain* again.
 - b) Choose *Planning Horizon*. No planning horizon is defined for MRP group 0000.

Task 6:

Display the control parameters for plant 1000.

1. What planning horizon is defined for plant 1000?

Continued on next page

-
- a) Maintain the plant parameters in Customizing for *Materials Management* under *Consumption-Based Planning* → *Plant Parameters* → *Carry Out Overall Maintenance of Plant Parameters*.
Choose *Maintain* and enter plant **1000**. Choose *Maintain* again.
- b) 100 days (workdays) has been specified as the planning horizon for plant 1000.
2. What planning horizon is relevant for planning material T-M525A## and why?

-
- a) The MRP group assigned to the material has a higher priority than 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:

- Name the different control parameters for MRP
- Differentiate between the different planning process types and creation indicators for the requirements planning run
- Execute requirements planning.

Lesson: Planning Result



490

Lesson Duration: 20 Minutes

Lesson Overview

In a planning run, the system creates the corresponding procurement proposals if there is a shortage situation. The system also creates MRP lists depending on the creation indicator. Planning run results are covered in this lesson. You will also learn about the different ways of converting a planned order.



Lesson Objectives

After completing this lesson, you will be able to:

- Describe the structure of the MRP lists
- Name the ways of converting a planned order.



In this lesson, the instructor will start with a brief explanation of the planning file and point out that because of the planning process type, the system reads from the planning field the materials that are to be planned. The corresponding change indicators (*NETCH* and/or *NETPL*) are deleted from the planning file after a planning run. Depending on the creation indicator, the corresponding procurement proposals and MRP lists are the results of the planning run. The instructor will explain these results. The instructor will first introduce (in detail) the individual functions of the MRP list in lesson *Planning Evaluation*.

He/she will then discuss the ways of converting a planned order, and show how to do this in the system. However, the participants must first convert a planned order in the exercise of lesson *Planning Evaluation*. The instructor will then repeat this topic in later lessons.

Business Example

After you have carried out requirements planning, 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.

Planning Result

You can execute requirements planning as individual or overall planning. The planning run type determines the scope of the materials to be planned. You can specify the planning run type in the *Processing key* field on the initial screen. Depending on the selected processing key, the system reads the materials to be planned from the planning file, and deletes the corresponding indicator (*NETCH* and/or *NETPL*).

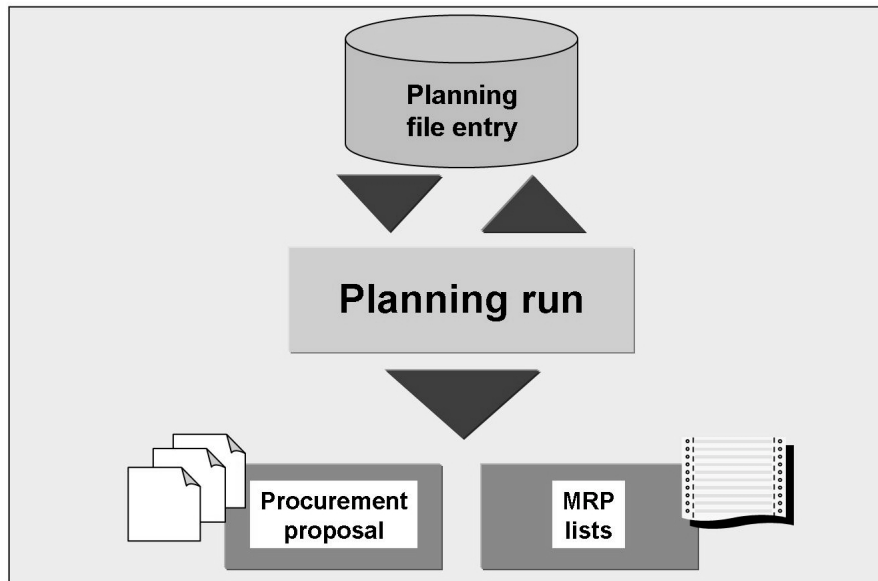


Figure 185: Planning Result

The results of the planning run are both procurement elements (planned orders, purchase requisitions and schedule lines) and optional MRP lists.

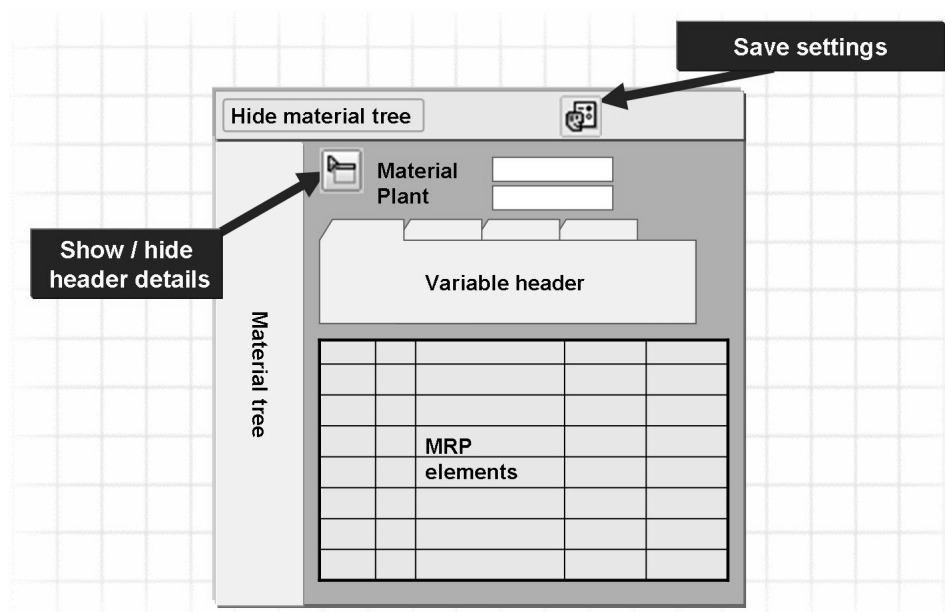


Figure 186: MRP List

MRP lists contain the planning results for the 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 list is **static**.

Each MRP list is divided into a header section and an item section. In the MRP list header, material data is recorded, for example, the material number, the plant, and MRP parameters. The items contain information on the individual MRP elements (planned orders, purchase orders, reservations, sales orders, and so on). You can also show the material tree in the MRP list.

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.

Converting Planned Orders

A planned order is an internal document used by the MRP controller, specifying how much of a certain material is needed, and when. A planned order is only used within the 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:

- It is a procurement proposal in material requirements planning for requirement coverage, an internal planning element. It is not binding so does not trigger procurement directly, just helps with planning.
- It can be changed or deleted at any time.
- It is still undecided as to whether the material is later procured with in-house production or external procurement.
- For in-house produced materials, it is the requirements object for the secondary requirement. It can be used in capacity calculation.
- For in-house produced materials, it determines the basic dates for the production.

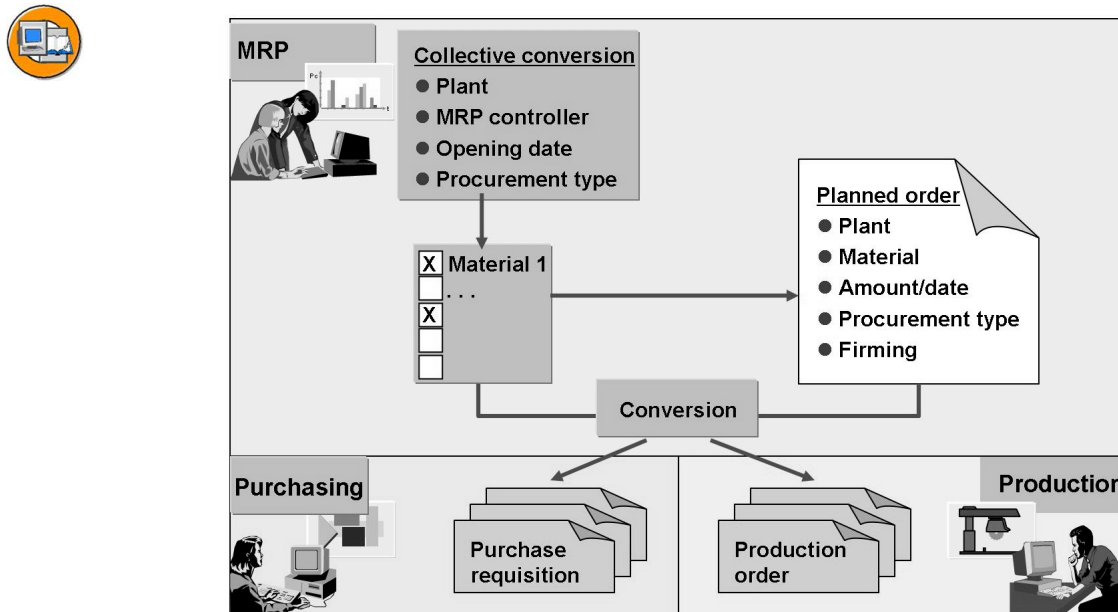


Figure 187: Converting a Planned Order

For in-house production, the planned order can be converted into a production order. For external procurement, the planned order can be converted into a purchase requisition.

You have two ways of converting the planned orders into purchase requisitions:

- Individual conversion
- Collective conversion

In individual conversion, you can decide whether you want to convert the planned order quantity in total, or only partially. Partial conversion is an advantage when the demand situation has changed, or if you want to use in-house production for part of the planned order.

To convert a planned order individually, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning* → *MRP* → *Planned Order* → *Convert to Purchase Requisition* → *Einzelumsetzung* → *Individual Conversion* → *Individual Conversion*. You can also convert a planned order directly from the MRP list or current stock/requirements list.

In 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.

Collective conversion is also possible in the background. To convert planned orders collectively into purchase requisitions, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning* → *MRP* → *Planned Order* → *Convert to Purchase Requisition* → *Collective Conversion*.

All purchase requisitions that were created by converting a planned order are fixed automatically. They are not changed by later planning runs.



The following demo assumes that the instructor has completed the demo in lesson *Executing the Planning Run*.

In the following demo, the instructor will only briefly show the MRP list and explain its structure. He/she will give detailed information on the functions in the list in lesson *Planning Evaluation*.



Demonstration: MRP List

Purpose


The instructor will show the participants the individual access to the MRP list, and explain its structure.

System Data

System:	Assigned training system
Client:	Assigned client
User ID:	Own user ID
Password:	Own password
Set up instructions:	None

1. Show the MRP list for material T-SCM525-1

To show the MRP list for an individual material, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *MRP List - Material*.

Enter material T-SCM525-1, plant 1000 and choose  *Enter* to call up the MRP list.

Briefly explain the structure of the list (header data, data on the MRP elements and material tree).



Facilitated Discussion

Ask participants about the differences between the MRP list and the current stock/requirements list.

Discussion Questions

Use the following questions to engage the participants in the discussion. Feel free to use your own additional questions.



Lesson Summary

You should now be able to:

- Describe the structure of the MRP lists
- Name the ways of converting a planned order.

Lesson: Planning Evaluation



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Lesson Duration: 60 Minutes

Lesson Overview

Various lists are available in the *SAP system* to evaluate planning results. In this lesson, you will receive detailed information about the MRP list and the current stock/requirements list; also, the differences between the two lists will be pointed out. You will learn about the possibility of individual access and collective access to the lists. The most important Customizing settings for the evaluation options are also part of this lesson. Here you will learn about exception messages that are created during the planning run, and refer the MRP controllers to situations that need to be checked.



Lesson Objectives

After completing this lesson, you will be able to:

- Explain the differences between the MRP list and the current stock/requirements list
- Describe the differences between the individual and collective lists
- Use the various functions for evaluating the planning result
- Make the most important Customizing settings for evaluations.



In this lesson, the instructor can refer back to the contents of the previous lesson *Planning Result*, in which the MRP list was discussed. He/she is to clarify the differences between the MRP list and the current stock/requirements list, and explain in detail the individual functions of the two lists. You should also discuss the possible Customizing settings for the evaluations, and pay particular attention to the exception messages.

The instructor is to introduce the navigation profile and the possibility of using user-specific favorites in the MRP list and current stock/requirements list, and emphasize that this simplifies the work for the user.

In this lesson, the instructor will briefly repeat the possibility of converting a planned order, as the participants have to convert a planned order into a purchase requisition in the exercise in this lesson.

Business Example

After executing requirements planning, you must check the result of the planning run. You can use the following evaluation methods in the system. During the planning run, exception messages are created that refer you to a situation that needs to be checked. In these cases, it may be necessary to manually postprocess the planning result .

Current 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 save the availability of the materials. The MRP list and current stock/requirements list are available for evaluation of planning results. You can only differentiate between the **individual access** if you want to display the stock/requirements situation for a single material in a list, and the **collective access**, if you want to display the stock/requirements situation for a range of materials.

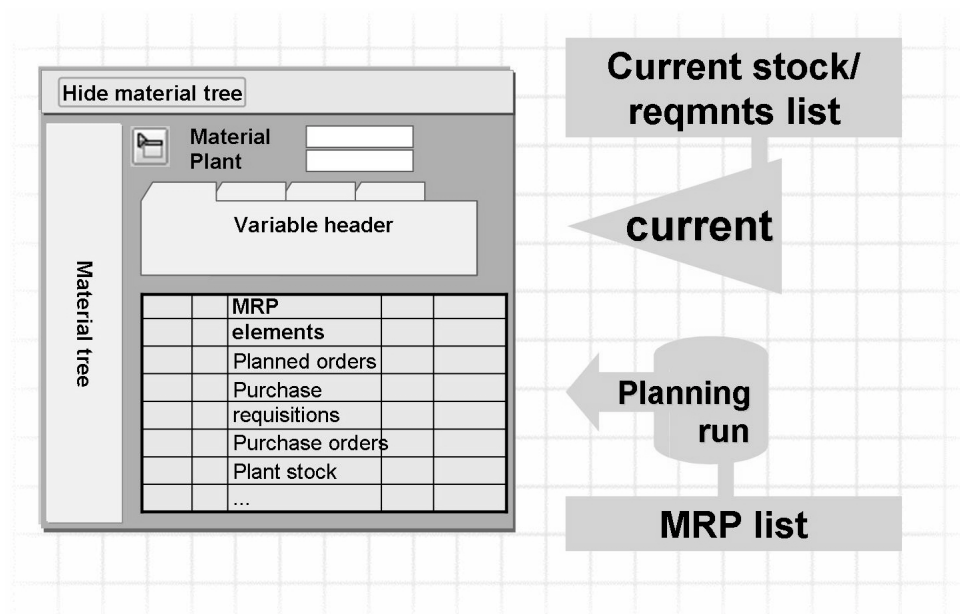


Figure 188: Stock/requirements List and MRP List

The system creates MRP lists during the planning run depending on the **MRP lists** creation indicator. These lists contain the planning results for the material. 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. Any 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 **current stock/requirements list** displays the **most up-to-date stocks and requirements**. The main difference between the MRP list and the stock/requirements list is that each time the stock/requirements list is called, the system re-reads the various MRP elements and displays the most up-to-date situation. As a result, you always see the most recent availability situation for the material in the stock/requirements list. Changes made after the planning date are displayed directly. The list is **dynamic**.

The lists contain exactly the same information directly after the planning run. As soon as a MRP-relevant change is made, the information in the stock/requirements list updates.

The basic structure of both lists is the same:

- Links (optional) are in the form of a tree in the MRP controller's worklist.
- The top of the list contains the header with the material number. The header details display more information.
- The list contains the individual MRP elements and the corresponding available quantities.

Layout and Functions of the MRP Lists

The individual lists have a large number of display options.

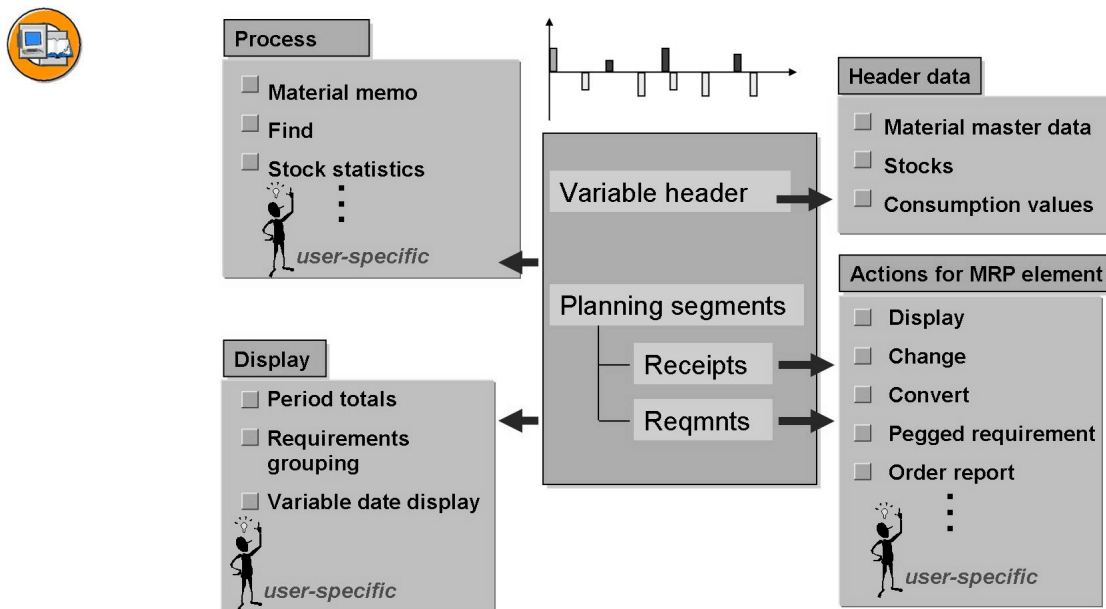


Figure 189: Layout and Functions of the MRP Lists

You can display **different dates** (availability date or goods receipt or delivery date).

You can use **filters**. You can differentiate between selection rules and display filters. With selection rules, you determine which MRP elements and which stocks are to be included in the quantity and stock calculation. You define your own business views. With display filters, you determine which MRP elements and MRP segments display. In this way, you reduce the information displayed so you have a clear selection.

The **period totals** are a display variant where the planning results are periodically summarized. The individual periodicities display in the period totals display on different tab pages. This form of display gives you a quick overview of the time development of the material availability.

If you want to **compare the MRP list with the stock/requirements list**, use the compare functions. This means that you can compare the situation at the time of the last planning run with the current stock/requirement situation.

The **header details** show an overview of master and transaction data for each material. This data is grouped together according to topic in individual screens. The MRP type controls which screens are displayed in the requirements planning evaluations. For this, the screen sequences have a key that is then assigned to the MRP type. It is therefore possible to display master data for the evaluation of consumption-based materials that is different to that displayed for MRP planned materials.

The **items** contain information on the individual MRP elements (planned orders, purchase orders, reservations, sales orders, and so on). You can process individual MRP elements from the list.

User-specific settings enable you to adjust the lists to your personal requirements. These settings apply to both lists.

The user-specific configurations include:

- Definition of settings to access the lists
- Definition of user-specific transaction calls
- Configuration of columns in the lists
- Navigation between materials with material tree
- Definition of the traffic light values
- Saving the selection parameters for collective access into the MRP list.

To show the MRP list for a particular material, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *MRP List - Material*. To show the current stock/requirements list for a particular material, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Requirements List*.



The subsequent demos in this lesson assumes that the instructor has completed the demo in lesson *Executing the Planning Run*.



Demonstration: Individual Lists

Purpose


In this demo, the instructor is to give the participants more details about the individual lists. The instructor will also show how to change a MRP element (in this demo, a planned order) from the list, and explain the differences between the two lists.

System Data

System:	Assigned training system
Client:	Assigned client
User ID:	Own user ID
Password:	Own password
Set up instructions:	None

1. Show the current stock/requirements list for material T-SCM525-1

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Requirements List*.

Enter the material number, plant 1000 and choose  *Enter* to call up the list.

Explain the three areas (header, items with information on the MRP elements, and the material tree).


Use an example to show how you can display, change, or convert a MRP element.

Change between the availability date and the delivery date (goods receipt date).


Use  *Refresh* to show how to refresh the current stock/requirements list.

2. Show the MRP list for material T-SCM525-1

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *MRP List - Material*.


Enter the material number, plant 1000 and choose  *Enter* to call up the list.



The MRP list currently contains the same MRP elements as the current stock/requirements list.

Show the differences between the current stock/requirements list and the MRP list (the icon  *Refresh* does not exist in the MRP list, but there is a processing indicator and header data for exception messages).

3. Show the current stock/requirements list for material T-SCM525-1

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Requirements List*.


Enter the material number, plant 1000 and choose  *Enter* to call up the list.

Choose  *Details of Element*. Choose  *Change element* to branch to the planned order. Change the quantity to 150 pieces.

The planned order in the current stock/requirements list is now marked with a *, as it was edited manually. This means that the planned order is not fixed.

4. **Show the MRP list for material T-SCM525-1**

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *MRP List - Material*.

Enter the material number, plant 1000 and choose  *Enter* to call up the list.

Show that the change to the planned order does not have any effect on the MRP list, as the MRP list always shows the result of the last planning run, and is therefore static. Changes are not displayed in the list. The quantity of the planned order is not changed in the MRP list, and the planned order is not fixed.

From the menu bar, choose *Goto* → *Stock/requirements list comparison* to compare the MRP list with the present status of the current stock/requirements list.

Collective Lists

Collective access is possible with a large number of selection criteria, where the criteria for accessing the current stock/requirements list with collective access differentiate from those in the MRP list.

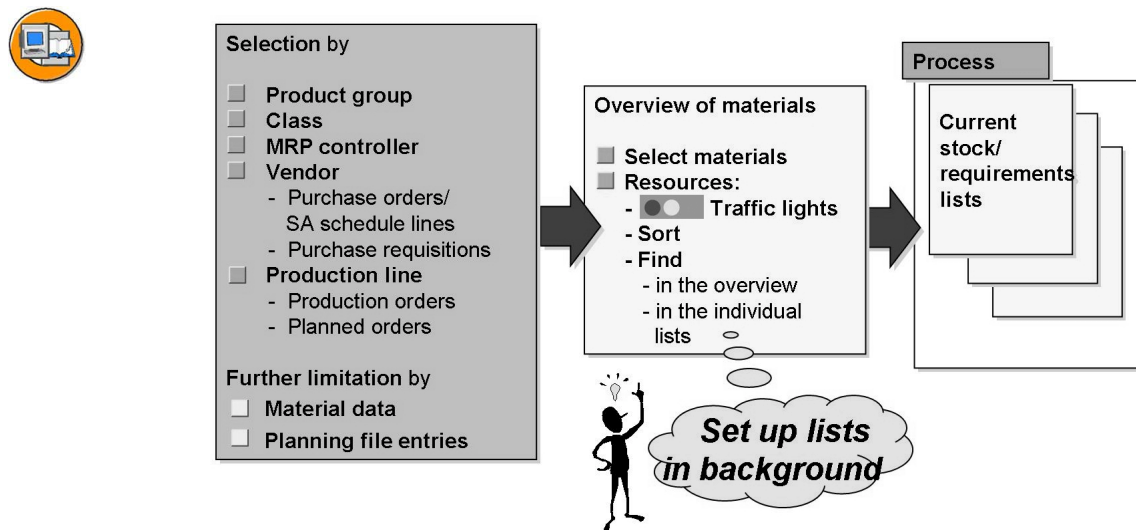


Figure 190: Collective Access to Current Stock/Requirements List

During the collective access, a material overview first displays with all selected materials. If you accessed with the indicator *Structure lists first*, you have orientation help. **Traffic light values** (red, yellow, green) display how urgent material processing is; the criteria for the display can be user specific. The days' supply and exception groups control the traffic light display. There are various **sort and search functions** available in the overview and in the individual lists. With the search function, you can specifically select materials according to particular exception messages. You can use the sort functions to determine that the materials listed in the material list after the collective access are sorted according to certain criteria. In collective access, you can also use the **graphical display** to display the changes to the stock situation of one or several materials.

From the overview, go to the individual lists and process the materials. If, for example, you have selected several lists for processing, you can go from one list directly to the next selected list.

To call the current stock/requirements list in the collective access, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Requirements List: Collective Display*.

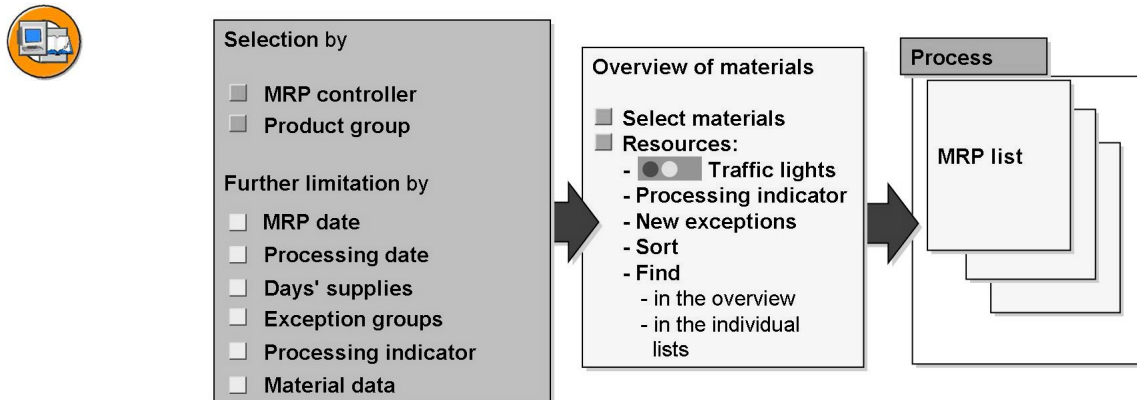


Figure 191: Collective Access to MRP Lists

The selection criteria for collective access in the MRP lists are not the same as those in the current stock/requirements lists. Here, for example, the MRP or processing date and/or the processing indicator for the selection are available.

The orientation guides in the material overview correspond with the current stock/requirements list. It is also possible to search for processing indicators or new exceptions.

To call the MRP list in the collective access, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *MRP List - Collective Display*.



Demonstration: Collective Lists

Purpose


In this demo, the instructor will show the collective access to the MRP list and current stock/requirements list. The instructor will mention the different selection possibilities for the two lists, and explain the processing indicator in the MRP list.

System Data

System:	Assigned training system
Client:	Assigned client
User ID:	Own user ID
Password:	Own password
Set up instructions:	None


1. Show the collective access in the current stock/requirements list

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Requirements: Collective Display*.

Show the different selection options. Explain the indicator *Set up lists in background*. As a selection criterion, enter the MRP controller 020 and choose  *Enter* to call the list.

Explain the structure of the list and pay particular attention to the traffic light values. Explain the options of setting the traffic lights specifically for the user.

Show the search function. From the menu bar, choose *Edit* → *Find*.

Show the option of graphical display. Choose  *Graphics*.

Branch to an individual list.

2. Customizing settings for the receipt days' supply

You 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*.

Material Tree

The material tree is a structure tree that you can show in the MRP list and in the current stock/requirements list. You can specify in the user settings whether or not you want to display the material tree.

Certain 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

If you leave this transaction, the material selection will be lost.

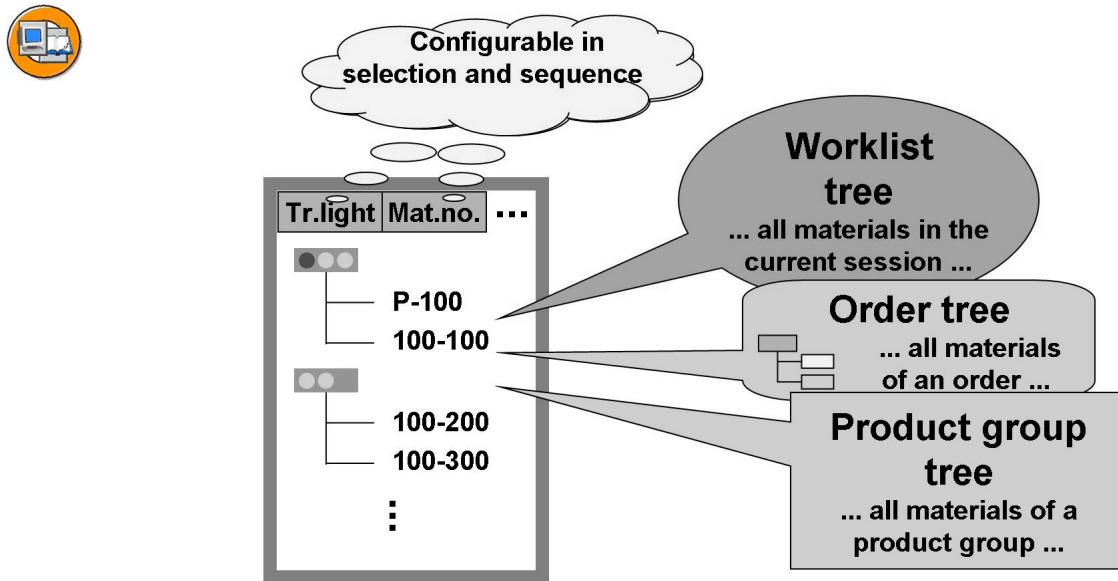



Figure 192: Material Tree

You can change the layout of the tree and display the following:

- **Worklist tree:** All materials in the current session are displayed (more so when the initial access is via collective access).
- **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 (only if using collective access via a product group) are displayed.

If you double-click on a material number in the material tree, the number is displayed in the overview.

For the worklist tree and order tree, you can set which fields will display in what order. Choose  *Define Fields and Sequence*.



Demonstration: Material Tree

Purpose

In this demo, the instructor will show the options of the material tree in the MRP list and current stock/requirements list.


System Data

System:	Assigned training system
Client:	Assigned client
User ID:	Own user ID
Password:	Own password


Set up instructions: None


1. **Show the current stock/requirements list for material T-SCM525-1**

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Requirements List*.

Enter the material number, plant 1000 and choose  *Enter* to call up the list.

Open the material tree. Choose *Show Overview Tree*. Show the display options.

For the worklist tree and product group tree, you can set which fields are to be displayed in which order. Choose  *Define Fields and Sequence*.

Show the settings for the traffic lights also and choose  *Define Traffic Light*.

In the list header, enter another material (such as T-M525A01) and choose *Enter*. Show that the material selected first and the new material are both listed in the material tree. Double-click on the corresponding material number to navigate with the material tree.

Navigation Profile

To simplify your work with the MRP list and current stock/requirements lists, there are navigation profiles and user-specific transaction calls (*Own Favorites*) available in the *SAP system*.

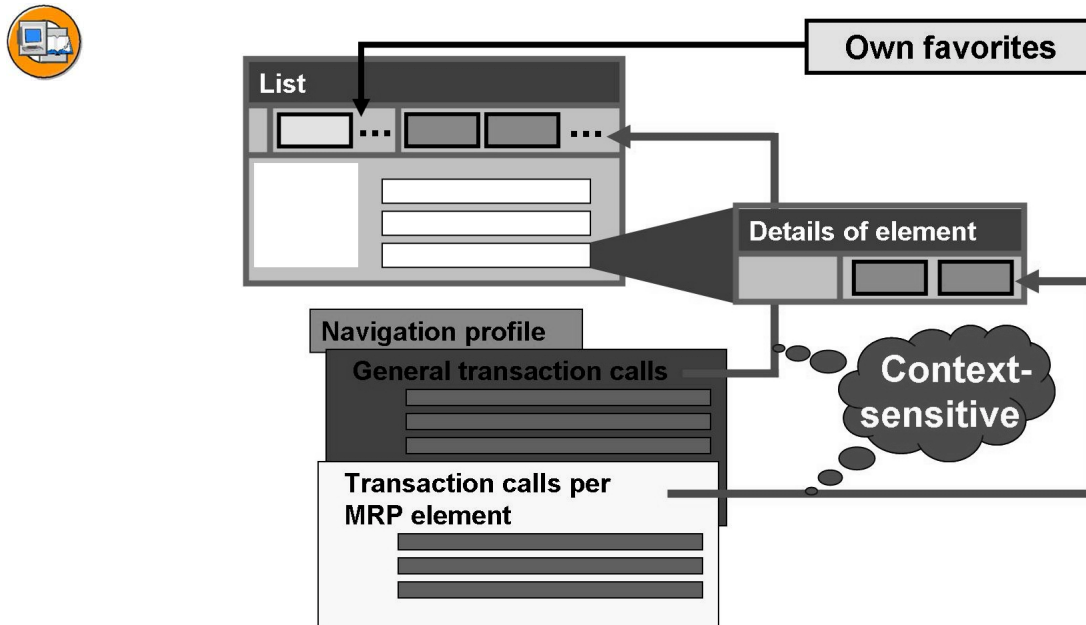


Figure 193: Navigation Profile

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 (actions on a material level) or refer to a particular MRP element. You can reach these transactions using buttons with icons and/or text without having to leave the displayed list.

You can define a navigation profile in Customizing for *Materials Management* under *Consumption-Based Planning* → *Evaluation* → *Define Navigation Profiles*. Users may assign themselves one of the profiles. To do this, select *Environment* → *Navigation profile* → *Assign* from the menu bar, enter the appropriate navigation profile, then save your entry.

In a navigation profile, you can determine 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 the particular context appear.

You can preassign three parameters for each transaction call for the initial screen of this transaction. You can also link the transaction to the following parameters from the material master record: procurement type, material type, MRP group, MRP type.

User-specific transaction calls (*Own Favorites*) complete the company-specific navigation profiles that are available for all users. In your own favorites, you define transaction calls for the transactions you want to branch to, from the lists. As with company-specific navigation profiles, you can make both general and specific transaction calls.

From the menu bar *Environment* → *Own Favorites* → *Maintain*, you can activate up to five general user-specific transaction calls.



Demonstration: Navigation Profile

Purpose


In this demo, the instructor is to explain the possibility of the navigation profile and the *Own Favorites* and their advantages.

System Data

System:	Assigned training system
Client:	Assigned client
User ID:	Own user ID
Password:	Own password
Set up instructions:	None

1. Show the current stock/requirements list for material T-SCM525-1

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Requirements List*.

Enter the material number, plant 1000 and choose  *Enter* to call up the list.


Assign navigation profile NAVSCM525. From the menu bar, choose *Environment* → *Navigation Profile* → *Assign*.

Show the second possibility of assigning a navigation profile user-specifically. From the menu bar, choose *Settings* → *Settings*. On the *General Settings* tab, you can assign the navigation profile.

Show the transaction calls included in the list as a result of the assignment of the navigation profile.

Show the option of creating individual favorites. From the menu bar, choose *Environment* → *Own Favorites* → *Maintain*.

Choose *New entries*. In the fields *Navigation no.*, enter 10, *Transaction code*, MMBE and *Text in menu*, stock overview. Explain further options and save the user-specific transaction call.

Choose  *Back* to return to the current stock/requirements list.

2. Customizing settings for the navigation profile

You can define a navigation profile in Customizing for *Materials Management* under *Consumption-Based Planning* → *Evaluation* → *Define Navigation Profiles*.

Exception Messages

Exception messages depend on the procedure and indicate exceptional situations that have to be considered (for example, start date in the past, stock level falling below safety stock).



Exceptions may 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: If there are several exception messages for one MRP element, the one with the highest priority is displayed
- Creation of a MRP list, depending on the exception messages that appeared
- Various exception messages are grouped together for selection.

Figure 194: Exception Messages

Exception messages occur during the planning run in situations that need to be checked by the MRP controller. These exception messages can therefore also be used to monitor the planning results. In this way, the MRP controller is able to filter materials out of the planning results that require immediate processing.

An exception message refers to an individual MRP element.

The number of exception messages displayed in both lists is basically the same. The only difference is that in the stock/requirements list, exception messages for newly scheduled MRP elements cannot be issued.

In Customizing for *Materials Management* under *Consumption-Based Planning* → *Evaluation* → *Exception Messages* → *Define and Group Exception Messages*, you can determine:

- Whether an exception message should be created
- The priority of the exception messages, if several 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 a MRP list if you set the creation indicator *Create MRP list depending on exception messages*.

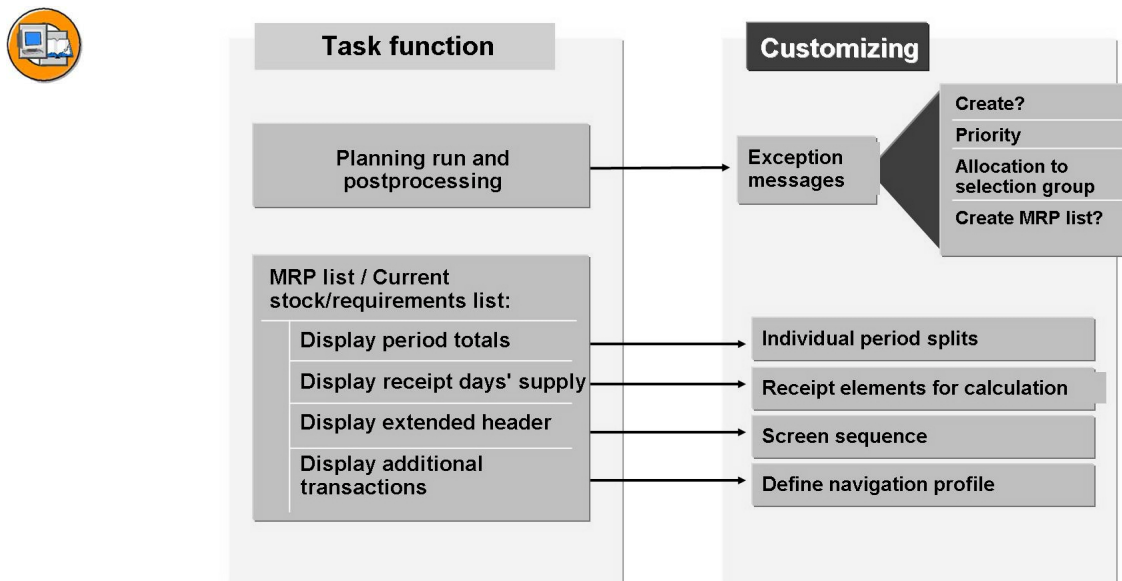


Figure 195: Customizing of the Evaluations

The **period totals** are a display form in the MRP list and current stock/requirements list in which the planning results are periodically grouped together. The SAP standard system displays the period totals with the period splits represented on a standard, daily, weekly, and monthly basis. You can define new period splits in Customizing for *Materials Management* under *Consumption-Based Planning* → *Evaluation* → *Period Totals* → *Define Individual Period Split for Period Totals*.

Traffic light values (red, yellow, green) in the lists display how urgent the processing of materials is. The days' supply and exception groups control the traffic light display. The days' supply shows the number of days a material will last, taking the current plant stock into account. The receipt day's supply also contains other receipt elements in addition to the plant stock. You can set which receipt elements are to be taken into account in Customizing for *Materials Management* under *Consumption-Based Planning* → *Evaluation* → *Define Receipt Elements for Receipt Days' Supply*. You can define two receipt days' supplies.

The **header details** show an overview of master and transaction data for each material. This data is grouped together according to topic in individual screens. You can call up the screens in the MRP list and stock/requirements list by selecting the relevant tab page. The MRP type controls which screens display in the requirements planning evaluations. You can define screen sequences that are then assigned to the MRP type in Customizing for *Materials Management* under *Consumption-Based Planning* → *Evaluation* → *Define Screen Sequence for Header Details*. It is therefore possible to display master data for the evaluation of consumption-based materials that differs from that displayed for MRP planned materials.



Demonstration: Exception Messages

Purpose

In this lesson, the instructor will discuss exception messages in detail and explain the corresponding Customizing settings. Other Customizing settings for evaluations will also be covered.


System Data

System:	Assigned training system
Client:	Assigned client
User ID:	Own user ID
Password:	Own password
Set up instructions:	None

1. Show the collective access into the MRP list

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *MRP List - Collective Display*.

Show the selection options for selecting exception messages, and the option on the *Processing Indicator* tab for selecting unprocessed MRP lists.

Select **Only unprocessed MRP lists** and choose  *Enter* to call up the list.

In the collective display, show the exception messages accumulated into exception groups.

Branch to an individual list. In the list, show the exception messages accumulated into groups in the header, and the exception messages for the individual MRP elements. To do this, branch to the *Details of element*.

2. Customizing settings for the exception messages

You define the settings for the exception messages in Customizing for *Materials Management* under *Consumption-Based Planning* → *Evaluations* → *Exception Messages* → *Define and Group Exception Messages*. Explain the options.



Caution: The next exercise assumes that the participants have completed the exercises from lessons *Material Master Record* and *Executing the Planning Run* in course SCM525 (Consumption-Based Planning). If this lesson is used on its own, the instructor must have created material T-M525A## and executed requirements planning in preparation, for

the corresponding number of participant groups. He/she can use the corresponding data from lessons *Material Master Record* and *Executing the Planning Run*.



Exercise 24: Evaluating and Processing the Planning Result

Exercise Duration: 30 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Revise the planning results
- Set the current stock/requirements list and MRP list according to user needs

Business Example

After executing a planning run, the planning result has to be evaluated and revised. If the system creates planned orders during the planning run, these orders have to be converted into purchase requisitions or production orders.

System Data

System:	Assigned training system
Client:	Assigned client
User ID:	SCM525-##
Password:	If there are any previous exercises, the user assigned an own password then. If this is the first exercise, use the password assigned by the instructor.
Set up instructions:	None

Task 1:

Display the result of the last planning run. To do this, choose *MRP List - Collective Display* in the requirements planning evaluations.

1. Select all MRP lists for plant 1000, MRP controller 025, procurement type *F* and MRP type *VB*. Is there a MRP list for material T-M525A##?

2. Go to the individual display of the MRP list for material T-M525A##. What exceptional situations were determined for your material during the planning run?

Is the processing indicator set for this MRP list?

Continued on next page



First exit the individual display, and then exit the collective display of the MRP lists.

Task 2:

Display the current stock/requirements list for material T-M525A## in plant 1000.

1. Is the firming indicator set for the planned order?

2. Change the planned order, by calling the order from the list. Increase the quantity of the planned order by 100 pieces. Is the firming indicator now set for the planned order in the list?

3. What does this firming indicator mean?

Task 3:

Display the MRP list (individual display) for your material T-M525A## in plant 1000.

1. Why can you not see the quantity change you made in the planned order in this list?

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.

Can you update the list display so that you can see the conversion of the planned order into a purchase requisition?

Set the processing indicator.

Task 4:

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 your material T-M525A##?

Continued on next page

Task 5:

You control the personal settings and determine, according to user needs, the appearance of the current stock/requirements list and the MRP list, and make the settings if necessary.

1. From the requirements planning menu, call the current stock/requirements list of material T-M525A## in plant 1000. Display the default settings for your user in the list. The data for the settings is organized according to topic on several tab pages. What are the names of the tab pages?

2. In the list, do you see the availability date or the goods receipt date as the date of a MRP element (*Deadlines* tab page)?

3. Return to the user-specific settings on *Display* tab page and select the *With header details for material* field. Press Enter to return to the list. Do the header details now display?

In the header details, which MRP controller is specified in the material master record?

Close the header details.

4. Position the cursor on the *Material* field at the head of the list and double-click. What displays?

Return to the current stock/requirements list.

Task 6:

You want to call frequently-used transactions directly from the current stock/requirements list.

1. Assign the navigation profile NAVSCM525 so that you can call up the transaction calls defined in the profile directly from the current stock/requirements list and the MRP list without having to leave the list.

Continued on next page



2. Which transaction calls now display on the application toolbar?

3. You decide to permanently copy this setting into your personal settings.
4. Leave the current stock/requirements list and call the list again. Do the transaction calls display?

Task 7:

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 create a new planned order?

2. Why (not)?

Task 8:

Display the overview tree in the current stock/requirements overview.

1. What materials display in the material tree?

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?

3. Is it possible to individually define the display of the traffic lights in the material tree, depending on the different exception groups?

4. Use the material tree to return to material T-M525A##.


Solution 24: Evaluating and Processing the Planning Result

Task 1:

Display the result of the last planning run. To do this, choose *MRP List - Collective Display* in the requirements planning evaluations.

1. Select all MRP lists for plant 1000, MRP controller 025, procurement type *F* and MRP type *VB*. Is there a MRP list for material T-M525A##?


 - a) To call the MRP list in the collective access, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *MRP List - Collective Display*.


Enter plant **1000** and MRP controller **025**. You can maintain procurement type *F* and MRP type *VB* on the tab *Material data*. Choose  *Enter*.
 - b) All materials that were selected with your criteria and that have a MRP list display 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##. What exceptional situations were determined for your material during the planning run?

Is the processing indicator set for this MRP list?

Continued on next page

First exit the individual display, and then exit the collective display of the MRP lists.


- a) To branch to the individual display of the MRP lists, select the corresponding lines and choose  *Selected MRP lists*.
- b) In the list, in column *E (exception messages)*, you will first see the message with the highest priority (entered in Customizing).

To display other exception messages and the short texts for these messages, branch to the detail screen for the planned order. Choose  *Details of element*.

Two exception messages with the corresponding texts display on the detail screen of the planned order.

- c) You can see if the processing indicator is set in the header of the MRP list on the *Special MRP list data* tab.

The processing indicator is set manually by the MRP controllers, as long as they have evaluated the MRP list and manually accessed the exception messages if necessary. The processing indicator is therefore not currently set.


- d) First exit the individual display, then the collective display of the MRP lists. Choose  *Back*. Confirm the message on the *Exit material list* dialog screen with *Yes*.

Task 2:

Display the current stock/requirements list for material T-M525A## in plant 1000.




1. Is the firming indicator set for the planned order?

- a) To show the current stock/requirements list for a material, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Requirements List*.

Enter material number **T-M525A##** and plant **1000**. Confirm your entries and choose  *Enter*.

- b) The firming indicator is not set for the planned order.
2. Change the planned order, by calling the order from the list. Increase the quantity of the planned order by 100 pieces. Is the firming indicator now set for the planned order in the list?

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-
- a) To change the planned order, first branch to the detail screen of the planned order. Choose  *Details of element*.
 - b) Choose  *Change element* to branch to the planned order. Overwrite the quantity and save your changes. Refresh the current stock/requirements list. To do this, select  *Refresh*.
 - c) After you have manually changed the planned order, the firming indicator (*) is set.
3. What does this firming indicator mean?

-
- a) By setting the firming indicator, dates and quantities cannot be changed automatically for this MRP element, in other words, by a MRP run. The MRP controller can still only make manual changes.

Task 3:

Display the MRP list (individual display) for your material T-M525A## in plant 1000.



1. Why can you not see the quantity change you made in the planned order in this list?

 - a) To call the MRP list, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *MRP List - Material*.
 - b) You cannot see the changed quantity in the MRP list because the MRP list is static. This means the list only displays the result of the last planning run, and will only update after 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.

Can you update the list display so that you can see the conversion of the planned order into a purchase requisition?

Continued on next page


Set the processing indicator.

- a) To convert the planned order into a purchase requisition, first branch to the detail screen of the planned order. To do this, select  *Details of element*.
Choose *Purchase requisition*. Check the quantity in the *Converted quantity* field and save your entries.
- b) Because the MRP list cannot be refreshed, the planned order with the original quantity is still in the MRP list, and not in the purchase requisition.
- c) You set the processing indicator in the list header. To do this, select  *Processing indicator on*.

Task 4:

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 your material T-M525A##?

 - a) To call the MRP list with collective access, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *MRP List - Collective Display*.
Enter plant **1000** and MRP controller **025**. On the *Processing indicator* tab, select **Only unprocessed MRP lists**. You can maintain procurement type *F* and MRP type *VB* on the *Material data* tab.
To do this, select  *Enter*.
 - b) For material T-M525A##, there is no entry in the collective display, as you set the processing indicator in the individual list and as a selection criterion in the collective access, you selected *Only unprocessed MRP lists*.

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Task 5:

You control the personal settings and determine, according to user needs, the appearance of the current stock/requirements list and the MRP list, and make the settings if necessary.

1. From the requirements planning menu, call the current stock/requirements list of material T-M525A## in plant 1000. Display the default settings for your user in the list. The data for the settings is organized according to topic on several tab pages. What are the names of the tab pages?

- a) To display the current stock/requirements list, choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Requirements List*.

To define user-specific settings, use the menu bar *Settings* → *Settings*.

- b) The individual tab pages are:

- Display
- Period totals
- Deadlines
- Filter
- General settings

2. In the list, do you see the availability date or the goods receipt date as the date of a MRP element (*Deadlines* tab page)?



- a) The availability date displays.

3. Return to the user-specific settings on *Display* tab page and select the *With header details for material* field. Press Enter to return to the list. Do the header details now display?


In the header details, which MRP controller is specified in the material master record?

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Close the header details.

- a) To define user-specific settings, use the menu bar *Settings* → *Settings*.
Branch to the *Display* tab page and select the *With header details for material* field.
Choose  *Continue* to copy your changes to the list.
 - b) The header details are open according to the setting. MRP controller 025 is assigned to the material.
 - c) Close the header details. To do this, select  *Collapse header details*.
4. Position the cursor on the *Material* field at the head of the list and double-click. What displays?

Return to the current stock/requirements list.



- a) Double-click on the material number that displays in the header of the *Material* field.
You will see the MRP views of the material master record.
- b) Return to the current stock/requirements list. To do this, select  *Back*.

Task 6:

You want to call frequently-used transactions directly from the current stock/requirements list.

1. Assign the navigation profile NAVSCM525 so that you can call up the transaction calls defined in the profile directly from the current stock/requirements list and the MRP list without having to leave the list.
 - a) In the current stock/requirements list, choose from the menu bar *Environment* → *Navigation Profile* → *Assign*.
 - b) In the *Navigation Profile* field using the F4 help, choose the profile with the key *NAVSCM525* and description *MRP controller SCM525*. Copy the entry.
2. Which transaction calls now display on the application toolbar?

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-
- a) In the application toolbar, the transaction calls defined in the navigation profile display:
 - Single-Item, Single-Level
 - Display Source List
 - Maintain Source List
 - Display Planning File Entries
 3. You decide to permanently copy this setting into your personal settings.
 - a) To define the navigation profile as your personal settings, choose in the menu bar *Settings* → *Settings*. Save the defined navigation profile. To do this, select  *Save*.
 - b) Confirm the info message with  *Enter*.
 4. Leave the current stock/requirements list and call the list again. Do the transaction calls display?

 - a) Because you have saved the navigation profile as your user-specific setting, the transaction calls are still offered.

Task 7:

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 create a new planned order?

 - a) To execute a single-level, single-item planning from the current stock/requirements list, choose  *Single-item planning*.
Do not change the control parameters. Choose  *Enter* to execute the planning run.
Confirm the warning message with  *Enter*.
Refresh the list. To do this, select  *Refresh*.
 - b) No new planned order displays.
2. Why (not)?

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-
- a) A new planned order was not created because there was no shortage situation; the existing purchase order fills the reorder point.

Task 8:


Display the overview tree in the current stock/requirements overview.

1. What materials display in the material tree?

-
- a) To display the material tree, choose *Show Overview 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##, 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, the *Material* field, enter the material number **T-M525C##**.


Choose  *Enter* to confirm your entry.

- b) 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) To set the traffic light values in the overview tree, choose  *Define Traffic Light*.

Do not make any changes. Close the *Define traffic light* dialog box and choose  *Copy settings*.

4. Use the material tree to return to material T-M525A##.

- a) Double-click in the material tree on the corresponding material number to display the current stock/requirements list for this material.



Lesson Summary

You should now be able to:

- Explain the differences between the MRP list and the current stock/requirements list
- Describe the differences between the individual and collective lists
- Use the various functions for evaluating the planning result
- Make the most important Customizing settings for evaluations.

Lesson: Lot-Size Calculation



520

Lesson Duration: 40 Minutes

Lesson Overview

During the planning run, the system determines shortage quantities that must be covered by receipt elements. The system calculates the receipt quantity in the lot-size calculation that is carried out during the planning run. The lot-sizing procedure entered in the material master record determines how the lot sizes are calculated. In this lesson, you will learn about the different static and period lot-sizing procedures, and about additional restrictions in the material master record that you can use to determine the lot size.



Lesson Objectives

After completing this lesson, you will be able to:

- Explain the different static and period lot-sizing procedures
- Describe additional restrictions for the lot size.



In this lesson, the instructor will discuss in detail the static and period lot-sizing procedures, and 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 the instructor could briefly explain the basic principle of this lot-sizing procedure. He/she can also describe the other options in the material master record for influencing the procurement quantity.

Business Example

As an employee in MRP, you must maintain the MRP views in the material master record for the individual materials. You must also decide which lot size data to define for this particular material. Both the MRP procedure and material-specific features are important here.

Overview of Lot-Sizing Procedures

The system determines material shortages for requirement dates in the net requirements calculation. These shortage quantities must now be covered by receipts. The system calculates the receipt quantity in the lot-size calculation, which is carried out during a planning run. You specify how the system is to determine the lot sizes by selecting one of the lot-sizing procedures in material master record maintenance.

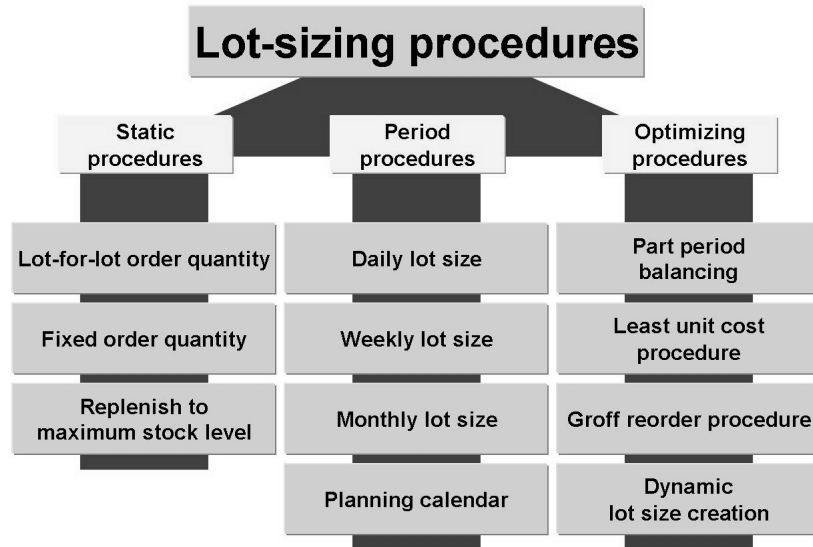


Figure 196: Overview of Lot-Sizing Procedures

Three groups of procedures exist for calculating the lot size:

- 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 acquisition.

Define lot-sizing procedures in Customizing for *Materials Management* under *Consumption-Based Planning* → *Planning* → *Lot-Size Calculation* → *Define Lot-Sizing Procedure*.

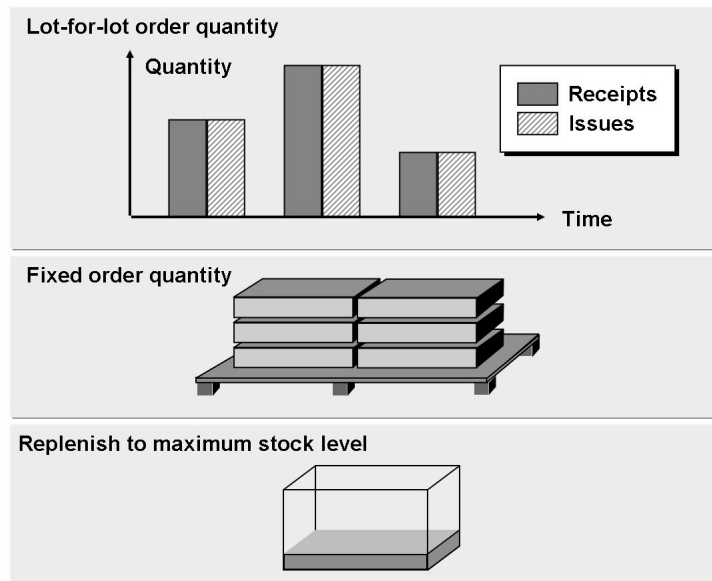


Figure 197: Static Lot-Sizing Procedure

In the **static lot-sizing procedure**, the procurement quantity is calculated using only the entered quantities in the material master record.

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 and they cannot be covered, the system still only creates one order proposal covering the total shortage quantity on this particular day. Exact lot size means the difference to the reorder point is proposed for reorder point planning. For this reason, this method is only suitable for certain cases (e.g. for spare parts)

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 this is not sufficient to cover the shortage quantity, the system creates several order proposals for the same date until the shortage is covered.

With **Replenish to maximum stock level**, an order proposal is made in case of materials shortage that is equal to the difference of the available stock to the specified maximum stock level.

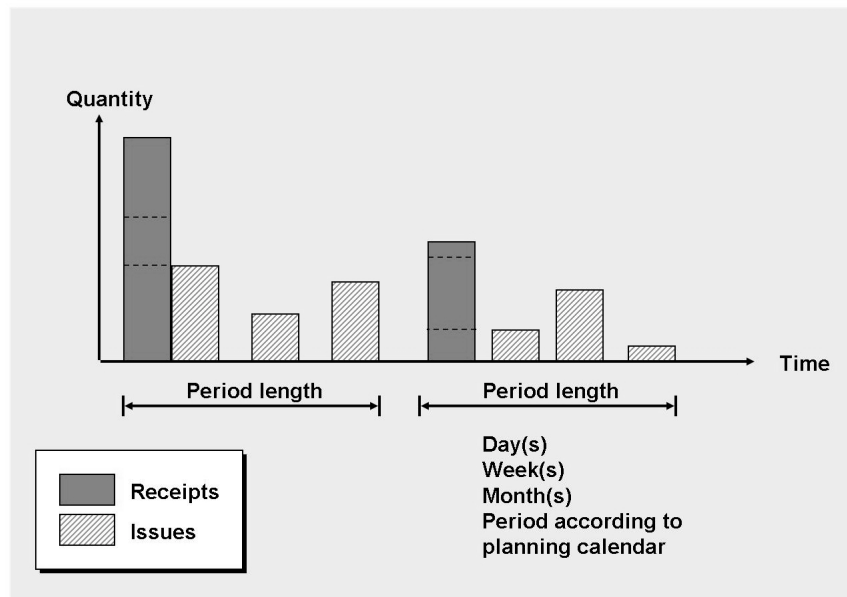


Figure 198: Period Lot-Sizing Procedures

In **periodic lot-sizing procedures**, the system groups several requirement quantities within a time interval together to form a lot. The time period lengths can be either days, weeks, months or a period of flexible length equal to posting periods, as well as freely definable periods according to a planning calendar.

Daily lot size: All requirement quantities that fall within a day or within a specific number of days (that you have determined) are grouped together to form a lot.

Weekly lot size: All requirement quantities that fall within a week or within a specific number of weeks (that you have determined) are grouped together to form a lot.

Monthly lot size: All requirement quantities that fall within a month or within a specific number of months (that you have determined) are grouped together to form a lot.

Lot size with flexible period length: All requirement quantities within one or several flexible definable periods are grouped together to form a lot. You determine 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 period lot-sizing procedure on the first requirements date of the period. You can also determine whether the availability date is to lie at the start or end of the period.



Note: The **optimum 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 / quantity scales are not taken into account however. You can find more information about optimizing procedures in the SAP library under the section Requirements Planning (PP-MRP).

Additional Restrictions of Lot-Size Calculation

When maintaining the material master record, you can specify additional restrictions that are to be taken into account during lot-size calculation. This includes lot size rounding and the minimum and maximum lot size.

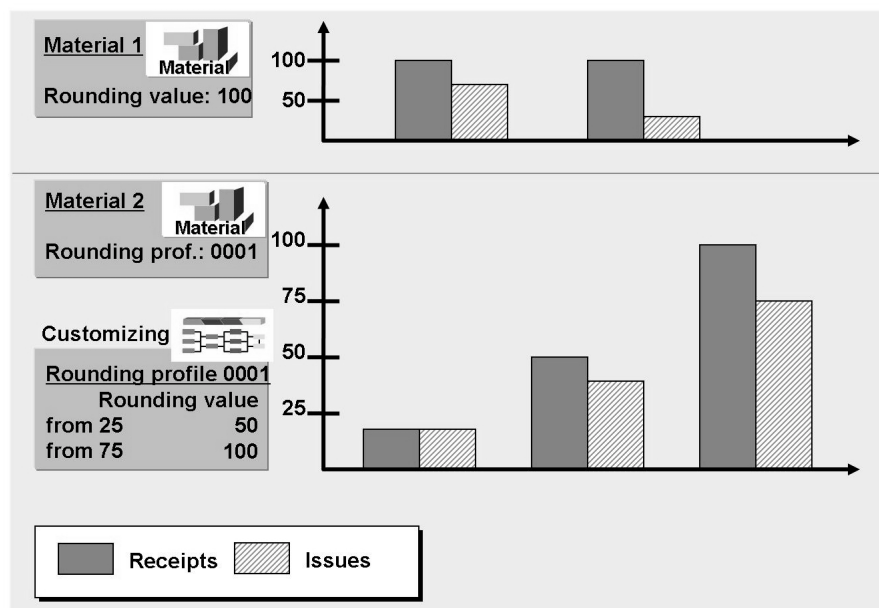


Figure 199: Lot Size Rounding

With rounding, you can adjust the procurement quantities of delivery, packing, and transport units of measure. This may be useful, for example, if purchase orders are only delivered in containers of X pieces, or if produced quantities can only be packed and transported in entire pallets. There are two rounding options available:

- Rounding value (value that is rounded to)
- Rounding profile (staggered roundings)

By specifying a **rounding value**, the system will determine during lot-size calculation that the lot size quantity is a multiple of an order unit (for example, pallet size if the material is only delivered in entire pallets).

In addition to that, you can use **rounding profiles**. A rounding profile is used to define settings for rounding up or rounding down the order proposal quantity into deliverable units.

Rounding profiles are defined in Customizing for *Materials Management* under *Consumption-Based Planning* → *Planning* → *Lot-Size Calculation* → *Maintain Rounding Profile*. They consist of the threshold value and the rounding value. The threshold value is the value from which the system rounds the value of the next deliverable unit up to. The rounding value is the value from which the system should round up to as soon as the threshold value is exceeded.

You can define several combinations of threshold and rounding values for a rounding profile.



Minimum and Maximum Lot Sizes

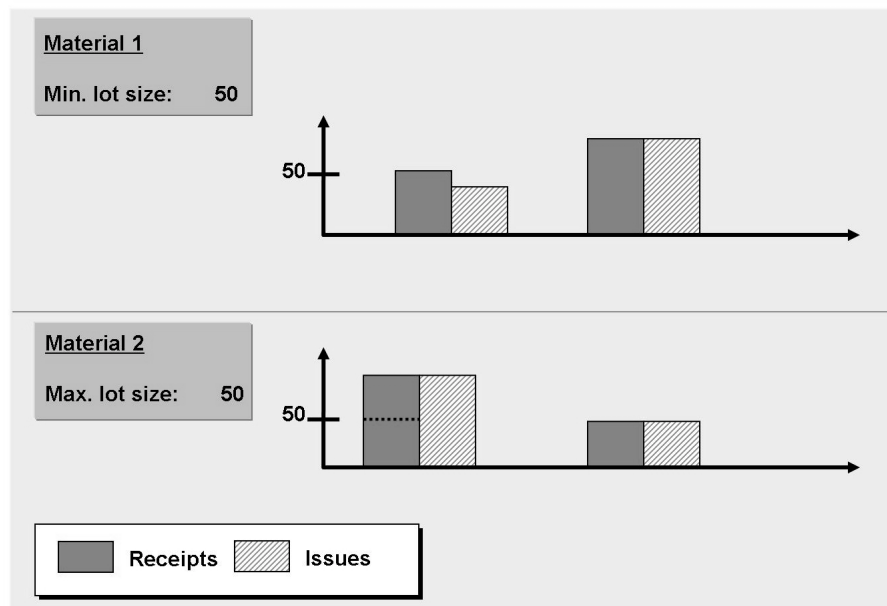


Figure 200: Minimum and Maximum Lot Sizes

You can enter a **minimum and maximum lot size** in the material master record as a limit value. These limit values are taken into consideration during lot-size calculation, whereas the minimum lot size determines the minimum quantity, and the maximum lot size determines the maximum quantity for the procurement proposal. The system then rounds up to the minimum lot size, thus preventing a roundup over the maximum lot size.



Demonstration: Lot-Size Calculation

Purpose

In this demo, the instructor will show and explain to the participants the lot size data in the material master record. The instructor will also explain the possible Customizing settings for the lot-sizing procedures.

System Data

System:	Assigned training system
Client:	Assigned client
User ID:	Own user ID
Password:	Own password
Set up instructions:	None

1. Create a material master record

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create* → *Immediately*.

Material number: T-SCM525-2

Industry: Mechanical Engineering

Material type: Raw material

Plant: 1000

Storage location: 0001

Purchasing:

VB Material

Base Unit of Measure: PC

Purchasing Group: 020

Material Group: 001

MRP 1:

MRP Type: VB

Reorder Point: 50

MRP Controller: 020

Maximum stock level: 100 pieces

Maximum lot size: 50 pieces

MRP 2:

Planned delivery time: 5


Accounting 1:

Valuation Class: 3000

Moving Price: 10

2. Show the current stock/requirements list for material T-SCM525-2


Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Requirements List*.

Enter the material number, plant 1000, and choose  *Enter* to call the list.

Plant stock = 0 pieces


3. Executing single-level, single-item planning for material T-SCM525-2

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single-Item, Single-Level*.

Enter the material number and plant 1000. Accept the control parameters proposed by the system and choose  *Enter*. Confirm the warning message.

4. Show the current stock/requirements list for material T-SCM525-2

Or choose from the *SAP Easy Access* screen: *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Evaluations* → *Stock/Requirements List*.

Enter the material number, plant 1000, and choose  *Enter* to call the list.

In the total, 100 pieces are procured, as *Replenish to maximum stock level* and a maximum stock level of 100 pieces have been entered in the material master record as the lot size. However, two purchase requisitions of 50 pieces each are created, as 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

The settings for the lot-sizing procedures are defined in Customizing for *Materials Management* under *Consumption-Based Planning* → *Planning* → *Lot-Size Calculation* → *Define Lot-Sizing Procedure*.

6. Show the Customizing settings for the rounding profiles

Rounding profiles are defined in Customizing for *Materials Management* under *Consumption-Based Planning* → *Planning* → *Lot-Size Calculation* → *Maintain Rounding Profile*.



Facilitated Discussion

The participants already know about the reorder point planning procedure. In this discussion, they will determine the lot-sizing procedures that are useful for a material planned with reorder point planning.

Discussion Questions

Use the following questions to engage the participants in the discussion. Feel free to use your own additional questions.

Imagine a material that is planned using the reorder point planning procedure. Which lot-sizing procedures would be useful for this material and which would not?



Lesson Summary

You should now be able to:

- Explain the different static and period lot-sizing procedures
- Describe additional restrictions for the lot size.



Unit Summary

You should now be able to:

- Name the different options for a planning run
- Describe the planning file and explain its functions
- Describe the individual subprocesses of a planning run
- Explain the meaning of the low-level code.
- Name the different control parameters for MRP
- Differentiate between the different planning process types and creation indicators for the requirements planning run
- Execute requirements planning.
- Describe the structure of the MRP lists
- Name the ways of converting a planned order.
- Explain the differences between the MRP list and the current stock/requirements list
- Describe the differences between the individual and collective lists
- Use the various functions for evaluating the planning result
- Make the most important Customizing settings for evaluations.
- Explain the different static and period lot-sizing procedures
- Describe additional restrictions for the lot size.



Test Your Knowledge

1. What options are there in the *SAP system* for executing a planning run?

2. Name the individual subprocesses of a planning run.

3. The low-level code is the lowest level in which a material appears in all BOMs.

Determine whether this statement is true or false.

- True
 False

4. Name the possible planning process types in a total planning run.

5. The plant parameters have higher priority than the MRP groups.

Determine whether this statement is true or false.

- True
 False

6. In which screen areas can you break down a MRP list?

Choose the correct answer(s).

- A Header
 B Footer
 C Items with information about the MRP elements
 D Material tree
 E Favorites
 F Help area

7. What are the options for converting a planned order into a purchase requisition?

8. Changes made after the planning date are not considered in the MRP list.
Determine whether this statement is true or false.

True

False

9. What settings can you define in Customizing for Consumption-Based Planning for the exception messages?

10. Which of the following procedures belong to the static lot-sizing procedure?
Choose the correct answer(s).

A Replenish to maximum stock level

B Monthly lot size

C Daily lot size

D Lot-for-lot order quantity

E Fixed lot size

F Least unit cost procedure

11. Aside from the lot-sizing procedure, name other ways of influencing a lot size in the material master record.

12. Describe the function of a rounding value.



Answers

1. What options are there in the *SAP system* for executing a planning run?

Answer:

- Single-item planning (single-level or multi-level)
- Total planning online
- Total planning in background processing

2. Name the individual subprocesses of a planning run.

Answer:

1. Check the planning file
2. Net requirements calculation
3. Lot-size calculation
4. Scheduling
5. 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 in all BOMs.

Answer: True

The low-level code is the lowest level in which a material appears within all BOMs. The code determines the sequence in which the materials are planned: First, the system plans all materials with level 0, then all with level 1, and so on. The lower the low-level code is, the higher the number assigned to the level.

4. Name the possible planning process types in a total planning run.

Answer: The following planning process types are available in total planning:

- *NEUPL* for regenerative planning
- *NETCH* for net change planning in the total horizon
- *NETPL* for net change planning only within the planning horizon.

5. The plant parameters have higher priority than the MRP groups.

Answer: False

If a setting is possible on several levels, the setting in the MRP group that is assigned to the material has priority over the setting in the plant parameters. In total planning, the system checks for each material whether the material was allocated a MRP group. If no MRP group is allocated for the material, the material is planned using plant parameters. If a MRP group is allocated to the material, the material is planned using MRP group parameters.

6. In which screen areas can you break down a MRP list?

Answer: A, C, D

Each MRP list is divided into a header section and an item section. In the MRP list header, material data is recorded, for example, the material number, the plant, and MRP parameters. The item section contains information on the individual MRP elements (purchase requisitions, planned orders, purchase orders, and so on). In the left-hand tree in the MRP list, there is a material tree that you can choose to either show or hide.

7. What are the options for converting a planned order into a purchase requisition?

Answer:

- Individual conversion
- Collective conversion

There is a difference between collective conversion online and collective conversion in background processing.

8. Changes made after the planning date are not considered in the MRP list.

Answer: True

The system creates MRP lists during the planning run depending on the creation indicator MRP lists. These lists contain the planning results for the material. The MRP list always displays the stock/requirements situation 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 list is static.

In the current stock/requirements list, the most up-to-date development of stocks and requirements displays. The main difference between the MRP list and the stock/requirements list is that each time the stock/requirements list is called, the system re-reads the various MRP elements and displays the most up-to-date situation. As a result, you always see the most recent availability situation for the material in the stock/requirements list. Changes made after the planning date are displayed directly. The list is dynamic.

9. What settings can you define in Customizing for Consumption-Based Planning for the exception messages?

Answer: Define the following settings in Customizing for Consumption-Based Planning for the exception messages:

- Whether an exception message should be created
- The priority of the exception messages, if several exception messages were created during the planning run for an MRP element
- Which exception messages are to be grouped together into an exception group
- Which exception messages lead to the creation of a MRP list if you set the creation indicator *Create MRP* list depending on exception messages
- The exception message text can be changed

10. Which of the following procedures belong to the static lot-sizing procedure?

Answer: A, D, E

The following belong to the static lot-sizing procedure:

- Lot-for-lot order quantity
- Fixed lot size
- Replenish to maximum stock level.

11. Aside from the lot-sizing procedure, name other ways of influencing a lot size in the material master record.

Answer: Other lot size data in the material master record that influences the procurement quantity includes:

- Rounding value
- Rounding profile
- Minimum lot size
- Maximum lot size

12. Describe the function of a rounding value.

Answer: If you specify a rounding value in the material master record, this means that the procurement quantity includes the multiple of a purchase order unit during lot-size calculation. This may be useful if rounding up to the next pallet size, as pallets are only delivered if they are complete.

Unit 9



Optional: Automated Procurement



This unit can be used at the end of the first week to repeat this area /cover it in greater depth. This procurement process introduces the different forms of automation. In the first two lessons, the preconditions are created for automating to the greatest possible extent the process in the last lesson.

To enable the participants to better understand the interrelationships, you should explain the planned process as an introduction to this unit. To this end, you could sketch out the process on the flip chart and mark or highlight the “automatic” steps.

You can also create a list of the steps that are to be automated and the necessary prerequisites in the course of the unit. In doing so, emphasize the master records or documents in which the necessary presettings must be made. You can use such a list to make it clear that some settings must be made at the very beginning of

the process, even though the step to be automated is the last in the procurement process. (For example, the ERS indicator must be set in the vendor master record before a contract or purchase order is created.)



Hint: Suggestion for shortening the unit: Display how the master data required can be created using the mass maintenance function. Once you have done so, participants only need to create the contract.

Procedure for generating planning data for materials using mass maintenance:

- Access the mass maintenance transaction *MM17*
- Choose the *MARC* table
- Select the materials to be changed: T-M500D00 to T-M500D30 for plant 1000
- Select the MRP lot size, MRP type, controller, fixed lot size (BSTFE), reorder point, planned delivery time and GR processing time fields.
- Enter values according to the exercise
- Make changes and save.

Procedure for changing vendor master data using mass maintenance:

- Choose transaction XK99 for mass maintenance of vendor master records.
- Choose table LFM1.
- Select vendors T-K500C00 to T-K500C30.
- Choose the Evaluated Receipt Settlement, Automatic PO and GR-based IV fields
- Set indicator
- Make changes and save.

You can also create a contract as a template and create the source list for all participants, once you have copied the contract for them (Transaction ME05, set the MRP indicator to 1). You can also start the planning run as an overall planning run for everyone. Participants then only need to post and settle the goods receipt.

Since participants are already familiar with the basis principles of planning, you can keep the theoretical aspects of the first lesson to an absolute minimum. The contract is covered in greater detail in the second week and does not therefore need to be discussed in detail here.

Unit Overview

The SAP system offers a variety of options for simplifying the procurement process through the automation of functions. The process can start with the determination of requirements by materials planning and their forwarding by the latter to purchasing in the form of purchase requisitions. In turn, purchasing can completely automate the conversion of requisitions into purchase orders. Evaluated receipt settlement can then complete the automatic procurement process.

This unit introduces this process using a simple example.



Unit Objectives

After completing this unit, you will be able to:

- Explain the principle of manual reorder point planning
- Maintain the data necessary for manual reorder point planning in the material master record
- Name and explain simple static lot-sizing procedures
- Use the current stock/requirements list (transaction MD04)
- Provide an overview of sources of supply in purchasing
- Create a contract
- Maintain a source list for a material
- Start an individual planning run and evaluate the result
- List the prerequisites for automatic purchase order generation.
- Create purchase orders automatically
- List the prerequisites for the evaluated receipt settlement
- Settle goods receipts automatically

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Lesson: MRP

537

Lesson Duration: 60 Minutes

Lesson Overview

In this lesson, you will first gain an overview of the MRP procedures. The procedure of manual reorder point planning is introduced in detail.

This lesson covers the current stock/requirements list as an evaluation in material requirements planning (MRP).

**Lesson Objectives**

After completing this lesson, you will be able to:

- Explain the principle of manual reorder point planning
- Maintain the data necessary for manual reorder point planning in the material master record
- Name and explain simple static lot-sizing procedures
- Use the current stock/requirements list (transaction MD04)



Introduce the objectives and the business scenario. Discuss and show the entry of MRP data in the material master record.

Business Example

You want to automate the determination of requirements for externally procured materials in your company. To do this, you test the material requirements planning with the manual reorder point planning procedure for a purchased material.

MRP in the Procurement Process

Introduce the planned procurement process. The first step, the creation of a purchase requisition, takes place with MRP. Then give a brief general introduction of MRP (tasks, procedure, results).

The procurement cycle can be simplified at different points by automating the individual steps. This process starts with the determination of requirements. You can create purchase requisitions with MRP so that you do not have to manually enter them in the system. It is therefore necessary to define the relevant data in the material master record of the material to be planned.

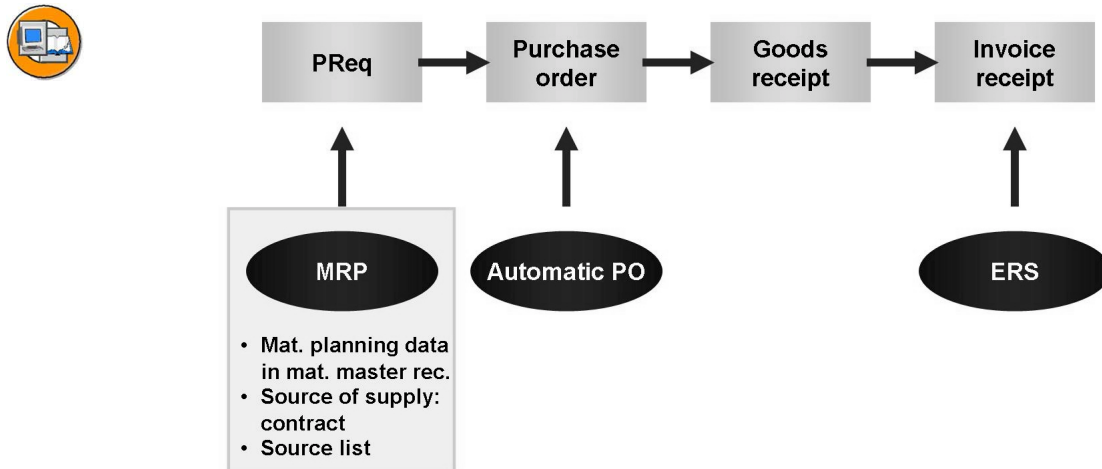


Figure 201: Automated Procurement: MRP

The central function of material requirements planning is the securing of material availability, in other words, timely procurement of the necessary requirement quantities, both intra-enterprise and for sales. Requirements planning helps monitor the stocks and covers the automatic generation of procurement proposals for purchasing and production.

The automatic planning run for requirements planning determines shortages and generates the corresponding procurement elements. Possible procurement elements of requirements planning include the planned order, the purchase requisition, and the scheduling agreement schedule lines.

In **in-house production**, the system creates planned orders to plan production quantities. If planning is complete, the planned orders are converted into production orders.

In **external procurement**, the system either creates a planned order or a purchase requisition directly to plan the external procurement quantity. The planned order and purchase requisition are internal planning elements that can be changed, rescheduled, or deleted at almost any time. If a planned order is created, purchasing can order the material only when the MRP controller has checked the planned order and converted it into a purchase requisition. Otherwise, the order proposal is immediately available to purchasing.

If a scheduling agreement exists for a material and is indicated as MRP-relevant in the source list, you have the option of creating scheduling agreement schedule lines directly during the planning run. Scheduling agreement schedule lines, unlike planned orders and purchase requisitions, are fixed elements.

Various control parameters determine whether planned orders, purchase requisitions, or scheduling agreement schedule lines are created (in the planning run, this is the *Creation* indicator).

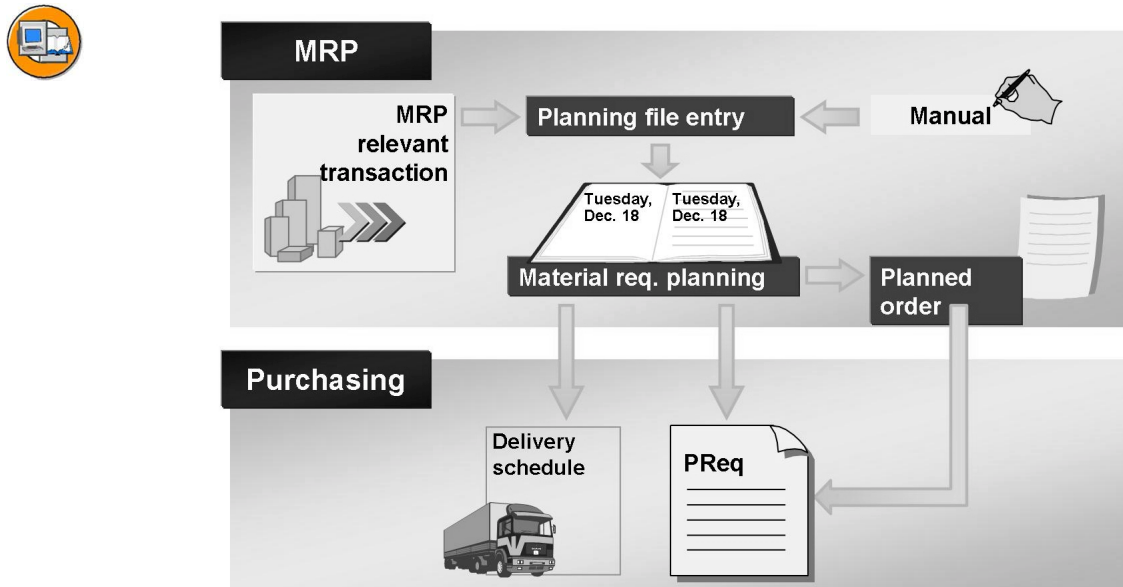


Figure 202: Overview of Material Requirements Planning

Requirements planning takes place at plant level (or for each MRP area). Requirements planning must be activated and the requirements planning parameters must be maintained for the particular plant so you can execute requirements planning for a plant. Make sure you have also maintained the MRP data of the materials to be planned automatically (material master record).



Note: To activate MRP, choose in Customizing *Materials Management* → *Consumption-Based Planning* → *Planning* → *Activate Material Requirements Planning*.

To set the plant parameters, choose in Customizing *Materials Management* → *Consumption-Based Planning* → *Plant Parameters* → *Carry Out Overall Maintenance of Plant Parameters*.

If these prerequisites have been fulfilled, planning file entries are automatically included in MRP-relevant transactions (such as goods issues, reservations, changing the MRP data of a material, executing a forecast, and so on). You can also manually add planning file entries to the planning file.

To determine shortages of individual materials, start a planning run. There are different ways to execute a planning run. Basically, they are either total planning or single-item planning.

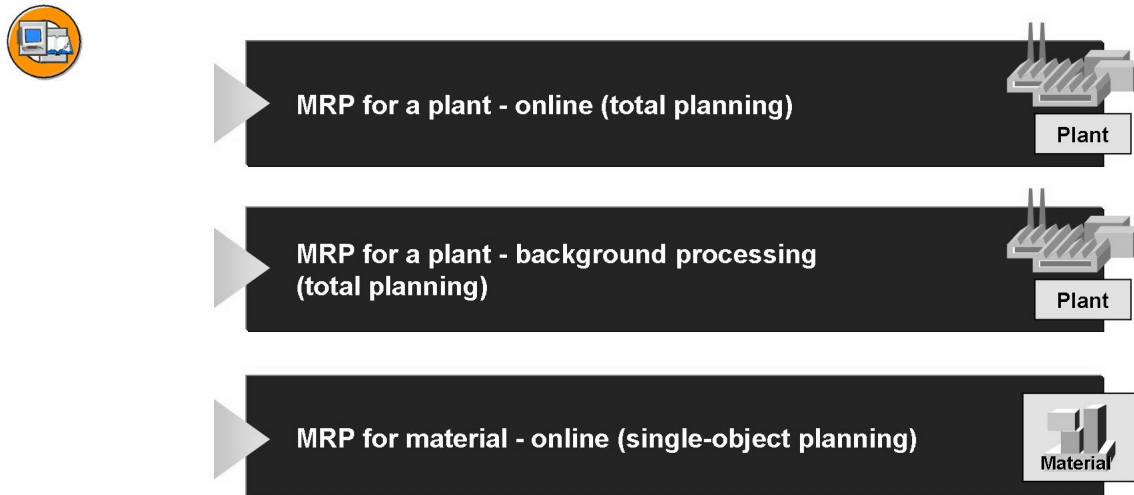


Figure 203: Executing Material Requirements Planning

The requirements planning run can be executed with **total planning** for a particular plant (or MRP area). Total planning covers the planning of all MRP-relevant materials for a particular plant and includes BOM explosion for materials with BOMs.

To execute total planning, from the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Total Planning*.

Total planning can be executed both **online** and as **background processing**. You can schedule a total planning run in the background once or periodically. If you have selected *Schedule once*, the total planning run is executed once on the date you specified, with the control parameters that you specified in the variant. If you have selected *Schedule periodically*, the total planning run is repeated at regular intervals.

The requirements planning run can also be executed with **single-item planning** for an individual material. The planning run is therefore executed at single-level or multi-level. The single-level, single-item planning plans only the BOM level of the selected material. The multi-level, single-item planning plans the BOM level of the selected material and all BOM levels beneath it.

To execute single-level, single-item planning, from the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single-Item, Single-Level*.

MRP Procedures and Lot Sizes



Give an overview of the different MRP procedures and their application areas. Then discuss the manual reorder point planning procedure in more detail.

If you want to plan a material automatically, you must determine the suitable MRP and lot size procedures in the material master. To do this, use the *MRP type* and *MRP lot size* indicators. Depending on the selected procedure, you must then maintain additional data in the material master. You can define different material requirements planning procedures for the same material in different plants.

MRP Procedure

In principle, you can differentiate between **consumption-based** and **MRP-based** MRP procedures. Unlike the MRP-based procedure, the consumption-based MRP procedures are oriented only to the past consumption of the material. External requirements such as sales orders, planned independent requirements, and reservations are generally not MRP-relevant. These MRP procedures are therefore preferable in areas without individual production or in production areas for planning the B and C items and operating supplies. During material requirements planning, sales orders, planned independent requirements, and reservations are scheduled directly as requirements. MRP is mainly intended for planning finished products and important assemblies such as components (A items).

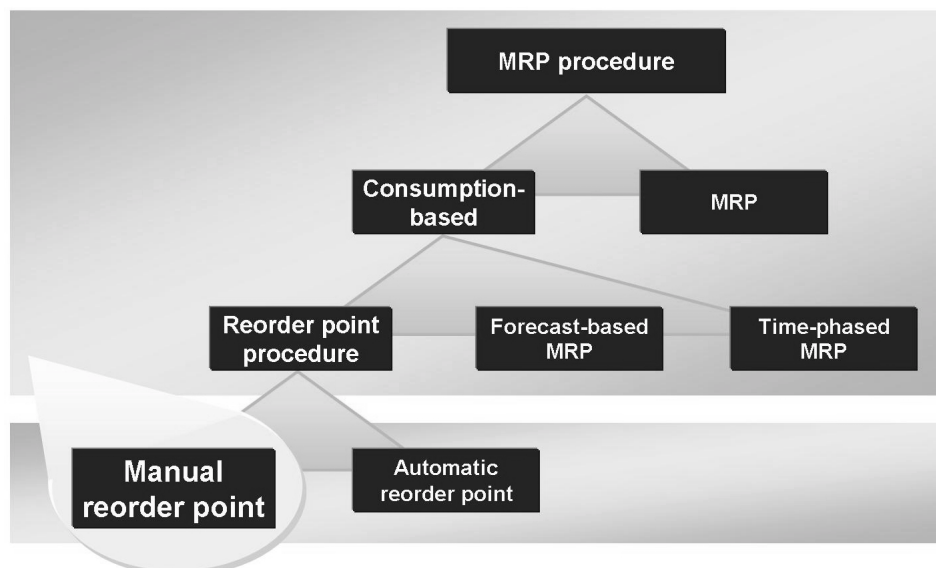


Figure 204: MRP Procedure

In consumption-based MRP, the following MRP procedures are available:

- Reorder point planning
- Forecast-based planning
- Time-phased material requirements planning.

During **reorder point planning**, the system checks whether the stock available for MRP (sum of plant stock and fixed receipts) falls short of the reorder point determined for the material in the master record. If the available stock falls short of the reorder point, procurement must be initiated. You can differentiate between the manual reorder point procedure, where the reorder point is determined manually by the MRP controller, and the automatic reorder point procedure, where the system calculates the reorder point using the forecast.

In forecast-based planning, the future requirement is calculated using the forecast on the basis of the consumption values, and is relevant to MRP as a forecast requirement. The forecast calculation is executed at regular time intervals.

In time-phased material requirements planning, the future requirement is also estimated using the forecast, on the basis of the consumption values. However, MRP is executed in this procedure only at determined points in time, in a particular rhythm. If a vendor always delivers a material on a particular weekday, it is useful to deal with MRP in the same rhythm, adjusted according to the delivery time.

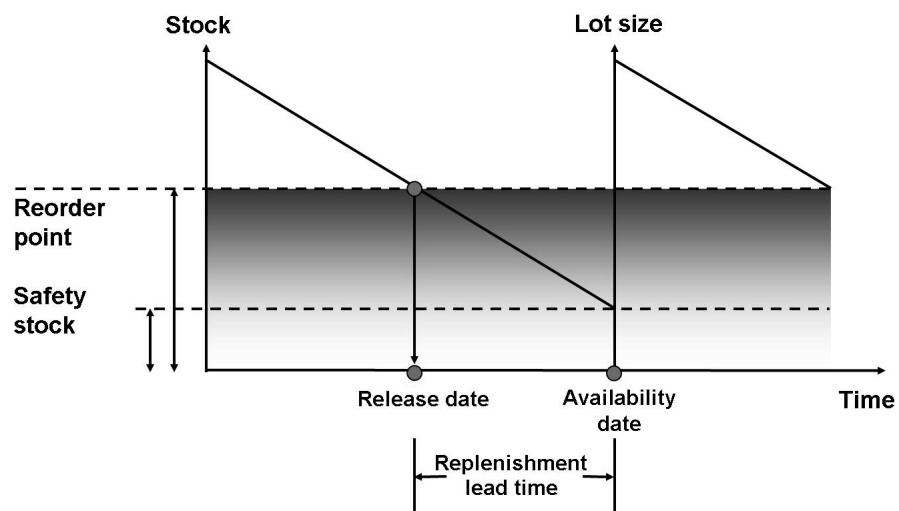


Figure 205: Reorder Point Planning

The **manual reorder point procedure** uses the *MRP indicator VB*. The basis of the reorder point planning is the comparison of the available warehouse stock with the reorder point. If the quantity of available warehouse stock is less than the reorder point, procurement is triggered.

The reorder point is composed of the estimated average material requirement during the replenishment lead time and the safety stock. Accordingly, the following values must be considered when specifying the reorder point:

- Safety stock
- Present consumption or future requirement
- Replenishment lead time

The safety stock is used to cover both any unplanned excess material consumption and the requirement with delivery delays.

During the planning run, the system executes the net requirements calculation.

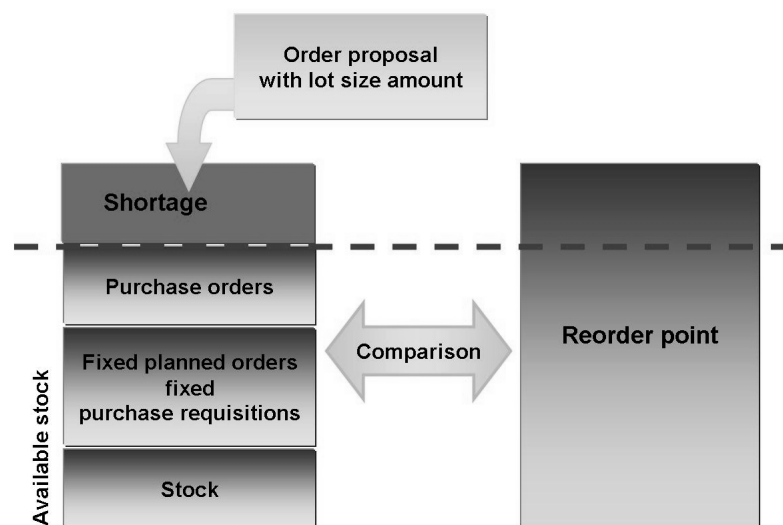


Figure 206: Net Requirements Calculation for Reorder Point Planning

During reorder point planning, the warehouse stock available for MRP is calculated using the following formula:

Warehouse stock + on-order stock (purchase orders, firm planned orders, fixed purchase requisitions).

If the available warehouse stock is less than the reorder point, there is a shortage. The shortage quantity is the difference between the reorder point and available warehouse stock.

Static Lot-Sizing Procedures



Explain that it is not sufficient for the system to determine one requirement for the material. You also need information about the quantity to be procured. Therefore, specify the lot-sizing procedure in the material master record as well as the MRP procedure. Explain some lot-sizing procedures.

The procurement quantity is a result of the lot-sizing procedure in the material master record. There are three different groups of procedures in the lot-size calculation:

- Static lot-sizing procedures
- Periodic lot-sizing procedures
- Optimum lot-sizing procedures.

This lesson covers only the static lot-sizing procedures.

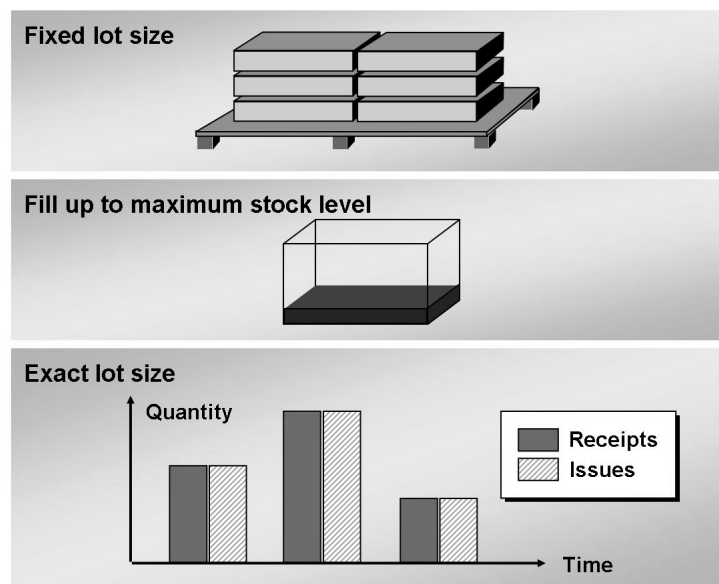


Figure 207: Static Lot-Sizing Procedures

In static lot-sizing procedures, the system does not consider future shortages; so if it determines shortages, the system creates an order proposal for the quantity of the static lot size.

If you have specified that the **exact lot size** (lot-for-lot order quantity) is to be used, the system uses the exact shortage quantity as the order quantity if there is a material shortfall. If there are several goods issues on one day that cause a material shortfall, the system groups the shortage quantity from this day in one order proposal, rather than creating an order proposal for each shortage.

If you have specified that the **fixed lot size** is to be used, the system uses the fixed lot size as the order quantity if there is a material shortfall. If this order quantity is not sufficient to cover the shortage, the system generates several order proposals for the same date until the shortage is covered.

If you have specified that the order quantity **replenishment up to maximum stock level** is to be used, the system creates an order proposal for the quantity that is required to reach the maximum stock level defined in the material master record.

Calculation of Dates



If the requirement quantity has been determined, scheduling for the created procurement proposal is also important. Explain the times used in the replenishment lead time calculation and the calendar used (plant calendar or standard calendar) for the calculation.

After calculating the net requirements and the lot size, the system schedules the procurement proposal during the planning run; in other words, it calculates the date on which the purchase order is to be sent and the date on which the vendor is to deliver the corresponding amount.

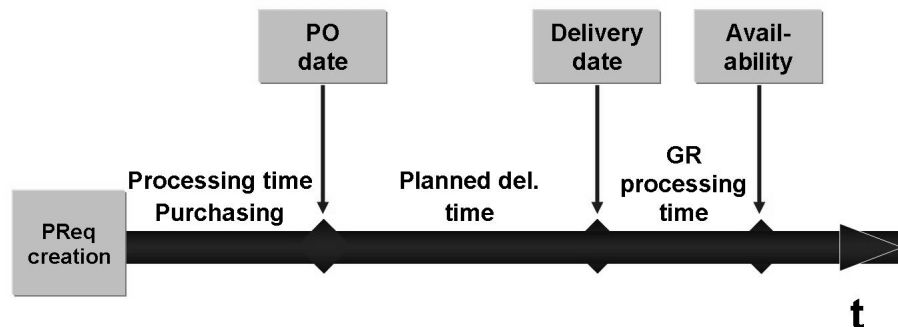


Figure 208: Forward Scheduling for External Procurement

From the date of the purchase requisition's creation, the SAP system calculates the material's availability date by taking into account the following time components: purchasing processing time, planned delivery time, and goods receipt processing time.

The **purchasing processing time** includes the time period (measured in workdays according to the factory calendar) necessary for converting a purchase requisition into a purchase order and then issuing it. This time is determined depending on the plant in Customizing for *Materials Management* under *Consumption-Based Planning* → *Plant Parameters* → *Carry Out Overall Maintenance of Plant Parameters*.


The **planned delivery time** is the time from the issue of the purchase order to the receipt of the goods from the vendor. This time is entered in calendar days in the material master, info record, or contract.

The **Goods receipt processing time** is the time required from the time of goods receipt until the material is available. It is entered in in the material master and/or contract in working days according to the factory calendar.

Current Stock/Requirements List



Explain the function and the structure of the current stock/requirements list. Highlight the fact that this is a dynamic list, unlike the MRP list.

You can evaluate the planning situation using the current stock/requirements list. This list shows the present stock and requirement situation of a material. Each time the list is set up, the system reimports and displays the various MRP elements. You can therefore always see the current availability of the material. This is a **dynamic** list. To set up the list again, either restart the list or use  with the quick-info text *Refresh*.

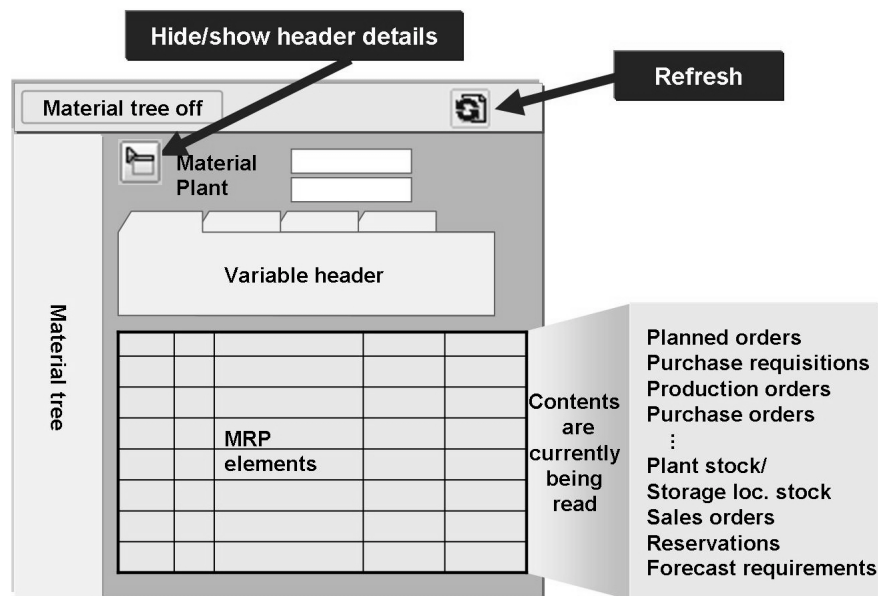


Figure 209: Current Stock/Requirements List (MD04)

The current stock/requirements list is divided into three screen areas: header, items, and material tree. In the **header**, you will find the material data, such as the material number, plant, and MRP parameters. You can use the **variable header** to display additional information. The items include the individual **MRP elements** (planned order, purchase orders, reservations) with date and quantity specifications. The MRP controller can choose to show or hide his worklist in the **material tree**.

The MRP list is another function used for evaluation in MRP. It shows the result of the last planning run and is therefore static: Changes made after the planning run are not visible. During the planning run, you can control whether an MRP list is to be created.



Demonstration: Create MRP Data for a Material

Purpose

(Duration approx. 15 minutes)

Prepare a material master record for MRP

CATT: ZT_SCM500

System Data

System:	Training System
Client:	8xx
User ID:	Own or SCM500-00
Password:	Ask the instructor
Set up instructions:	None

1. Give a demo with the data from task 2 of the exercise. Use the data with group number ## = 00.

In this context, repeat that new views are inserted for a material with the *Create material* function.

Optional: Choose another **lot-sizing procedure** such as *Replenish up to maximum stock level*, with a maximum stock level of 1000 pieces.

2. Display the current stock/requirements list for material **T-M500D00**.

Choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Reporting* → *Stock/Requirements List (transaction MD04)*..

Enter material **T-M500D00** and plant **1000**, and choose *Enter*.

Explain the entries and the navigation (header data, MRP element).

3. Execute single-item planning for the material to show that the material can be planned.

Choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single Item, Single Level (transaction MD03)*..

Enter material **T-M500D00** and choose *Enter* twice.

4. Display the current stock/requirements list for the material **T-M500D00**.

Choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Reporting* → *Stock/Requirements List (transaction MD04)*..

Enter material **T-M500D00** and plant **1000**, and choose *Enter*.

Show the MRP element **PurRqs** in detail. Choose the *Source of supply* tab page. No entries exist. We can therefore go on to the next lesson.



Exercise 25: Material Master Record: Create MRP Data

Exercise Duration: 15 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Enter the material requirements planning data for a material procured on a consumption-driven basis

Business Example

You want to plan one of your materials automatically in the future using materials planning. You must therefore extend the existing master record by creating views for MRP.

System Data

System:	Training System
Client:	8xx
User ID:	SCM500-##
Password:	The password set by the participant
CATT:	ZT_SCM500
Set up instructions:	None

Task 1: Display the material master record

The material ball bearing, cylindrical-##, is used in production in plant 1000. The requirement for this material will be determined automatically by MRP in the future.

Before you create the material data that is necessary for MRP, display the material and determine some of the data.

1. Display the material **ball bearing, cylindrical-##**. To determine the material number, use the F4 help to search for *Material number/description*.



Hint: Make sure you enter the text correctly. You can also just enter a part of the text and then type an asterisk (*) as a placeholder.

Make a note of the material number:

Material number: _____

Continued on next page

2. Determine the views that were already created by the user departments for this material in plant 1000.

3. Display the basic data of the material and determine which material type and which industry the material is assigned to. Can you also determine who first created the material?

Material type:

Industry sector:

4. Show the purchasing data for plant 1000 and determine whether the indicator for the *automatic purchase order generation* is set.

Task 2: Enhance Material with MRP Data

Now create the MRP data for material **T-M500D##** for plant **1000**. You have decided that the material is to be planned in your company using the manual reorder point procedure and that a fixed lot size is to be procured.

1. Enter the following data on the MRP views 1 and 2.

The reorder point for the material is **100 pieces** and you need to procure a fixed lot size of **300 pieces**. The MRP controller responsible for the material is **0##**. The average delivery time is **7 days** and a GR processing time of **1 day** is required for the placement in storage.

2. Would the material T-M500D## be considered or planned in the next planning run for plant 1000? If so, why?

Solution 25: Material Master Record: Create MRP Data

Task 1: Display the material master record

The material ball bearing, cylindrical-##, is used in production in plant 1000. The requirement for this material will be determined automatically by MRP in the future.

Before you create the material data that is necessary for MRP, display the material and determine some of the data.

1. Display the material **ball bearing, cylindrical-##**. To determine the material number, use the F4 help to search for *Material number/description*.



Hint: Make sure you enter the text correctly. You can also just enter a part of the text and then type an asterisk (*) as a placeholder.

Make a note of the material number:

Material number: _____

- a) Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Display* → *Display Current (MM03)*
 - b) Choose the input help (F4 help) for the *Material* field, and enter **ball bearing*##** for instance as the *short text*.
 - c) Choose material number T-M500D##.
2. Determine the views that were already created by the user departments for this material in plant 1000.


Answer: Choose *Select Views*. This takes you to the corresponding dialog box. The following views have already been created:

Basic Data (1 + 2), Purchasing (Purchasing, Foreign Trade: Import Data, Purchase Order Text), Accounting (1 + 2), Plant Stock

3. Display the basic data of the material and determine which material type and which industry the material is assigned to. Can you also determine who first created the material?

Continued on next page

Material type: Operating Supplies
Industry sector: Mechanical Engineering (M)

- a) On the view selection, select the basic data and confirm your entry with *Enter*.
 - b) Choose , with the quick info text *Information on material*. You will see the dialog box on which the user ID of the original creator is displayed next to the material type and industry.
4. Show the purchasing data for plant 1000 and determine whether the indicator for the *automatic purchase order generation* is set.
- a) Choose the *Purchasing* tab page.
 - b) Enter **1000** in the *Organizational Levels* dialog box for plant.
 - c) In the purchasing data, you will see the *Automatic PO* indicator in the *General data* area. The indicator is set.

Task 2: Enhance Material with MRP Data

Now create the MRP data for material **T-M500D##** for plant **1000**. You have decided that the material is to be planned in your company using the manual reorder point procedure and that a fixed lot size is to be procured.


1. Enter the following data on the MRP views 1 and 2.

Continued on next page

The reorder point for the material is **100 pieces** and you need to procure a fixed lot size of **300 pieces**. The MRP controller responsible for the material is **0##**. The average delivery time is **7 days** and a GR processing time of **1 day** is required for the placement in storage.

- a) Choose *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create (General)* → *Immediately (MM01)*.
- b) Enter the material number **T-M500D##** and choose *Select Views*. You do not need to enter the material type and industry because the material master record will be extended. Confirm the message with *Enter*.
- c) In *Select Views*, select *MRP 1* and *MRP 2*; in the *Organizational Levels* dialog box, enter plant **1000**.
- d) Enter the following data in the MRP views:

View MRP 1	
MRP type	VB
Reorder point	100
MRP controller	0##
MRP lot size	FX
Fixed lot size	300
View MRP 2	
Planned delivery time	7
GR processing time	1

- e) Choose  *Save*.
2. Would the material T-M500D## be considered or planned in the next planning run for plant 1000? If so, why?

Answer: The material would be planned in the next planning run because the creation of MRP data is an MRP-relevant transaction. A planning file entry was set for the material.

The shortfall of the reorder point is not important in this case. In addition, a change to existing MRP data results in a planning file entry even though sufficient stock is available.



Lesson Summary

You should now be able to:

- Explain the principle of manual reorder point planning
- Maintain the data necessary for manual reorder point planning in the material master record
- Name and explain simple static lot-sizing procedures
- Use the current stock/requirements list (transaction MD04)

Lesson: Contract and Source Determination



553

Lesson Duration: 60 Minutes

Lesson Overview

This lesson shows you the data that is necessary for the automatic conversion of requisitions into purchase orders. Among other things, a source of supply must have previously been assigned to the requisition. In this connection, the contract is introduced at greater length as a potential source of supply. Furthermore, the source list is discussed. A source list contains important information for the automatic source determination process.



Lesson Objectives

After completing this lesson, you will be able to:

- Provide an overview of sources of supply in purchasing
- Create a contract
- Maintain a source list for a material



Introduce the objectives and the business scenario. Discuss the sources of supply in the SAP system and show how to create a quantity contract. Also discuss the source list.

Business Example

You already use an automatic requirement determination process. You now also wish to automate the process of source determination. In your test scenario, the outline agreement that has already been set up with the vendor is to be determined as the source of supply during the requirement planning run. You analyze which system settings are required for this.

Automatic Source Determination in the Procurement Process



Explain the point in the procurement process you have currently reached and the step for which the prerequisites will be established in this lesson (automatic conversion of requisition into PO).

You can automate various steps in the procurement process. Thus, material requirements can be determined through materials planning. This relieves the burden on user departments, since it is not necessary for purchase requisitions for required items to be created manually. The automatic conversion of requisitions into purchase orders is another way of simplifying the procurement process.

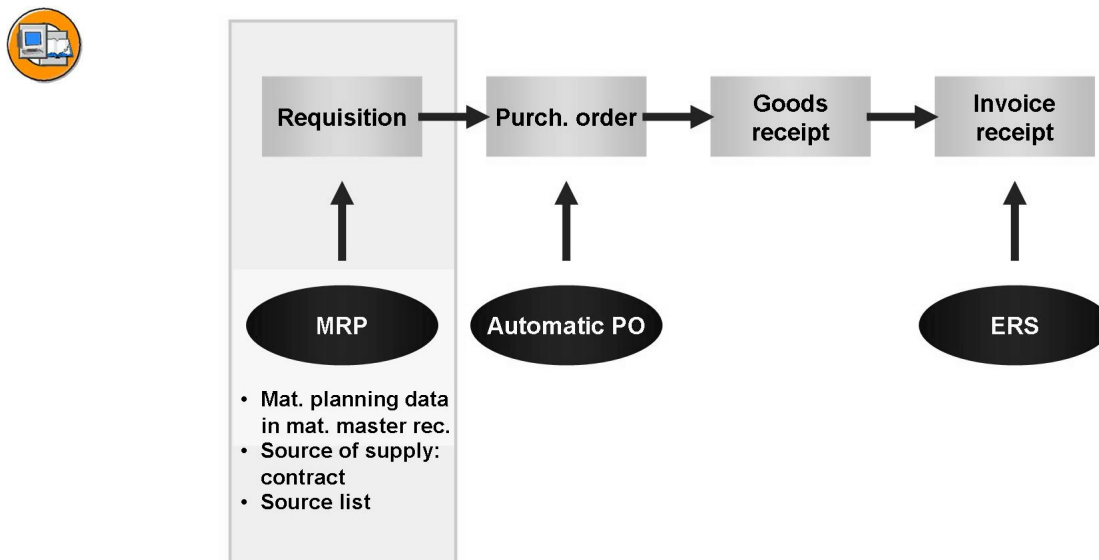


Figure 210: Automated Procurement: Source Determination

To be able to convert an item of a purchase requisition into a PO automatically, the system must know from which vendor and at which price the material is to be procured.



Explain the various options for assigning a source of supply to a requisition item.

When creating the purchase requisition, the requester can choose a source for the item. As a rule, however, the purchasing department is responsible for assigning sources. In the source selection process, you can have the system support you by suggesting a list of existing sources.

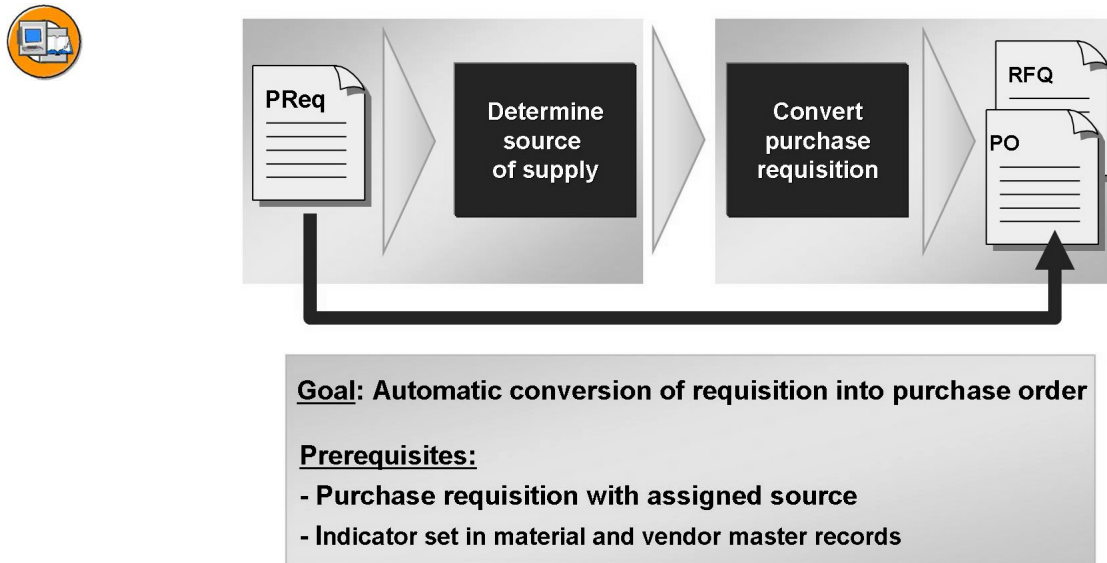


Figure 211: Conversion of Requisition into a Purchase Order

The source determination process can also be carried out automatically, for instance during the requirements planning run. In such cases, not only will the results of the planning include purchase requisitions covering the relevant requirements, but sources of supply will have already been assigned to the requisition items listed.

The system can only assign a source automatically if the source in question can be determined uniquely. For this purpose, you must define a source as the one that is valid for a certain period. To do so, you use the source list for a material.

If, for safety's sake, you wish to check purchase requisitions for formal correctness and to make sure that the account assignment and source have been specified properly, you can use release procedures. You can define the release procedures flexibly (according to the criteria item value, requester, or account assignment, for example).



Note: For more information on the individual topics, refer to the SAP Library for *Materials Management* under *Purchasing* → *Optimized Purchasing* → *Determination of Sources of Supply* or *Purchasing* → *Release Procedure*. These topics are discussed in detail in course SCM520 (Purchasing).

Sources of Supply and Source Determination



Once the goal is known (requisition with assigned source), clarify the question: What is a source of supply?

Give an overview of the sources of supply in *SAP ERP Central Component*. Point out that a price is important and that the vendor alone is not exactly equivalent to a source of supply in the SAP sense. After this, discuss the contract as a possible source of supply.

A source of supply can be both a vendor (external supplier) and one of your enterprise's own plants. External sources are represented by purchasing info records and outline agreements. For these sources, the vendor and the price of the material can be taken from the relevant record or document.

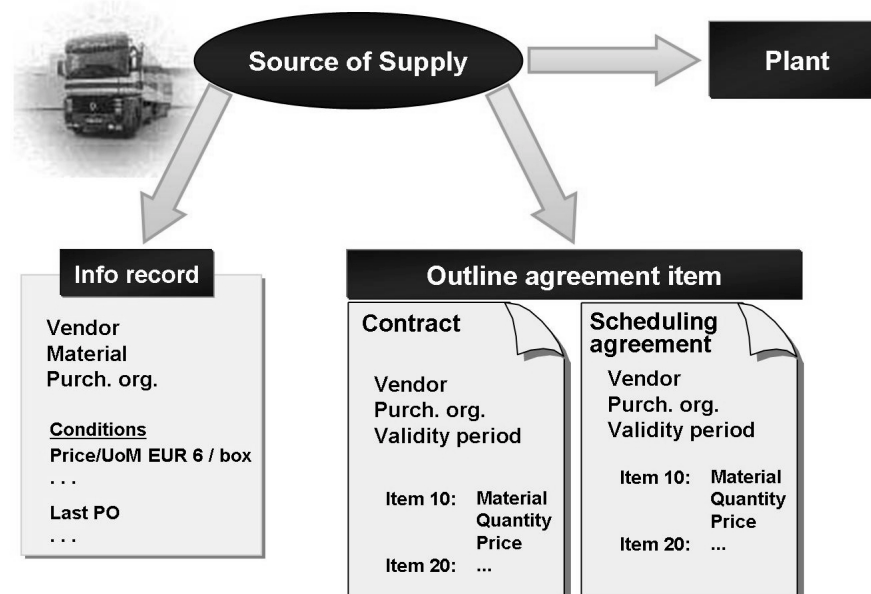


Figure 212: Overview of Sources of Supply

A purchasing info record is a repository of information for purchasing. It contains data on a certain material and the supplier of that material. The information may include the current vendor price, the vendor's planned delivery time, and the name by which the vendor refers to the material.

An **outline agreement** is a longer-term arrangement with a vendor for the supply of materials or provision of services based on predefined terms and conditions. This arrangement is valid for a certain period and for a predetermined total purchase quantity or value. There are two types of outline purchase agreement:

- Contract
- Scheduling agreement

An outline agreement does not contain specific delivery dates or quantities of individual deliveries. You specify these subsequently, in either a contract release order or a scheduling agreement delivery schedule, depending on the type of agreement. In the next section, we take a closer look at the contract.

Contract

You can create a contract item manually without referencing another document, or by referencing a quotation or purchase requisition item. You can also reference an existing contract.

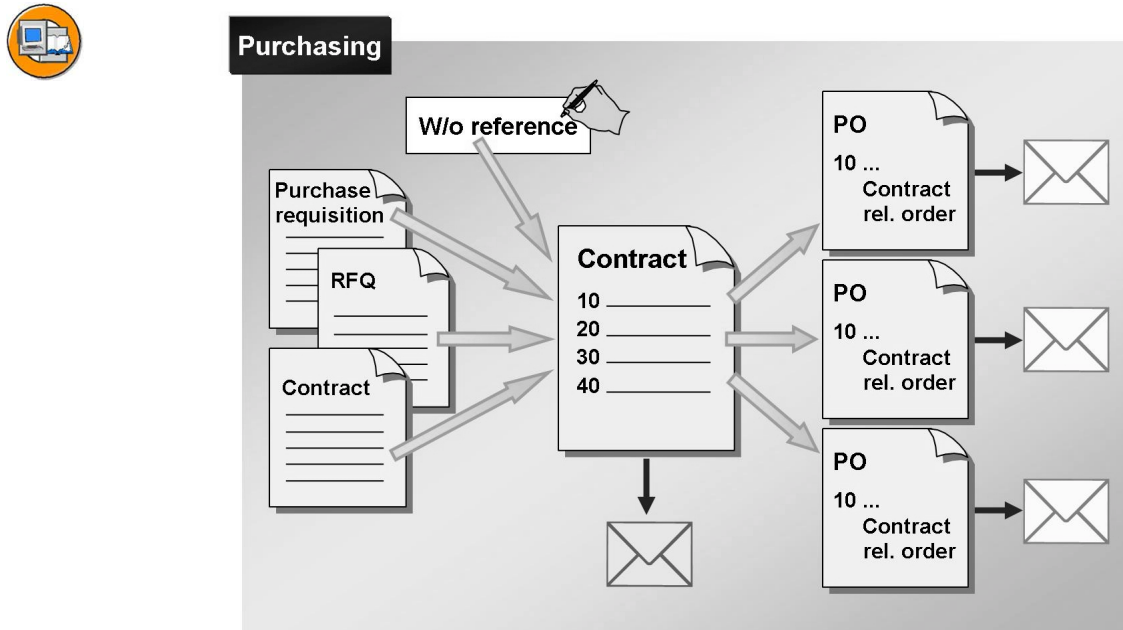


Figure 213: Contract

The structure of a contract (or of an outline agreement generally) corresponds to that of other purchasing documents. A distinction is made between the document header and the document items.

- The **document header** contains information relating to the entire agreement (such as vendor data, agreement validity period, agreement type, and header conditions).
- You enter the data specific to the good or service in question (such as material, agreed total purchase quantity, price, and texts) under each **item** of the contract. You do not specify an exact delivery quantity or delivery date.

Contract items can relate to an individual plant or to all the plants of a purchasing organization. If the items are plant-independent, a centrally agreed contract is involved.



Quantity contracts	Value contract
<div style="border: 1px solid gray; padding: 5px;"> <p>Contract 4711</p> <hr/> <p> Header</p> <p>Agmt. type: <input type="text" value="MK"/></p> <p>Validity period: <input type="text" value="01.01.06 – 31.12.09"/></p> <hr/> <p> Item overview</p> <p>Material: <input type="text" value="M-01"/></p> <p>Total quantity: <input type="text" value="10.000"/></p> <p>Price: <input type="text" value="1200,-"/></p> </div>	<div style="border: 1px solid gray; padding: 5px;"> <p>Contract 4712</p> <hr/> <p> Header</p> <p>Agmt. type: <input type="text" value="WK"/></p> <p>Validity period: <input type="text" value="01.01.06 – 31.12.09"/></p> <p>Total value: <input type="text" value="120.000,-"/></p> <hr/> <p> Item overview</p> <p>10 material: <input type="text" value="M-01"/></p> <p>20 material: <input type="text" value="M-02"/></p> <p>...</p> </div>

Figure 214: Contract Types

There are two contract types:

- **Quantity contract:** You choose this type of contract if the total quantity to be ordered over the duration of the agreement has already been agreed. The contract counts as fulfilled once an agreed quantity has been reached through the issue of contract release orders. In a quantity contract, you define, among other things, the target quantity and conditions of ordering for each item.
- **Value contract:** You choose this type of contract if the total value of all contract release orders is not to exceed a certain amount. The contract counts as fulfilled once an agreed value has been reached through the issue of contract release orders.

To inform the vendor which quantities you need on which dates, you enter purchase orders referencing the contract. Such POs are known as **contract release orders** or contract releases. (Outside SAP, they are also known as call-off orders or call-offs.) These contract release orders are recorded in the **release documentation** for the relevant contract item.

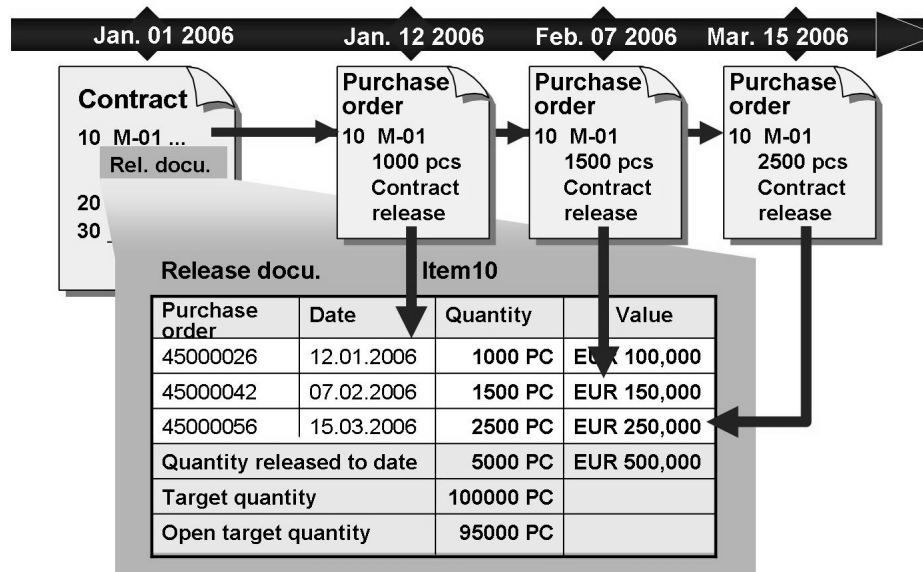


Figure 215: Release Documentation

The release (order) documentation lists the ordering activities for a contract item. The release documentation is automatically updated when a release order is created. It contains information including the number of the release order, the PO date, the order quantity, and the order value for all release orders issued against the contract. It is the basis for monitoring the contract.

The release documentation belongs to the statistical data on a contract item. To display the release documentation, select the desired contract item and choose *Item* → *Statistics* → *Release (Order) Documentation*.



Hint: You can enter contracts as sources of supply in purchase requisitions. This ensures that the outline agreement is referenced when the purchase requisition is converted into a purchase order. The resulting PO is a contract release order.

Source List



Explain the function of the source list. In doing so, outline the significance of the three indicators *Fixed*, *Blocked*, and *MRP-relevant*. Introduce the three options available for source list maintenance.

The source list is an aid in the administration of sources of a material for a plant. You specify which sources of a material are allowed and disallowed for a plant and the periods for which these two statuses are valid. Source list entries are taken into account in automatic source determination in purchasing and in requirements planning.

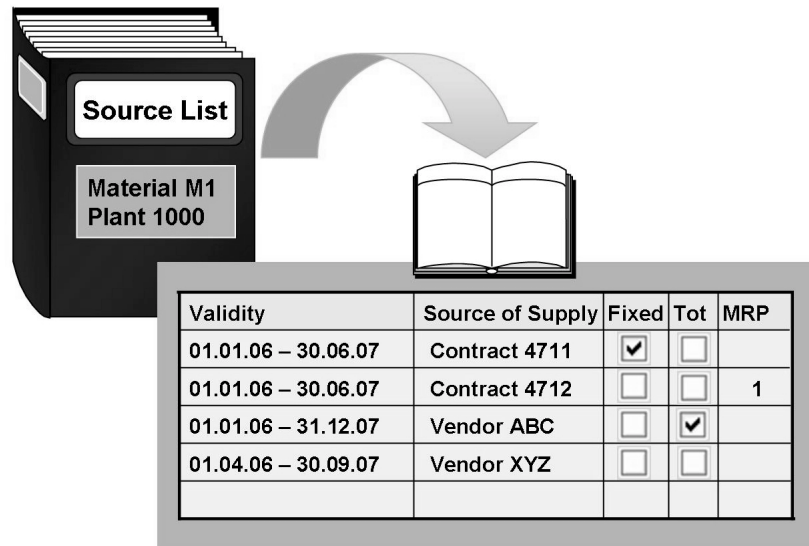


Figure 216: Source List

You can decide that a source is preferable over a certain period (*Fixed* indicator). If no procurement is to be allowed from a source of supply (or vendor) during a certain period, you set the *Blocked* indicator for the relevant source list entry.

In automatic requirements planning, a purchase requisition can be generated with a source of supply only if the source list for the material contains a valid entry with the *MRP-relevant* indicator set.

You can stipulate a source list requirement for a material. This means that this material may only be procured from sources that have been entered as valid in the source list. You will find the necessary indicator in the purchasing data of the material master record.

You can also specify the source list requirement for a plant (Customizing). However, this means that you must maintain source lists for all the externally procured materials of a plant.

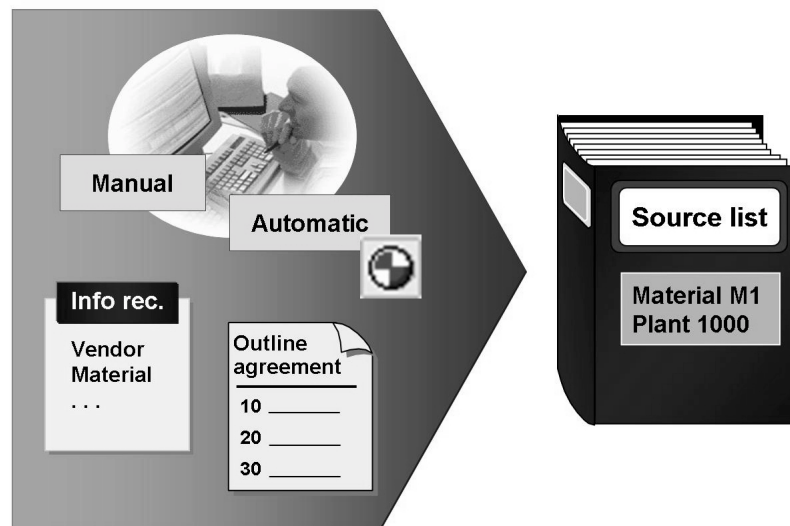


Figure 217: Processing Source Lists

Maintaining the source list consists of various procedures.

- You can maintain the source list manually for each material and plant.
- When you create or change an outline agreement, you can adopt an outline agreement item in the source list for the material. To do so, select the item and choose *Item* → *Maintain Source List*. This is also possible when you create or change a purchasing info record.
- You can also have a source list created automatically by the system. The system provides the option of quickly entering or updating all the sources of a material in a source list.

With this procedure, a source list record is created for each info record or outline agreement item. You can create the source list for several materials (collective procedure) or for an individual material (individual procedure). There is a preview function for the automatic generation of source lists. This allows you to simulate the effects of the source list generation run.



Create Quantity Contract

1. From the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Purchasing* → *Outline Agreement* → *Contract* → *Create (ME31K)*.
2. On the initial screen, enter the necessary data (vendor, purchasing organization, purchasing group, default data for items). Choose **MK** (quantity contract) as the agreement type.
3. Confirm your input with *Enter* to get to the header data screen.
4. Specify the contract validity period. Check - and change if necessary - other fields on this screen (such as the payment terms).
5. Confirm your input with *Enter* to get to the item overview screen.
6. On this screen, enter the necessary data for each item (material number, target quantity, price, receiving plant, account assignment, etc.).
7. Check the detailed data for the individual items. To do so, select the item(s) and choose *Item* → *Details*.
8. Enter the desired conditions. To do so, select the item(s) and choose *Item* → *Conditions*.
9. Save the contract.

Result

The contract is created. In order for the contract information to be transmitted to the vendor, the system generates a message version of the contract.



Maintain Source List Manually

1. From the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Source List* → *Maintain*.
2. Enter the material and plant number in the initial screen.
3. Choose *Enter* to display the source list overview screen.
4. Enter the individual source list records. Enter the following data for each record:
 - **Validity period:** Enter the period within which the material may be ordered from the source (or may not be ordered, if the relevant source list record is blocked).
 - **Key data on the source:**
 - Purchasing info record: Number of vendor and responsible purchasing organization.
 - Outline agreement (scheduling agreement or contract): Number of outline agreement and number of agreement item for the relevant material.
 - Decide whether the source list entry counts as a fixed and/or MRP-relevant source in the relevant validity period by setting the appropriate indicator, or set the *Blocked* indicator if no orders are to be placed with the source.
5. Save the source list.



Demonstration: Create Contract and Maintain Source List

Purpose

(Duration approx. 15 minutes)

Creation of a source of supply for the material and completion of the prerequisites for automatic source determination at the time of the planning run.

CATT: ZT_SCM500

System Data

System:	Training System
Client:	8xx
User ID:	Own or SCM500-00
Password:	Ask the instructor
Set up instructions:	



Caution: A prerequisite for this demo is the performance of the demo from the “MRP” lesson.

1. At the end of the demo from the “MRP” lesson, you will have carried out the planning run. Show the result again in the current stock/requirements list.

Choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Reporting* → *Stock/Requirements List (transaction MD04)*.

Enter material **T-M500D00** and plant **1000**, and choose *Enter*.

A requisition without a source of supply is generated. Branch directly to the requisition and change it. **Delete the item.**

Refresh the current stock/requirements list to show that no more procurement proposals exist.

2. Give a demo with the data of the task from the exercise. Use the data with group number ## = 00.

Show only subtasks 1 (change vendor master record) and 2 (create contract).

3. Carry out single-item planning for the material to show that the material can be planned again but that a source is still not determined.

Choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single Item, Single Level (transaction MD03)*.

Enter material **T-M500D00** and choose *Enter* twice.

4. Show the result in the current stock/requirements list.

Choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Reporting* → *Stock/Requirements List (transaction MD04)*.

Enter material **T-M500D00** and plant **1000**, and choose *Enter*.

A requisition without a source of supply is generated.

5. Now maintain the source list for material **T-M500D00** according to the specification in **subtask 3 (maintain source list)** from the exercise.

6. **Optional:** Carry out another planning run for the material and show the result in the current stock/requirements list.

The entry of the *MRP-relevant* indicator in the source list was an MRP-relevant transaction. Therefore, the material was re-planned. The contract was determined as the source of supply for the material.



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Exercise 26: Source List Maintenance

Exercise Duration: 15 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create a contract.
- Maintain the source list for a material

Business Example

You conclude a contract with your vendor for ball bearings. In the system, this contract represents a source of supply for these items. Since the source determination process for this material is to be automated, you define this contract as a fixed source in the source list.

System Data

System:	Training System
Client:	8xx
User ID:	SCM500-##
Password:	The password set by the participant
CATT:	ZT_SCM500
Set up instructions:	None

Task: Contract and Source List

You plan to automate as much as possible the procurement process in purchasing organization **1000** with regard to the vendor **H.A.G. Potsdam GR.##**. Requisitions involving this vendor are to be automatically converted into purchase orders and settlement of deliveries from this vendor is likewise to be effected automatically.

Moreover, in the future material **ball bearing, cylindrical-##** is to be procured from this vendor under the terms of a contract. This contract is to be determined automatically as the source of supply of this material.

1. Change vendor master record

To achieve the required automation, certain indicators must be set in the purchasing data of the vendor master record. For the vendor **H.A.G. Potsdam Gr.##**, set all indicators that are necessary for the automatic

Continued on next page



conversion of requisitions into purchase orders and for automatic settlement with respect to deliveries of the material in question. Change the data in the vendor master record for purchasing organization **1000**.



Hint: Determine the vendor number using the input help.

What are the names of the indicators that have to be set?

2. Create contract

Your purchasing department has entered into a quantity contract with the vendor **H.A.G. Potsdam Gr.##** (T-K500C##) for the material **ball bearing, cylindrical-##** (T-M500D##). Create the contract for purchasing organization **1000** and purchasing group **T##**.

Which agreement type do you choose?

The validity period of the contract starts on the **first day of the previous month** and ends on **12.31. of the following year**. The contract is valid for plant **1000**. The target quantity is **100,000 pieces** and the agreed price is **10 EUR/pc**.

Enter the tax code **1I** for evaluated receipt settlement on the detail screen for the contract item. Also check whether the indicators for GR-based invoice verification and evaluated receipt settlement have been set for the item.


Contract number: _____

3. Maintain source list

You procure material **T-M500D##** by means of release orders issued against your contract with vendor **T-K500C##**.

In order for this contract to be automatically determined as the source of supply for the ball bearings, you create a source list record for this contract for the material in plant 1000.



Hint: In the maintain source list transaction, you can generate the source list record manually by entering the contract. Alternatively, you can choose  with the quick info text *Generate Records* to have the records generated automatically.

Continued on next page

In the source list record, enter the same validity period as that of the contract (see above). The contract item is to be the fixed source of supply for purchasing organization **1000**. The contract should also be taken into account by materials planning. Set the necessary indicators for this.

Solution 26: Source List Maintenance

Task: Contract and Source List

You plan to automate as much as possible the procurement process in purchasing organization **1000** with regard to the vendor **H.A.G. Potsdam GR.##**. Requisitions involving this vendor are to be automatically converted into purchase orders and settlement of deliveries from this vendor is likewise to be effected automatically.

Moreover, in the future material **ball bearing, cylindrical-##** is to be procured from this vendor under the terms of a contract. This contract is to be determined automatically as the source of supply of this material.

1. Change vendor master record

To achieve the required automation, certain indicators must be set in the purchasing data of the vendor master record. For the vendor **H.A.G. Potsdam Gr.##**, set all indicators that are necessary for the automatic conversion of requisitions into purchase orders and for automatic settlement with respect to deliveries of the material in question. Change the data in the vendor master record for purchasing organization **1000**.



Hint: Determine the vendor number using the input help.

What are the names of the indicators that have to be set?

Continued on next page

-
- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Vendor* → *Purchasing* → *Change (Current) MK02*.
 - b) Choose the input help (F4 help) for the *Vendor* field, and enter the name **H.A.G.*Gr.##**.
The number of the vendor is T-K500C##.
 - c) Enter purchasing organization **1000**, select the *purchasing data*, and confirm your input with *Enter*.
 - d) Set the following indicators:
GR-based Inv.Verif.
AutoEval GR Setmt.Del.
Automatic Purchase Order
 - e) Save your input.

2. Create contract

Your purchasing department has entered into a quantity contract with the vendor **H.A.G. Potsdam Gr.##** (T-K500C##) for the material **ball bearing, cylindrical-##** (T-M500D##). Create the contract for purchasing organization **1000** and purchasing group **T##**.

Which agreement type do you choose?

The validity period of the contract starts on the **first day of the previous month** and ends on **12.31. of the following year**. The contract is valid for plant **1000**. The target quantity is **100,000 pieces** and the agreed price is **10 EUR/pc**.

Enter the tax code **1I** for evaluated receipt settlement on the detail screen for the contract item. Also check whether the indicators for GR-based invoice verification and evaluated receipt settlement have been set for the item.


Continued on next page




Contract number: _____

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Outline Agreement* → *Contract* → *Create (ME31K)*.
- b) Enter the following data:

Initial screen	
<i>Vendor</i>	T-K500C##
<i>Agreement type</i>	MK (quantity contract)
<i>Purchasing organization</i>	1000
<i>Purchasing group</i>	T##
<i>Plant</i>	1000

After entering this data, choose  to go to the header data.

Header data	
<i>Validity start date</i>	<First of last month>
<i>Validity end date</i>	<12.31 of the following year>

After entering this data, choose  again to go to the item overview. Acknowledge the messages regarding the validity start date with *Enter*.

Item overview	
<i>Material</i>	T-M500D##
<i>Target quantity</i>	100000
<i>Net price</i>	10

Select the item and choose *Item* → *Details* to go to the detail screen.

Item detail screen	
<i>Tax code</i>	1I
✓	GR-basedIV
✓	ERS

- c) Save the data and make a note of the contract number.


3. Maintain source list

Continued on next page

You procure material **T-M500D##** by means of release orders issued against your contract with vendor **T-K500C##**.

In order for this contract to be automatically determined as the source of supply for the ball bearings, you create a source list record for this contract for the material in plant 1000.




Hint: In the maintain source list transaction, you can generate the source list record manually by entering the contract. Alternatively, you can choose  with the quick info text *Generate Records* to have the records generated automatically.

In the source list record, enter the same validity period as that of the contract (see above). The contract item is to be the fixed source of supply for purchasing organization **1000**. The contract should also be taken into account by materials planning. Set the necessary indicators for this.

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Source List* → *MaintainME01* .
- b) Enter the following data:

<i>Initial screen</i>	
<i>Material</i>	T-M500D##
<i>Plant</i>	1000

After entering this data, choose .

<i>Overview screen</i>	
<i>Valid from</i>	<First of last month>
<i>Valid to</i>	<12.31 of the following year>
<i>Agreement</i>	<Number of your contract>
<i>Item</i>	10
<i>Fixed</i>	✓
<i>MRP</i>	1

- c) Choose  *Save*.



Lesson Summary

You should now be able to:

- Provide an overview of sources of supply in purchasing
- Create a contract
- Maintain a source list for a material

Lesson: Automated Procurement Process



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Lesson Duration: 45 Minutes

Lesson Overview

In this lesson, you will see a complete procurement process where the individual steps are as automated as possible. A purchase requisition is created as a result of the planning run. This purchase requisition is then automatically converted into a purchase order. The settlement of the delivery also takes place automatically. You have to enter only the goods receipt manually.



Lesson Objectives

After completing this lesson, you will be able to:

- Start an individual planning run and evaluate the result
- List the prerequisites for automatic purchase order generation.
- Create purchase orders automatically
- List the prerequisites for the evaluated receipt settlement
- Settle goods receipts automatically



Introduce the objectives and the business scenario. Discuss and show the automatic conversion of purchase requisitions in purchase orders and the evaluated receipt settlement.

Business Example

You want to test whether you have made all the settings for the relevant automations. You therefore execute all planned steps, starting with a requirements planning run and including the conversion of the purchase requisitions, the goods receipt, and the delivery settlement.

Determination of Requirements with Source Determination



In this lesson, you will see how the complete procurement process runs. The prerequisites for this have been met in the two previous lessons (if this lesson is part of SCM500) but check them again if necessary.

The figure shows the procurement process described in this lesson. Three of the four steps should run automatically.

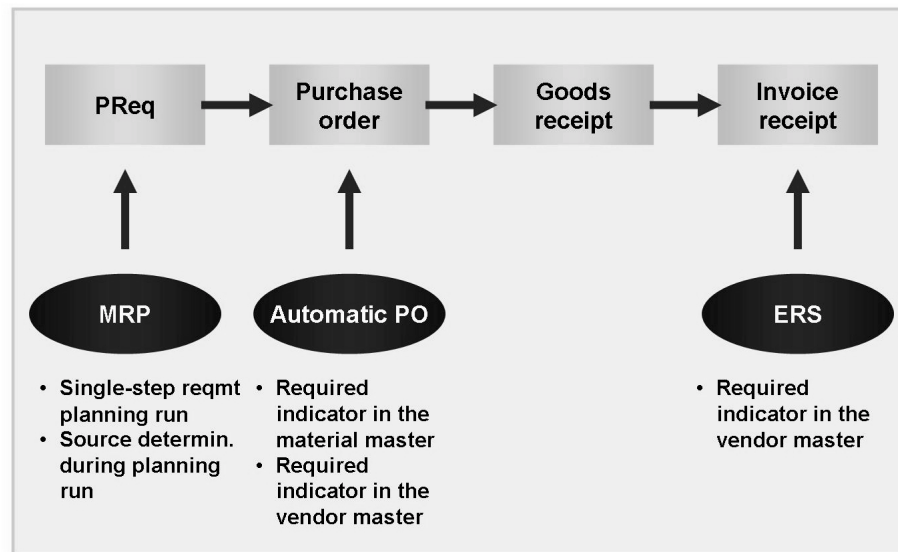


Figure 218: Automated Procurement



Briefly repeat the prerequisites that are necessary for the creation of a purchase requisition with assigned source of supply from the planning run.

The automatic determination of requirements is a result of material requirements planning (MRP). In this step, you can determine the requirements of the material and a possible source of supply. As a prerequisite for this automation step, you must have maintained the MRP data in the material master record.

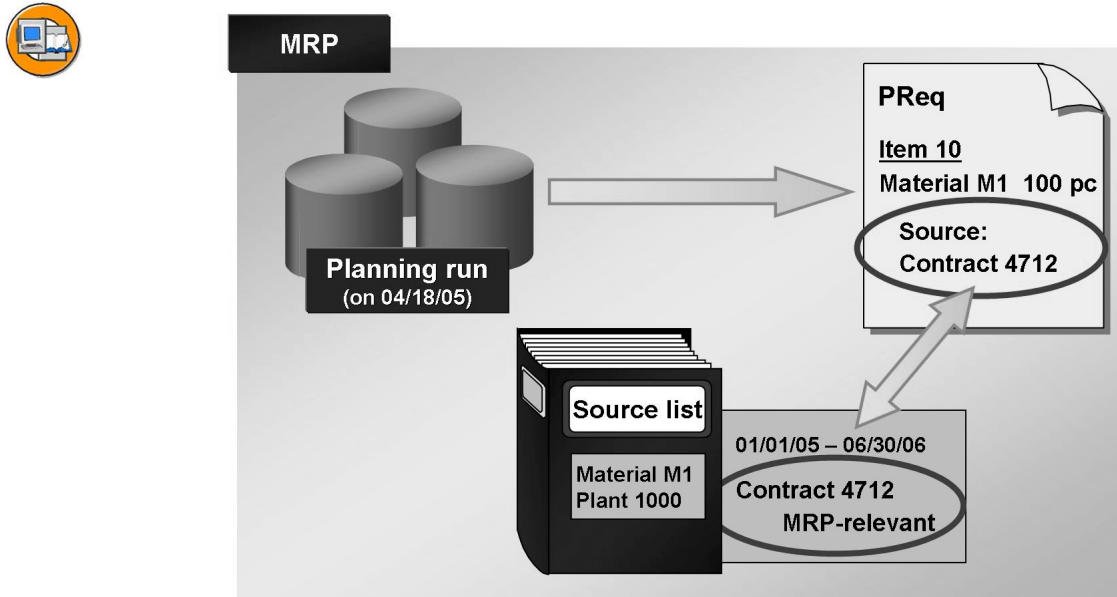


Figure 219: Purchase Requisition With Assigned Source of Supply

There must also be a valid source of supply for the material in the system, such as an outline agreement or a Purchasing info record. You must enter the source of supply in the source list of the material and mark it as MRP-relevant so the system can determine this source of supply during the planning run.

If a source of supply was determined for a requirement during the planning run, you will find this in the item detail data in the purchase requisition on the *Source of supply* tab.



Demonstration: Planning Run and Results

Purpose

(Duration approx. 5 minutes)

Determine a requirement with MRP.

If you have already shown the planning run for material T-M500D00 in the demo in the “Contract and Supply Source Determination” lesson, the first part of this demo is unnecessary.



CATT: ZT_SCM500

System Data

System:	Training System
Client:	8xx
User ID:	Own or SCM500-00
Password:	Ask the instructor

Set up instructions:

Caution: A prerequisite for this demo is the execution of the demo from the “Materials Planning” and “Contract and Source of Supply Determination” lessons.

1. **Optional:** Execute planning run
Choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Planning* → *Single Item, Single Level* (transaction MD03).
Enter material **T-M500D00** and choose *Enter* twice.
2. Show the result in the current stock/requirements list.
Choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Reporting* → *Stock/Requirements List* (transaction MD04).
Enter material **T-M500D00** and plant **1000**, and choose *Enter*.
3. A purchase requisition was created as the result of the planning run. Select the MRP element **PurRqs** and choose  *Display element* to branch to the PReq.
4. Choose the *Contact partner* tab page and show the creation indicator, which determines that the purchase requisition item was created during requirements planning. The *Creator* and *Requester* is MRP controller **000**.
5. Choose the *Source of supply* tab. The number of the vendor and the contract have been entered on this tab page.
6. Go to the contract. To do this, choose *Environment* → *Contract*. Select the item in the contract and choose *Item* → *Statistics* → *Release documentation*. The release is not yet available because the purchase requisition with the contract as the source of supply does not yet represent a release.
7. Choose  *Back* until you can see the current stock/requirements list again.

Automatic Generation of Purchase Orders



Discuss the function of automatic conversion of purchase requisitions into purchase orders. Accept the necessary prerequisites.

You can convert a purchase requisition item that is assigned to a source of supply into a purchase order with automatic generation of purchase orders. A purchase requisition item with assigned source of supply contains all information (such as vendor and price) that the system requires to convert the purchase order. How the purchase requisition item is created and how the source of supply is assigned are not important for conversion into a purchase order.

The SAP system can execute both the program for the automatic conversion of purchase requisitions into purchase orders and the program for the planning run in the background. If you execute both programs one after the other, this results in a completely automatic conversion of a requirement (a shortage) into a purchase order.

To execute the program online, from the *Purchasing* menu, choose *Purchase Order* → *Create* → *Automatically via Purchase Requisitions* or *Purchase Requisition* → *Follow-On Functions* → *Create Purchase Order* → *Automatically via Purchase Requisitions*.

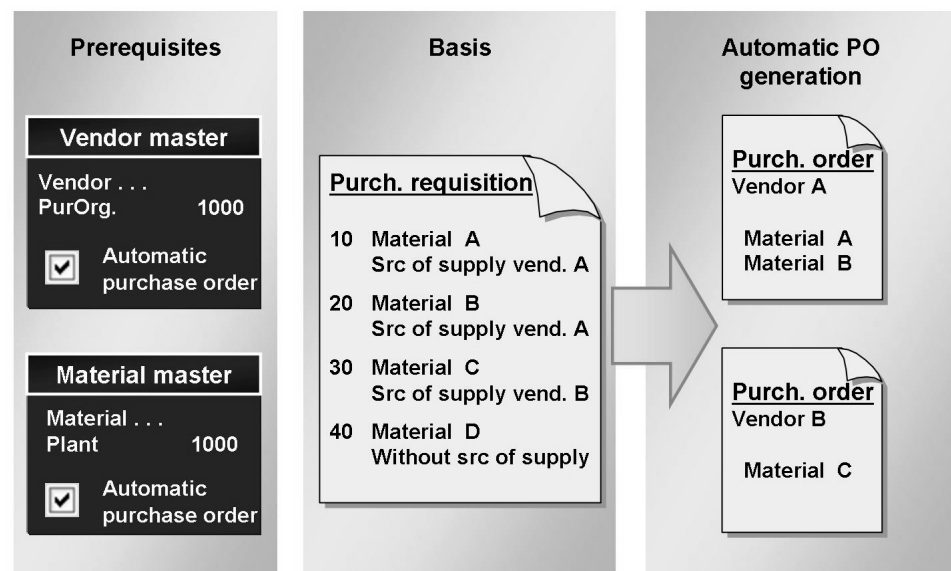


Figure 220: Automatic Generation of Purchase Orders

For the automatic conversion of purchase requisitions into purchase orders, the following prerequisites must have been fulfilled:

- In the material master record, the *Automatic PO* indicator must be set (Purchasing data).
- In the vendor master record, the *Automatic PO* indicator must be set.
- The purchase requisition item must have a valid source of supply assigned to it.

You can select the purchase requisition items to be converted according to several criteria, such as the purchasing group, the purchasing organization, the MRP controller and the vendor. You can also decide that the system is to create release orders for contracts. During selection, purchase requisition items with assigned contracts are also taken into consideration.

Decide how the system groups the purchase requisition items into purchase orders. You can specify, for example, that a new purchase order is created for each purchasing group, plant, or delivery date.

Items with Errors

If an item in a purchase requisition contains errors, it cannot be converted into a purchase order. An item has errors if the master data is wrong or incomplete, if, for example, the vendor is blocked for Purchasing. Input data can also be missing, for example, the account assignment from the account assignment category Unknown field or the tax code for the evaluated receipt settlement.

Before you execute the automatic generation of a purchase order, determine whether or not incorrect items have been left out during conversion.

- **Exclude items with errors**

The system creates purchase orders from all correct purchase requisition items, according to your requirements. You can see the errors in a log and process the incorrect items again.

- **Do not exclude items with errors**

The system creates all purchase orders that can be created by grouping together correct purchase requisition items only, according to your requirements.

All other purchase requisition items are not converted. If, for example, the system were to group together ten purchase requirement items into one purchase order and one of these items had errors, the purchase order would not be created. None of the ten items are then ordered. This is useful if the contents of the purchase requisition items should also be in the purchase order.



Demonstration: Automatic Generation of Purchase Orders

Purpose

(Duration approx. 5 minutes)

Conversion of the purchase requisition into a purchase order

CATT: ZT_SCM500

System Data



System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor
Set up instructions:




Caution: A prerequisite for this demo is the execution of the demo from the “Materials Planning” and “Contract and Source of Supply Determination” lessons, and the demos already shown in this lesson.

1. Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Automatically via Purchase Requisitions (transaction ME59)*.
2. Enter the following data in the selection screen:

Field name	Entry
Purchasing group	T00
Vendor	T-K500C00
Plant	1000
Detailed log	✓
Set purchase requisitions to closed	1

3. Choose  *Execute* to start the program.
 When the function is complete, the system issues the message, “Purchase order 45000xxxxx created.”
4. Display the stock/requirements list for material **T-M500D00** and plant **1000** again.
 Choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Reporting* → *Stock/Requirements List (transaction MD04)*.
 Instead of MRP element PurRqs, now element POitem (purchase order) is displayed.
5. Select the MRP element **POitem** and choose  *Display element* to branch to the purchase order.

Show the individual fields in the *Item overview* that show that the purchase order was created with reference to the purchase requisitions and a release order is the contract.

6. In the purchase order under the item details, choose the *Invoice* tab, and show that the indicators were copied from the contract to the purchase order.
7. Choose  *Back* until you can see the current stock/requirements list again.

Evaluated Receipt Settlement



Explain the function of the evaluated receipt settlement, and name the prerequisites.

During the evaluated receipt settlement, you agree with the vendors that this does not create an invoice for an ordering transaction. Instead, the SAP system automatically creates the corresponding invoice for the goods recipient. In evaluated receipt settlement, this invoice represents a credit memo for the vendor. The vendor is informed with a message (credit memo) about the settlement of the deliveries.



Hint: The evaluated receipt settlement is also indicated as credit memo procedure or as evaluated receipt settlement (ERS) procedure.

The ERS procedure has the following advantages:

- Ordering transactions are completed more quickly.
- Entry errors are avoided.
- Quantity and price variances do not occur in invoice verification.

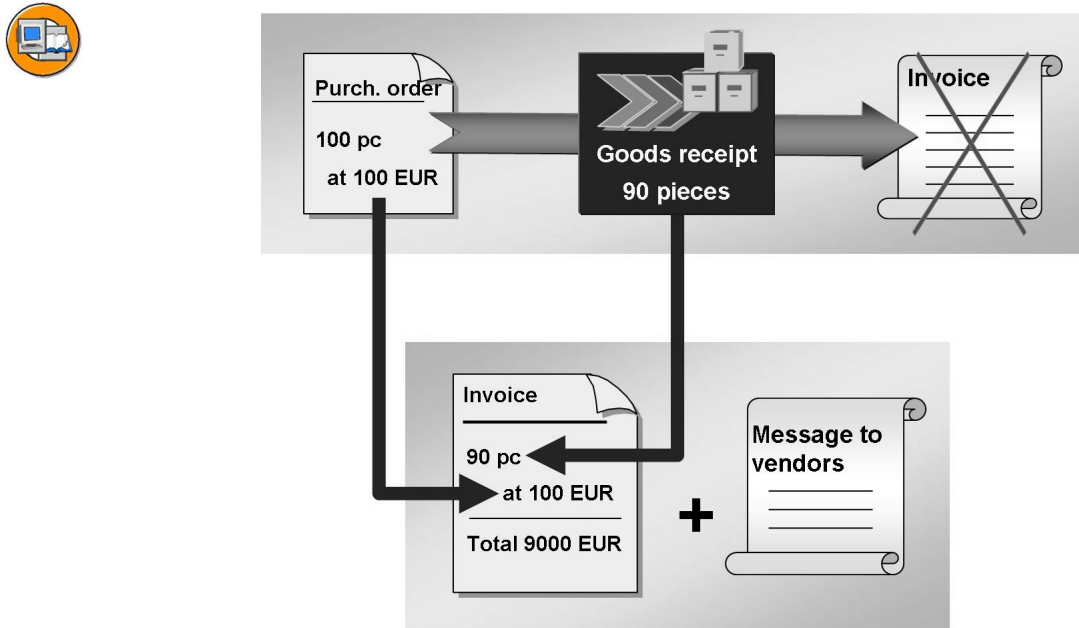


Figure 221: Evaluated Receipt Settlement

The basis for creating the invoice is the data from the purchase order and from the relevant goods receipts. The system determines the amount invoiced for this purchase order from the order prices in the PO, the payment conditions, tax information, the delivery quantities entered in the goods receipts, and the amount to be paid to the vendors for this purchase order transaction.

If you use the ERS procedure, the conditions arranged with the vendor must be clear and you have to continuously update the purchase orders in the system.

If you have already returned settled goods to the vendor, then the ERS creates a credit memo with the value of the returned quantity.



Caution: Up to and including the *SAP ERP Central Component 5.0 (SAP ECC 5.0)*, planned delivery costs cannot be calculated via the ERS procedure.

Prerequisites for Evaluated Receipt Settlement

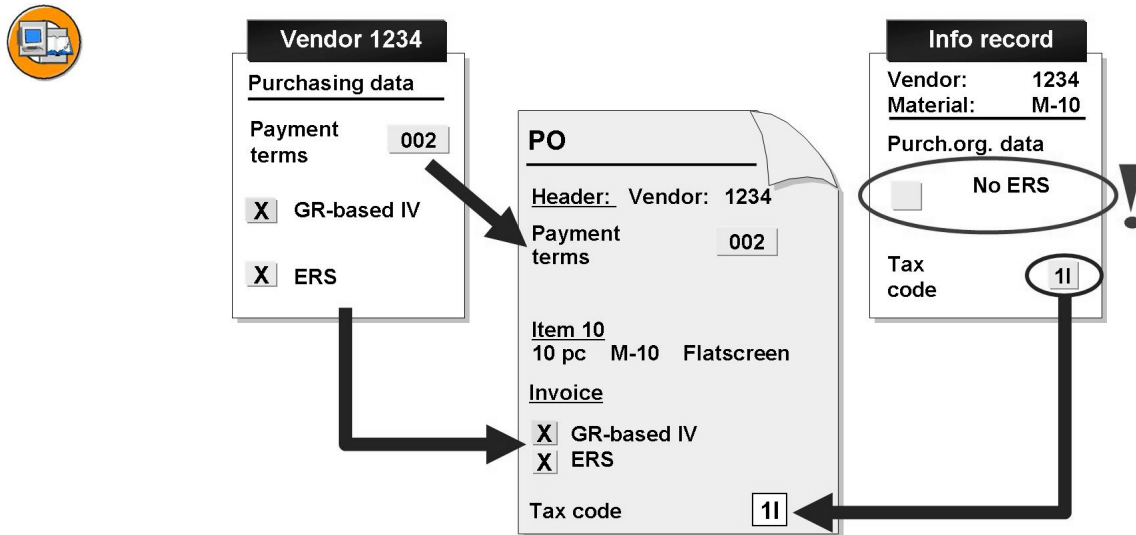


Figure 222: Evaluated Receipt Settlement: Prerequisites

To enable you to settle goods receipts for a vendor automatically, the following prerequisites must be met.

- The indicator for the automatic settlement of goods received (ERS) must be set in the vendor master record.
- A payment conditions key, the base date of which is set in Customizing, must be entered in the header data for the purchase order (*Delivery/Invoice*). A corresponding default value for the terms of payment can be defined in the vendor master record in the purchasing organization data.
- The following indicators must be set in the purchase order item:
 1. The indicator for automatic evaluated receipt settlement (this indicator is only proposed in the purchase order item if it has been set in the vendor master record).
 2. The indicator for goods receipt-based invoice verification (this indicator can be proposed from the purchasing organization data of the vendor master record or from the information record for vendor/material/purchasing organization).
 3. The tax code (this tax code can, for example, be defined in the information record for vendor/material/purchasing organization or it can be transferred from the contract item during contract releases).
- The price in the purchase order item must not be estimated. The *Estimated price* indicator is in the purchase order in the item details on the *Condition control* tab.
- You must enter the goods receipt with reference to the purchase order.
- In the Purchasing info record for the vendor and material, make sure that the *No ERS* indicator is not set. If you do set this indicator in the info record, you will prevent the evaluated receipt settlement for the material at this vendor.

To calculate delivery costs automatically, you must additionally activate this in the Customizing for Materials Management under *Logistics Invoice Verification* → *Automatic Evaluated Receipt Settlement (ERS)* → *Determine Automatic Calculation of Planned Delivery Costs* for the combination of company code, purchasing organization and vendor.

Executing the Evaluated Receipt Settlement

To execute the evaluated receipt settlement online, from the *Logistics Invoice Verification* menu, choose *Automatic Settlement* → *Evaluated Receipt Settlement*. On the initial screen, you must first specify which operations the system is to settle. To select these operations, the following selection values are available:

- Company code
- Plant
- Posting date of goods receipt
- Goods receipt document
- Fiscal year of goods receipt
- Vendor
- Purchasing doc.
- Purchasing document item



Hint: If you want to calculate the delivered materials and planned delivery costs in one step, then selection values specific to goods receipt (such as a goods receipt document) are not allowed since an **GR-based invoice verification** is not possible for planned delivery costs.

If only the materials are to be calculated, then this restriction does not apply.

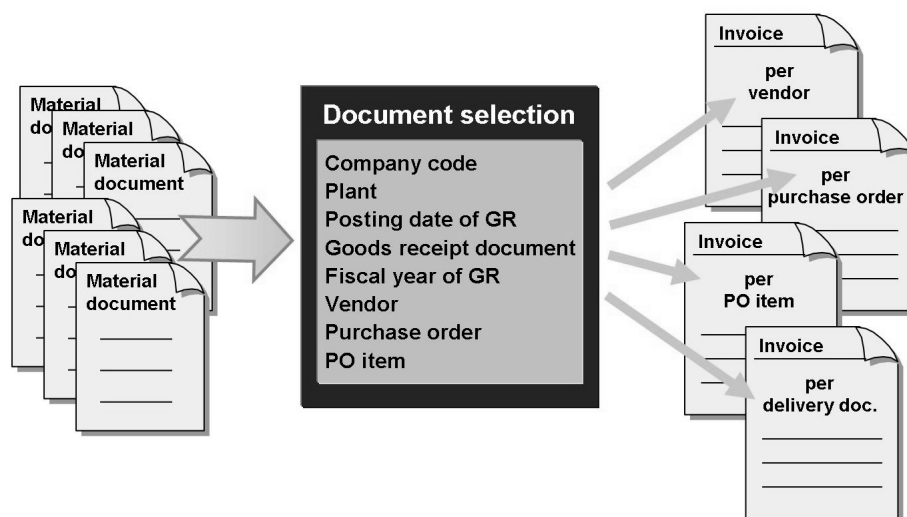


Figure 223: ERS Procedure: Execution

You must also specify the selection that the system uses to create the invoice documents:

- delivery
- purchase order
- order item
- per delivery document or service entry sheet



Hint: If you want to calculate materials and planned delivery costs in one step, then a document selection per delivery document is not possible. The reason for this is that an **GR-based** invoice verification for planned delivery costs is not possible.

You can carry out a test run before you carry out an actual settlement. The result of the settlement is stored in a log informing you which transactions were settled and which were not.

You can also run the evaluated receipt settlement in the background. The program RMMR1MRS is used for this or, specifically for calculating delivery costs, program RMMR1MDC is used.



Demonstration: Goods Receipt and Evaluated Receipt Settlement

Purpose

(Duration approx. 5 minutes)

Automatic settlement of delivered goods.

CATT: ZT_SCM500

System Data

System: Training System
Client: 8xx
User ID: Own or SCM500-00
Password: Ask the instructor

Set up instructions:



Caution: A prerequisite for this demo is the execution of the demo from the “Materials Planning” and “Contract and Source of Supply Determination” lessons, and the demos already shown in this lesson.

1. Show a demo according to the entries from **task 2** (Goods receipt and evaluated receipt settlement) from the exercise. Use the data with group number ## = 00.
-



581

Exercise 27: Automated Procurement Process

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Execute a manual individual planning run
- Convert purchase requisitions into purchase orders automatically
- Settle goods receipts automatically

Business Example

Automatic requirements planning determines the demands of your material and assigns, where possible, a source of supply to it. Purchasing automatically creates purchase orders from these purchase requisitions. You do not need to enter invoices manually because you have agreed on ERS with your vendor.

System Data

System:	Training System
Client:	8xx
User ID:	SCM500-##
Password:	The password set by the participant
CATT:	ZT_SCM500
Set up instructions:	



Caution: You can carry out this exercise only when you have already completed the exercises from the “Material Requirements Planning” and “Contract and Source Determination” lessons.

Task 1: Automatic Determination of Requirements and Automatic Generation of Purchase Orders

You determine the requirement for the ball bearing T-M500D## using MRP and then immediately convert the created purchase requisition into a purchase order. To check the effects of these activities on the availability of the material, you view the current stock/requirements list.

1. Display stock/requirements list

You require information on the availability of material **T-M500D##**. Call the requirements/stock list for this material in plant 1000 and answer the following questions. Enter the answers in the table:

Continued on next page

Which MRP elements are displayed for this material and what is the available stock level?

Which MRP type is set for the material?

What is the reorder point?

What is the lot size procured?



Hint: MRP type, reorder point and lot size are in the header of the stock/requirements list.

Field Name	Entry
MRP element	
Available quantity	
MRP type	
Reorder point	
MRP lot size	
(Fixed) lot size	

2. **Carry out a single-item planning run.**

Carry out a one-step, single-item planning run for this material for plant 1000 as a net change planning run using processing key NETCH. You want to create purchase requisitions. You also want to create an MRP list to document the result. Do not display the result.

3. **Display stock/requirements list**

Display the stock/requirements list for the material in plant 1000 again. Which MRP element is also displayed in the list?

Branch to the MRP element and make entries in the following table.

Field Name	Entry
Quantity	
Delivery date	
Fixed vendor	

4. **Create a purchase order automatically,**

Continued on next page

Carry out the function for automatically creating a purchase order for this purchase requisition online. Select the purchase requisitions for your purchasing group **T##** that have been assigned to vendor **T-K500C##** in plant **1000**. You require a detailed protocol with all messages. Converted purchase requisitions should also always be marked as set.



Hint: You can find the function for the automatic creation of purchase orders in the *Purchasing* menu under *Purchase Order* → *Create* → *Automatically via Purchase Requisition*.

What message does the system display when the function is complete?

5. Display stock/requirements list

Display the stock/requirements list for the material in plant 1000 again. How has the available stock changed? Which procurement proposals does the system suggest?

Display the purchase order and make entries in the following table.

Field Name	Entry
Order quantity	
Net price	
outline agreement	
Outline agreement item	
Tax code	
GR-based IV	
ERS	

Task 2: Goods Receipt and Evaluated Receipt Settlement

The ordered ball bearing **T-M500D##** has been delivered and you enter the goods receipt. Directly after that, you automatically settle the delivery.

1. Enter the goods receipt.

The vendor **T-K500C##** sends you the ordered material **T-M500D##** according to the purchase order. Enter the goods receipt in storage location 0001 in plant 1000.

Continued on next page

Material document number: _____

2. **Display the stock/requirements list.**

Finally, check again the available stock for material T-M500D## in plant 1000. What is the actual available quantity and which MRP elements does the list still contain?

3. **Settle a goods receipt automatically.**

Settle the goods receipts you entered today and yesterday for creditor **H.A.G. Potsdam Gr.##** (T-K500C##) in company code **1000**. You should create a separate invoice for each order item. Use the test mode first to make sure that you have selected the correct goods receipts. Then execute automatic settlement and note the document number.

Invoice document: _____



Hint: Do not leave the list when this task is finished.

4. **Display the invoice document.**

Display the invoice document and the corresponding accounting document. Make a note of the vendor account number and the amount in liabilities incurred toward the vendor.

Account number: _____

Amount: _____

5. **Display the purchase order**

Finally, check the purchase order history of the order item. What transactions are listed in the purchase order history?

Solution 27: Automated Procurement Process

Task 1: Automatic Determination of Requirements and Automatic Generation of Purchase Orders

You determine the requirement for the ball bearing T-M500D## using MRP and then immediately convert the created purchase requisition into a purchase order. To check the effects of these activities on the availability of the material, you view the current stock/requirements list.

1. Display stock/requirements list

You require information on the availability of material **T-M500D##**. Call the requirements/stock list for this material in plant 1000 and answer the following questions. Enter the answers in the table:

Which MRP elements are displayed for this material and what is the available stock level?

Which MRP type is set for the material?

What is the reorder point?

What is the lot size procured?




Hint: MRP type, reorder point and lot size are in the header of the stock/requirements list.

Field Name	Entry
MRP element	<u>Stock</u>
Available quantity	<u>0</u>
MRP type	<u>VB</u>

Continued on next page

Field Name	Entry
Reorder point	<u>100</u>
MRP lot size	<u>FX</u>
(Fixed) lot size	<u>300</u>

- a) Choose *Logistics* → *Materials Management* → *Material Requirements* → *Requirements Planning* → *Valuations* → *Requirements/Stock List* (transaction MD04).
- b) On the *individual access* tab page enter **T-M500D##** for the *material* and **1000** for the *plant*.
Choose *Enter* to confirm your entries.
- c) Only the MRP element *W-BEST* is displayed.
- d) The MRP type is in the closed header data of the stock/requirements list. To determine the reorder point and the lot size, open the header details.
Choose  *Expand Header Details*.

2. **Carry out a single-item planning run.**

Continued on next page

Carry out a one-step, single-item planning run for this material for plant 1000 as a net change planning run using processing key NETCH. You want to create purchase requisitions. You also want to create an MRP list to document the result. Do not display the result.

- a) Choose *Logistics* → *Materials Management* → *Material Requirements* → *Requirements Planning* → *Planning* → *Single item, single-level* (transaction MD03).
- b) Enter the following data:

Field Name	Entry
Material	T-M500D##
Plant	1000
Processing key	NETCH
Create purchase requisition	1
Create MRP list	1
Display the results before you save.	>No entry>

- c) Confirm your entries twice with *Enter* to execute the planning run.

3. Display stock/requirements list


Display the stock/requirements list for the material in plant 1000 again. Which MRP element is also displayed in the list?

Branch to the MRP element and make entries in the following table.

Continued on next page



Field Name	Entry
Quantity	300 (pieces)
Delivery date	<Today's date + planned delivery time + processing time for purchasing>
Fixed vendor	T-K500C##

- a) Choose *Logistics* → *Materials Management* → *Material Requirements* → *Requirements Planning* → *Valuations* → *Requirements/Stock List (MD04)*.
- b) On the *individual access* tab page enter **T-M500D##** for the *material* and **1000** for the *plant*.
Choose *Enter* to confirm your entries.
- c) A second MRP element, *PurRqs*, is displayed in the list. This is a purchase requisition of 300 pieces of material T-M500D##.
- d) Position the cursor on the MRP element and choose  *Display Element* below the list. The purchase requisition is displayed.
The *fixed vendor* is in the item details on the *Source of supply* tab.

4. Create a purchase order automatically,

Carry out the function for automatically creating a purchase order for this purchase requisition online. Select the purchase requisitions for your purchasing group **T##** that have been assigned to vendor **T-K500C##** in plant **1000**. You require a detailed protocol with all messages. Converted purchase requisitions should also always be marked as set.




Hint: You can find the function for the automatic creation of purchase orders in the *Purchasing* menu under *Purchase Order* → *Create* → *Automatically via Purchase Requisition*.

What message does the system display when the function is complete?

Continued on next page

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Automatically via Purchase Requisition (ME59N)*.
- b) Enter the following data in the selection screen:

Field Name	Entry
Purchasing group	T##
Vendor	T-K500C##
Plant	1000
Detailed log	2
Set purchase requisitions to closed	2

- c) Choose  *Execute* to start the program.
- d) After the function is completed, the following messages appear: “Purchase Order Created Successfully”, “Purchase Requisition Converted Successfully”.

5. Display stock/requirements list


Display the stock/requirements list for the material in plant 1000 again. How has the available stock changed? Which procurement proposals does the system suggest?

Display the purchase order and make entries in the following table.

Field Name	Entry
Order quantity	<u>300 (pieces)</u>
Net price	<u>10,00</u>
outline agreement	<u><Number of your contract></u>
Outline agreement item	<u>10</u>

Continued on next page

Field Name	Entry
Tax code	1I (10%)
GR-based IV	✓
ERS	✓

- a) Choose *Logistics* → *Materials Management* → *Material Requirements* → *Requirements Planning* → *Valuations* → *Requirements/Stock List (MD04)*.
- b) On the *individual access* tab page enter **T-M500D##** for the *material* and **1000** for the *plant*.
Choose *Enter* to confirm your entries.
- c) As a result of the automatic conversion of the purchase requisition into a purchase order, MRP element *PurRqs* is no longer displayed, instead *POitem* is displayed for the purchase order.
- d) Position the cursor on the MRP element and choose  *Display Element* below the list. The purchase order is displayed.

In the item overview, you can find the details for quantity, net price, outline agreement, and outline item. The indicator (control indicator, GR-Based Inv. Verif., ERS) is in the item detail data on the *Invoice* tab.

Task 2: Goods Receipt and Evaluated Receipt Settlement

The ordered ball bearing T-M500D## has been delivered and you enter the goods receipt. Directly after that, you automatically settle the delivery.



1. Enter the goods receipt.


The vendor **T-K500C##** sends you the ordered material **T-M500D##** according to the purchase order. Enter the goods receipt in storage location 0001 in plant 1000.

Continued on next page

Material document number: _____

- a) Choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Movement (MIGO)*.
- b) Choose transaction *Goods Receipt* and reference *Purchase Order*.
- c) Enter movement type **101** and confirm your entries with *Enter*.
- d) Enter the purchase order number from exercise 1.4 and confirm your entries with *Enter*.

You can also search for the purchase order. Choose  *Search for PO* and enter vendor **T-K500C##** and material **T-M500D##**. Choose  *Find* to start the search. Double-click in the search result on the purchase order to copy the data.

- e) Set the *OK* indicator and enter storage location **0001** in the item.
- f) Choose  with the quick info text *Post*.

2. Display the stock/requirements list.

Finally, check again the available stock for material T-M500D## in plant 1000. What is the actual available quantity and which MRP elements does the list still contain?

- a) Choose *Logistics* → *Materials Management* → *Material Requirements Planning (MRP)* → *MRP* → *Reporting* → *Stock/Requirements List (MD04)*.
- b) On the *Individual Access* tab page enter *Material T-M500D##* and *Plant 1000*.
Confirm your entries with *Enter*.
- c) Only MRP element *Stock* is still displayed in the list. The available stock is 300 pieces.

3. Settle a goods receipt automatically.

Settle the goods receipts you entered today and yesterday for creditor **H.A.G. Potsdam Gr.##** (T-K500C##) in company code **1000**. You should create a separate invoice for each order item. Use the test mode first to make sure that you have selected the correct goods receipts. Then execute automatic settlement and note the document number.

Continued on next page




Invoice document: _____



Hint: Do not leave the list when this task is finished.

- a) Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Automatic Settlement* → *Evaluated Receipt Settlement (ERS) (MRRL)*.
- b) Enter the following data on the initial screen.

Field Name	Entry
Company code	1000
GR posting date	<yesterday> to <today>
Vendor	T-K500C##
Doc. selection	3
Test run	✓

- c) Choose  with the quick info text *Execute*.
An item is selected for settlement. From the overview, you can see that the item can be posted.
- d) Choose  *Back* to return to the initial screen.
- e) Deselect the *Test run* indicator.
- f) Choose  *Execute* to execute the settlement.

4. Display the invoice document.

Display the invoice document and the corresponding accounting document. Make a note of the vendor account number and the amount in liabilities incurred toward the vendor.

Account number: _____

Continued on next page

Amount: _____

- a) If you still have the result list of the ERS displayed, you can click on the document numbers (*DocNo* and *FI Document* fields) to display the invoice document and the accounting document.

Account number: T-K500C##

Amount: 3300 EUR


- b) Alternatively:

Choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* → *Display Invoice Document (MIR4)*.

Enter the invoice number from an earlier task and the document year, and confirm your entry with *Enter*. Choose *Follow-on documents ...* to display the accounting document.

5. Display the purchase order

Finally, check the purchase order history of the order item. What transactions are listed in the purchase order history?

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Display (ME23N)*.
- b) Choose  *Other purchase order* and enter the purchase order number from an earlier task. Choose *Other document*.
- c) Choose the *PO history* tab page in the item detail data.

The purchase order history lists the goods receipt document and the invoice verification document from the ERS settlement.



Lesson Summary

You should now be able to:

- Start an individual planning run and evaluate the result
- List the prerequisites for automatic purchase order generation.
- Create purchase orders automatically
- List the prerequisites for the evaluated receipt settlement
- Settle goods receipts automatically



Unit Summary

You should now be able to:

- Explain the principle of manual reorder point planning
- Maintain the data necessary for manual reorder point planning in the material master record
- Name and explain simple static lot-sizing procedures
- Use the current stock/requirements list (transaction MD04)
- Provide an overview of sources of supply in purchasing
- Create a contract
- Maintain a source list for a material
- Start an individual planning run and evaluate the result
- List the prerequisites for automatic purchase order generation.
- Create purchase orders automatically
- List the prerequisites for the evaluated receipt settlement
- Settle goods receipts automatically



Test Your Knowledge

1. Which of the following data must be specified in the material master record if the material is to be planned with the manual reorder point planning procedure?

Choose the correct answer(s).

- A MRP type VB
- B Purchasing group
- C MRP controller
- D Safety stock
- E Lot size FX
- F Reorder point
- G Planned delivery time
- H Planning cycle

2. The basis of manual reorder point planning is the comparison of the existing _____ stock with the _____ point. The _____ point is determined _____ by the MRP controllers. If the available _____ stock is less than the _____ point, then _____ is triggered.

Fill in the blanks to complete the sentence.

3. Name and briefly describe two static lot-sizing procedures.

4. The MRP list is a dynamic list that displays the currently valid stock/requirements situation of a material.

Determine whether this statement is true or false.

- True
- False

5. Which of the objects listed below are a source of supply in the *SAP ERP Central Component*?

Choose the correct answer(s).

- A Plant
- B Purchasing info record
- C Contract
- D Release order
- E Scheduling agreement
- F Source list

6. Which of the following data must you specify when creating a quantity contract?

Choose the correct answer(s).

- A Vendor
- B Material
- C Total value
- D Tax code
- E Agreement type MK
- F Delivery date
- G Plant
- H Price
- I Purchasing organization
- J Release documentation
- K Total quantity
- L Validity period

7. List different procedures for maintaining a source list.

8. Which indicator must be set in the source list for a source of supply in order for this source to be taken into account in requirements planning?

Choose the correct answer(s).

- A Deleted
- B Fixed
- C Blocked
- D MRP-relevant
- E Source list requirement

9. Name the necessary prerequisites to automatically convert a purchase requisition item into a purchase order.

10. If you automatically convert purchase requisition items into purchase orders, you can specify in the *New purchase order* area how the system groups the purchase requisition items into purchase orders. For example, you can choose between the following settings:

Choose the correct answer(s).

- A per purchasing group
 - B per delivery date
 - C per vendor
 - D per account assignment category
 - E per plant
 - F per purchasing organization
 - G per storage location
 - H per source of supply
11. Invoices that were created by evaluated receipt settlement are generally blocked for payment and are released automatically when the message is issued.

Determine whether this statement is true or false.

- True
- False

12. For the evaluated receipt settlement, the following prerequisites must be fulfilled:

Choose the correct answer(s).

- A The purchase order must be created automatically.
- B In the vendor master record, the *ERS delivery* indicator must be set.
- C In the purchase order, the *ERS* indicator must be set.
- D In the order item, a tax code must be specified.
- E Freight conditions cannot be included in the PO price.
- F In the vendor master record, the *GR-based IV* indicator must be set.
- G In the purchase order item, the *GR-based IV* indicator must be set.
- H The evaluated receipt settlement cannot be excluded for the material and vendor in the info record.



Answers

1. Which of the following data must be specified in the material master record if the material is to be planned with the manual reorder point planning procedure?

Answer: A, C, F, G

For B: A purchasing group is relevant only for externally procured material and is entered in the purchasing data.

For D: The specification of the safety stock is useful, but not necessary.

For E: You must specify a lot-sizing procedure, but it does not have to be the fixed lot size procedure (FX).

For H: Requirements planning for material that is planned with the reorder point planning procedure takes place if the reorder point is fallen short of, not according to a specific rhythm.

2. The basis of manual reorder point planning is the comparison of the existing warehouse stock with the reorder point. The reorder point is determined manually by the MRP controllers. If the available warehouse stock is less than the reorder point, then procurement is triggered.

Answer: warehouse, reorder, reorder, manually, warehouse, reorder, procurement

3. Name and briefly describe two static lot-sizing procedures.

Answer: Lot-for-lot order quantity: If you have specified that the lot-for-lot order quantity is to be used, the system uses this as the order quantity if there is a material shortfall.

Fixed lot size: If you have specified that the fixed lot size is to be used, the system uses the fixed lot size as the order quantity if there is a material shortfall. If this order quantity is not sufficient to cover the shortage, the system generates several order proposals for the same date until the shortage is covered.

Replenish up to maximum stock level: If you have specified that the order quantity replenishment up to maximum stock level is to be used, the system creates an order proposal for the quantity that is required to reach the maximum stock level defined in the material master record.

4. The MRP list is a dynamic list that displays the currently valid stock/requirements situation of a material.

Answer: False

The list described above is not an MRP list, but the current stock/requirements list. The MRP list is a static list that shows only the result of the last planning run.

5. Which of the objects listed below are a source of supply in the *SAP ERP Central Component*?

Answer: A, B, C, E

Note on A: In the context of stock transfers, the plant is a source of supply.

Note on D: If the source of supply is a contract, you create a release order.

Note on F: The source list is a list of possible and blocked sources of supply.

6. Which of the following data must you specify when creating a quantity contract?

Answer: A, B, E, H, I, K, L

For a quantity contract, you must maintain the following header data: vendor, agreement type MK, purchasing organization, and validity period.

For the individual contract items, you need data on the material, quantity, and price. It is possible, but not necessary, to specify the plant. If no plant is specified, a centrally agreed contract is involved.

7. List different procedures for maintaining a source list.

Answer:

- Manually, per material and plant
- Automatically by the system, per material and plant or for several materials and plants
- When creating or changing an outline agreement or a purchasing info record, per material and plant

8. Which indicator must be set in the source list for a source of supply in order for this source to be taken into account in requirements planning?

Answer: D

9. Name the necessary prerequisites to automatically convert a purchase requisition item into a purchase order.

Answer:

- The purchase requisition item must have a valid source of supply assigned to it.
 - In the material master record, the *Automatic PO* indicator must be set.
 - In the vendor master record, the *Automatic PO* indicator must be set.
 - During the conversion, no additional entries are necessary, such as the tax code for the evaluated receipt settlement or entries for the account assignment for account assignment category U in the purchase requisition item.
10. If you automatically convert purchase requisition items into purchase orders, you can specify in the *New purchase order* area how the system groups the purchase requisition items into purchase orders. For example, you can choose between the following settings:

Answer: A, B, E, G

The following options complete the list above: per vendor subrange, per purchase requisition, per item category, per purchase requisition item, per company code.

Selection per vendor and per purchasing organization is not available because a purchase order always refers to just one vendor and one purchasing organization.

11. Invoices that were created by evaluated receipt settlement are generally blocked for payment and are released automatically when the message is issued.

Answer: False

Invoices that were created with the ERS procedure are not blocked for payment.

12. For the evaluated receipt settlement, the following prerequisites must be fulfilled:

Answer: B, C, D, G, H

For A: The process of purchase order creation is not important for evaluated receipt settlement.

For B+C: The indicator can be set in a purchasing document only if it is also set in the vendor master record.

For E: Freight conditions are allowed, but cannot be settled with ERS.

For F+G: The *GR-based Invoice Verification* indicator can always be set in a PO item. If it is set in the vendor master record, then it is set as the default value in the PO item.



Course Summary

You should now be able to:

- Create, change and display material master records and vendor master records
- Create, change, and display purchase requisitions, requests for quotations, contracts, and purchase orders
- Enter goods receipts and incoming invoices and display and analyze the documents generated when they are posted
- Distinguish between material valuation according to the moving average price procedure and valuation according to the standard price procedure
- Describe and understand the procurement process for services
- Carry out simple evaluations in the *SAP System*
- Perform and evaluate a planning run
- Describe and perform simple automation of the procurement process (optional)

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Feedback

SAP AG has made every effort in the preparation of this course to ensure the accuracy and completeness of the materials. If you have any corrections or suggestions for improvement, please record them in the appropriate place in the course evaluation.