

S4610

Delivery Processing in SAP S/4HANA

PARTICIPANT HANDBOOK INSTRUCTOR-LED TRAINING

Course Version: 23

Course Duration: 2 Day(s)

Material Number: 50161369

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Typographic Conventions

American English is the standard used in this handbook.

The following typographic conventions are also used.

This information is displayed in the instructor's presentation



Demonstration



Procedure



Warning or Caution



Hint



Related or Additional Information



Facilitated Discussion



User interface control

Example text

Window title

Example text

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Course Overview

TARGET AUDIENCE

This course is intended for the following audiences:

- Application Consultant

UNIT 1

Idea and Function of the Delivery Document

Lesson 1

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UNIT OBJECTIVES

- Describe the application areas for delivery documents
- Display a delivery document

Explaining the Concept and Structure of the Delivery Document

LESSON OVERVIEW

This lesson introduces SAP S/4HANA Logistics Execution (LE) and provides you with an overview of its delivery processes. The lesson also explains different ways in which delivery documents can be used.

Business Example

Your company creates inbound and outbound deliveries during various procurement and sales processes. The documents created for these deliveries are the basis for various goods receipt, shipping, and warehouse activities.

To process the issue of goods, the shipping employees require information, such as the weight of the goods, transportation relevance, and ship-to address.

The goods receipt includes information from suppliers about inbound deliveries. Inbound delivery activities are then processed using the inbound delivery document. If material is delivered to other plants within the company, you can also use a delivery document to process the shipping activities.

For these reasons, you require the following knowledge:

- The function and use of the delivery document
- The structure of the delivery document
- The information in the delivery document



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Describe the application areas for delivery documents
- Display a delivery document

Logistics Execution – The Goods Receipt and Goods Issue Processes

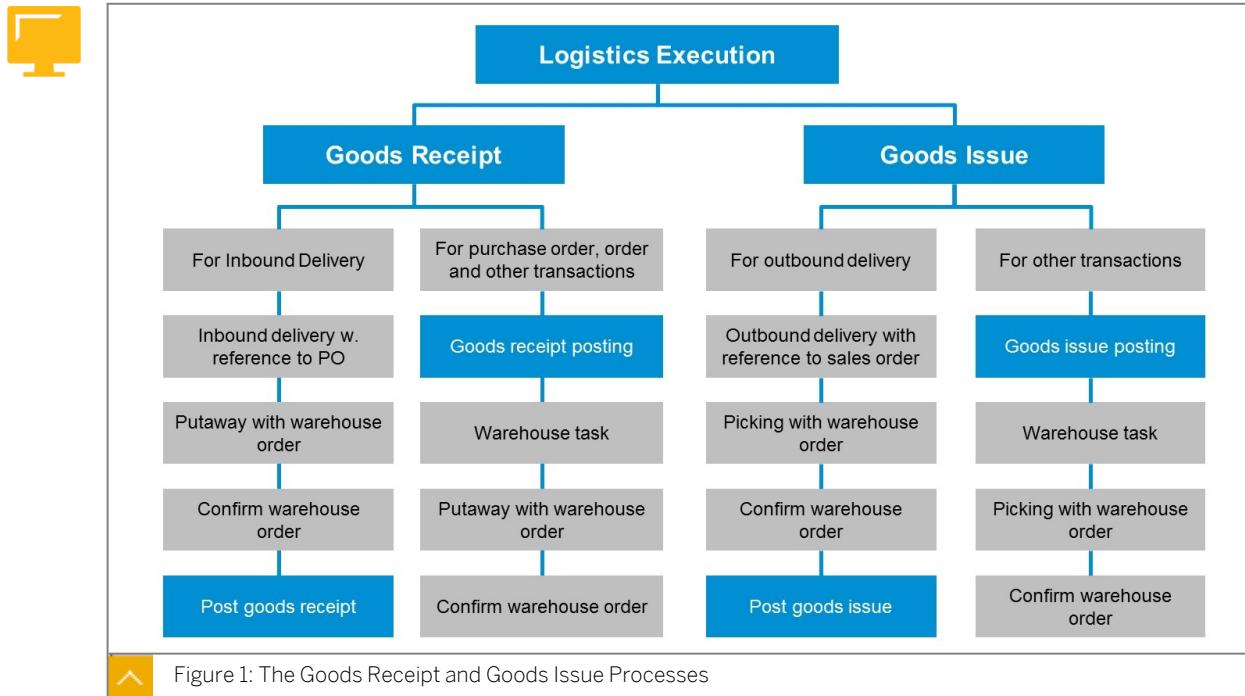


Figure 1: The Goods Receipt and Goods Issue Processes

Logistics Execution provides you with comprehensive functions required to map the implementation of all logistics processes, such as the goods receipt and goods issue processes, regardless of industry or sector.



Animation: The Goods Receipt and Goods Issue Processes

For more information on *The Goods Receipt and Goods Issue Processes*, please view the animation in the lesson *Explaining the Concept and Structure of the Delivery Document* in your online course.

Logistics Execution provides the link between procurement and distribution, irrespective of whether the processes involved are internal or relate to third parties, such as suppliers, customers, or service providers.

Materials, whether produced in-house or procured externally, are put away and removed from storage using warehouse management functions in order to supply the enterprise's own production needs and/or customer requirements. The underlying organizational structures can be complex, hence Logistics Execution uses dedicated organizational units and master data to map business scenarios accurately in SAP S/4HANA.

You can execute processes for goods receipts and goods issues in Logistics Execution by creating a delivery document or by entering an inventory management posting (usually with reference to a preceding document) at the beginning of a process.

The figure provides an overview of the document flow and technical posting procedure for a number of goods receipt and goods issue processes.

As of SAP S/4HANA 1610, SAP Extended Warehouse Management (EWM) functions are available in the core SAP S/4HANA system (as SAP S/4HANA Embedded EWM). While

legacy Warehouse Management (WM) functions remain available, future development will take place only for SAP EWM, which will eventually replace legacy WM entirely.

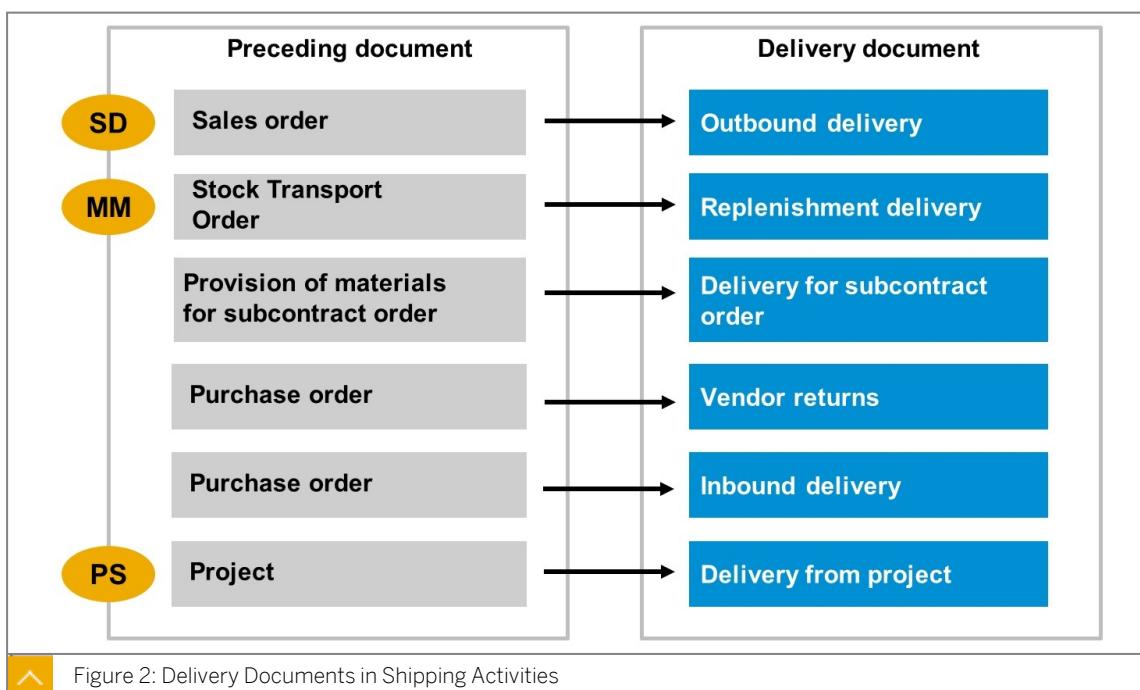
When working with deliveries, warehouse management activities, such as creating and confirming a warehouse order, are completed before a change is made to the stock level in inventory management. A goods receipt or goods issue posting always relates to a delivery.



Note:

The warehouse order is the document used to execute all material movements in the warehouse.

Delivery Documents in Shipping Activities



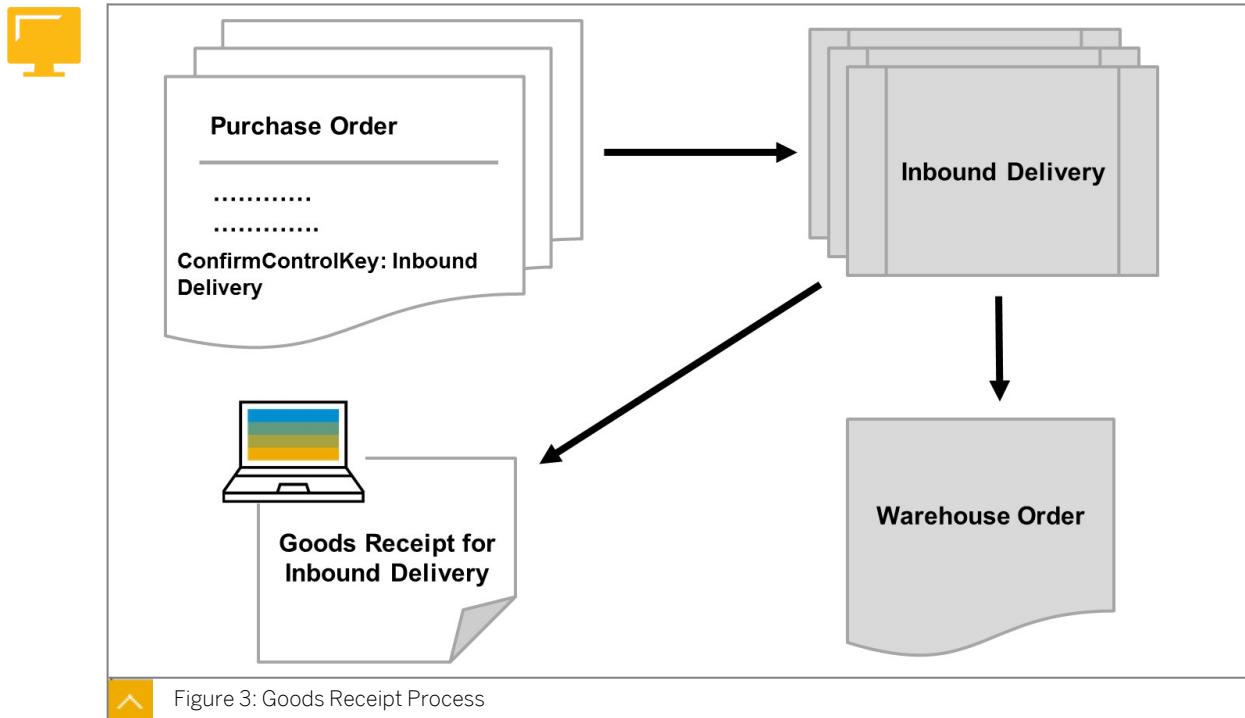
Animation: Delivery Documents in Shipping Activities

For more information on *Delivery Documents in Shipping Activities*, please view the animation in the lesson *Explaining the Concept and Structure of the Delivery Document* in your online course.

If you use additional processes for buying and selling, you may also need to perform shipping activities such as picking, packing, and printing of documentation. You can also use delivery documents to manage these processes. The different business processes are modeled using different types of delivery document.

For example, if you want to transfer stock from one plant to another, the ordering plant creates a purchase order on the supplying plant. The supplying plant then creates a delivery document with reference to this purchase order. The delivery forms the basis for picking, issuing output, and posting goods issue.

Goods Receipt Process



Animation: Goods Receipt Process

For more information on *Goods Receipt Process*, please view the animation in the lesson *Explaining the Concept and Structure of the Delivery Document* in your online course.

You can create inbound deliveries for one complete purchase order, partial quantities of purchase order items, or for a combination of several purchase orders.

The inbound delivery then serves as the basis for further activities, such as packing, placing in storage, creating the warehouse order, and posting the goods receipt.

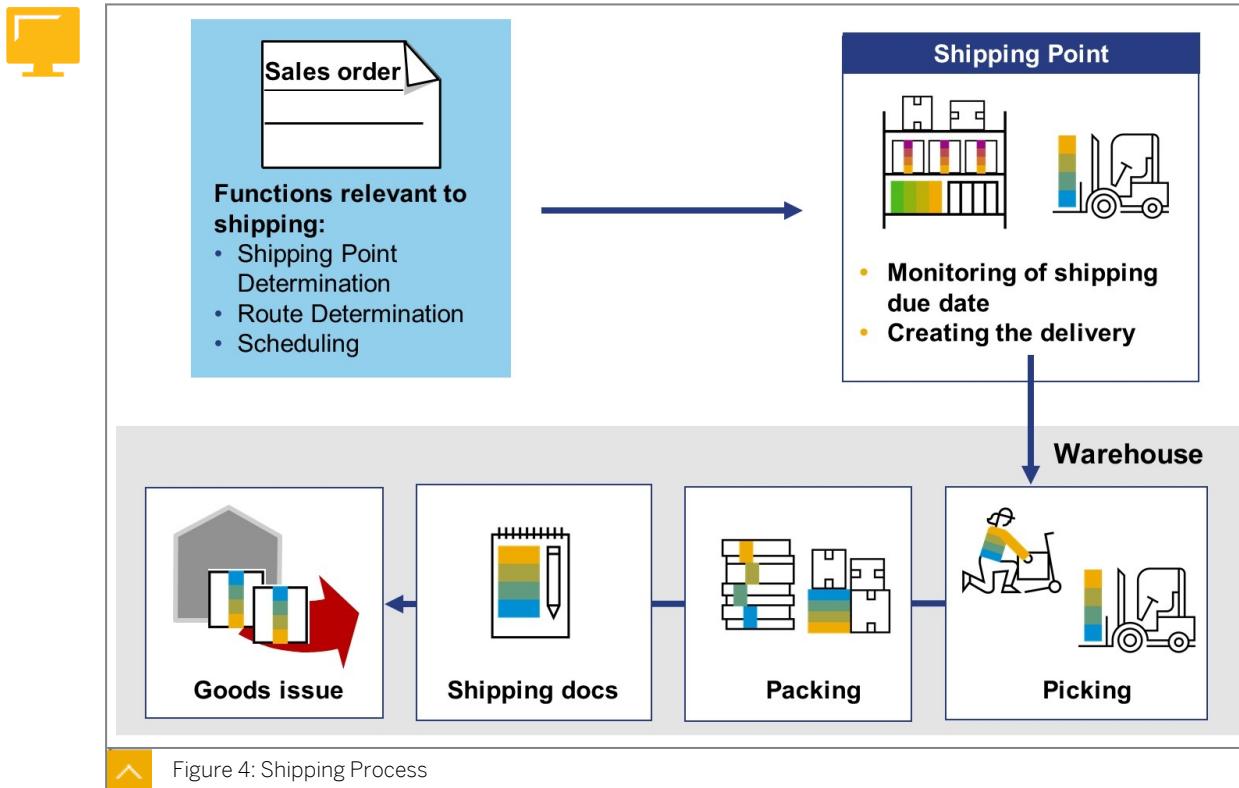
How to Use Delivery Documents Within a Goods Receipt Process



Simulation: How to Use Delivery Documents Within a Goods Receipt Process

For more information on *How to Use Delivery Documents Within a Goods Receipt Process*, please view the simulation in the lesson *Explaining the Concept and Structure of the Delivery Document* in your online course.

The Shipping Process



Animation: Shipping Process

For more information on *Shipping Process*, please view the animation in the lesson *Explaining the Concept and Structure of the Delivery Document* in your online course.

In the context of deliveries, the term shipping, or shipping process, describes the outbound movement of goods, usually with reference to a sales order. Shipping can also refer to the department responsible for the logistical aspects of delivery processing (for example, picking, packing and loading).

Because delivery documents are also used for other areas, deliveries that refer to a sales document are called outbound deliveries.

How to Use Delivery Documents Within a Sales and Distribution Process



Simulation: How to Use Delivery Documents Within a Sales and Distribution Process

For more information on *How to Use Delivery Documents Within a Sales and Distribution Process*, please view the simulation in the lesson *Explaining the Concept and Structure of the Delivery Document* in your online course.

How to Use Delivery Documents in Sales and Distribution via the SAP Fiori Launchpad



Simulation: How to Use Delivery Documents in Sales and Distribution via the SAP Fiori Launchpad

For more information on *How to Use Delivery Documents in Sales and Distribution via the SAP Fiori Launchpad*, please view the simulation in the lesson *Explaining the Concept and Structure of the Delivery Document* in your online course.

Unit 1

Exercise 1

Explain the Relevance of Shipping

Business Example

As an employee with responsibilities in shipping, you are also a member of the project team working on system implementation for shipping. Before you start configuring the system and examining the shipping processes, you need to clarify the position of shipping processing in logistics. You need to identify the individual shipping activities that you can perform in the SAP S/4HANA system.

Explain the functions and activities in shipping processing.

Shipping is an element of the components Sales and Distribution and Logistics Execution.

1. Which activities can you complete within shipping processing?
2. What is the role of the delivery document in shipping processing?
3. In the sales and distribution process, you usually create an outbound delivery document with reference to a sales order. In which other scenarios might you want to use a delivery document in shipping processing?

Unit 1

Solution 1

Explain the Relevance of Shipping

Business Example

As an employee with responsibilities in shipping, you are also a member of the project team working on system implementation for shipping. Before you start configuring the system and examining the shipping processes, you need to clarify the position of shipping processing in logistics. You need to identify the individual shipping activities that you can perform in the SAP S/4HANA system.

Explain the functions and activities in shipping processing.

Shipping is an element of the components Sales and Distribution and Logistics Execution.

1. Which activities can you complete within shipping processing?

a) The following activities can be completed within shipping processing:

- Monitoring the deadlines of reference documents due for shipping
- Creating and processing outbound deliveries
- Monitoring the capacity situation in the warehouse
- Providing support for picking
- Packing
- Printing and distributing shipping documents
- Processing the goods issue
- Controlling

2. What is the role of the delivery document in shipping processing?

a) The delivery document plays the following role in shipping processing:

- The delivery document forms the basis for all the activities in shipping processing and is used in various business transactions. The status settings in the document provide information about the progress of various steps within shipping processing.

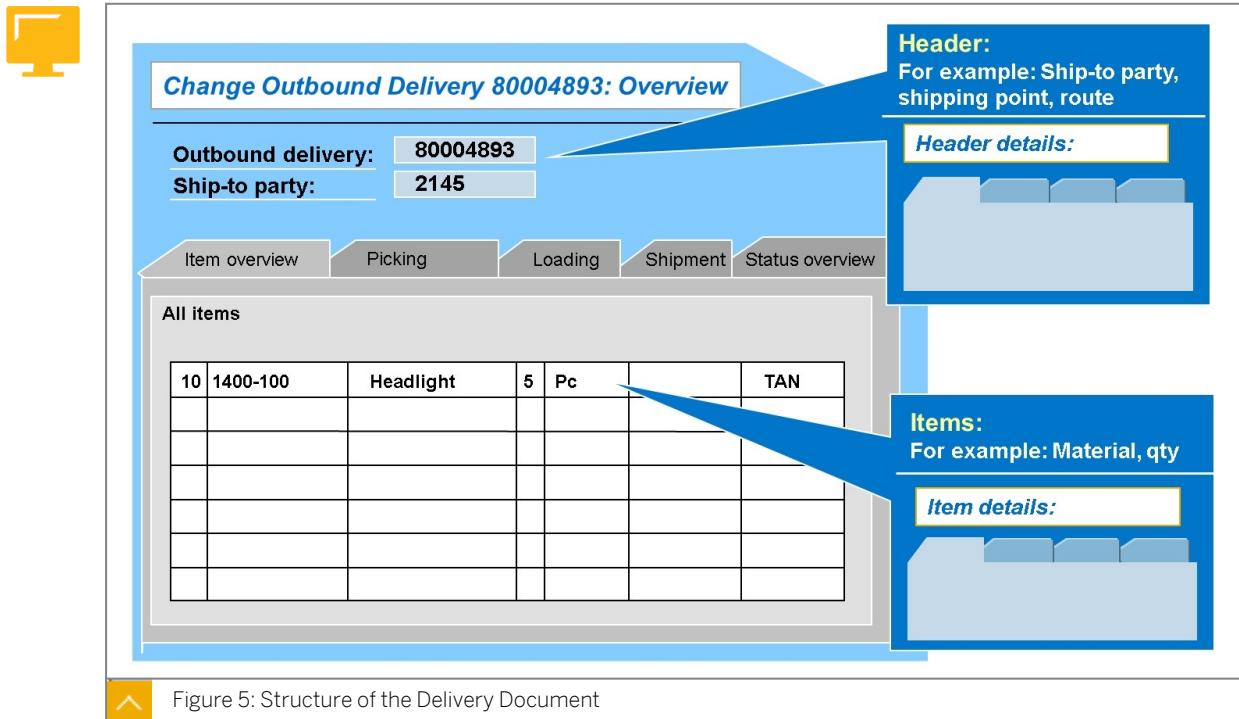
3. In the sales and distribution process, you usually create an outbound delivery document with reference to a sales order. In which other scenarios might you want to use a delivery document in shipping processing?

a) In shipping processing, you can use a delivery document in the following scenarios:

- Replenishment delivery for stock transport orders
- Delivery for subcontract orders

- Vendor returns
- Inbound delivery for purchase orders
- Delivery from project

Structure of the Delivery Document



Animation: Structure of the Delivery Document

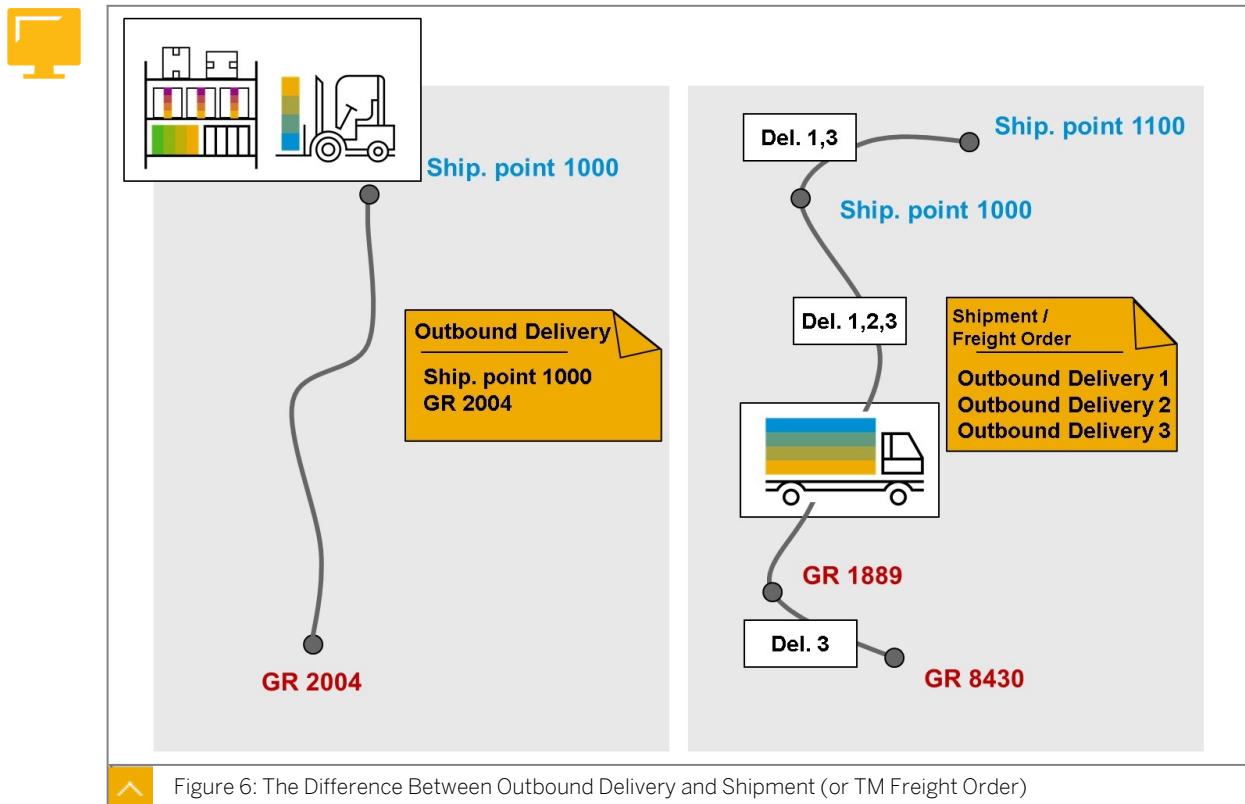
For more information on *Structure of the Delivery Document*, please view the animation in the lesson *Explaining the Concept and Structure of the Delivery Document* in your online course.

A delivery document consists of a header and a number of items. The header contains data that applies to the entire document. This means that, for example, the ship-to party, shipping point and route are clearly displayed in the header for each outbound delivery. The individual items contain information about the materials that are to be delivered.

The information in the delivery document is displayed on different screens. The overview screen displays selected header and item data. The data is grouped according to activity on tabstrips. This means that all the important data appears on one screen. You can access the other screens to display detailed information at both the header and item levels. This information is grouped into processes on tabstrips.

At the header level, this information includes data related to processing, picking, loading, shipment, foreign trade/customs, texts, partners, output, package monitoring, and conditions. At the item level, the detailed screen displays similar tabstrips with information about the items.

Differentiation Between Delivery and Shipment Documents (or TM Freight Orders)



The delivery in SAP S/4HANA supports the processing of shipping and goods receiving activities in the warehouse and at the shipping point.

The delivery itself describes a simple transportation process. This applies, for example, to shipping, where each outbound delivery starts at a shipping point, continues along a route, and has a ship-to party as its destination. These criteria are header fields in the outbound delivery.



Animation: The Difference Between Outbound Delivery and Shipment (or TM Freight Order)

For more information on *The Difference Between Outbound Delivery and Shipment (or TM Freight Order)*, please view the animation in the lesson *Explaining the Concept and Structure of the Delivery Document* in your online course.

As of SAP S/4HANA 1709, SAP Transportation Management (TM) is included in the core. It takes over the functionalities previously provided by legacy LE shipment documents.

Consider a situation in which several outbound deliveries are loaded onto a truck, and the truck delivers goods from several shipping points to several ship-to parties along a particular route. In this case, you can create a document using the transportation functionality so that outbound deliveries are grouped together on the basis of user-defined criteria, such as same route and transportation requirement. This document is the freight order in SAP Transportation Management.

Unit 1 Exercise 2

Display a Delivery Document



Simulation: Display a Delivery Document

For more information on *Display a Delivery Document*, please view the simulation in the lesson *Explaining the Concept and Structure of the Delivery Document* in your online course.

Business Example

As an employee with responsibilities in shipping, you are also a member of the project team working on system implementation for shipping. In addition to identifying the individual shipping activities you can perform in the SAP S/4HANA system, you also need to examine the structure of the delivery document and find out what information it contains.

You need to familiarize yourself with the structure of the delivery document and find information about an existing outbound delivery.

1. Find the outbound delivery that references the sales order with customer reference **S4610**.

Delivery number: _____

2. Which shipping point is processing this outbound delivery?

Shipping point: _____

3. Determine the gross weight for the second item.

Total weight: _____

4. When will the goods reach the ship-to party?

Delivery date: _____

5. Display the sales order to which this delivery refers and check its delivery status.

Delivery status: _____

6. Does the delivery status of the sales order tell you whether the goods have already left your warehouse? What is the reason for your answer?

Display a Delivery Document



Simulation: Display a Delivery Document

For more information on *Display a Delivery Document*, please view the simulation in the lesson *Explaining the Concept and Structure of the Delivery Document* in your online course.

Business Example

As an employee with responsibilities in shipping, you are also a member of the project team working on system implementation for shipping. In addition to identifying the individual shipping activities you can perform in the SAP S/4HANA system, you also need to examine the structure of the delivery document and find out what information it contains.

You need to familiarize yourself with the structure of the delivery document and find information about an existing outbound delivery.

1. Find the outbound delivery that references the sales order with customer reference **s4610**.
Delivery number: _____
 - a) Choose *Logistics* → *Sales and Distribution* → *Sales* → *Order* → *Change*.
 - b) Enter the customer reference **s4610** in the corresponding field and choose *Search*.
The system should find a document.
 - c) Choose *Enter*.
 - d) Choose *Environment* → *Display document flow*. Note the document number of the delivery.
 - e) Choose *Back*.
2. Which shipping point is processing this outbound delivery?
Shipping point: _____
 - a) Choose *Logistics* → *Logistics Execution* → *Outbound Process* → *Goods Issue for Outbound Delivery* → *Outbound Delivery* → *Display*.
 - b) Enter the delivery number you noted in Step 1.
 - c) Choose *Header Details* → *Shipment* tab page or the *Administration* tab page.
 - d) Note the *ShippingPt* (or *Shipping Point* on the *Administration* tab page).
3. Determine the gross weight for the second item.
Total weight: _____
 - a) Choose *Back*.

- b) Choose *Overview*.
 - c) Position the cursor on the second item.
 - d) Choose the *Item Details* button.
 - e) Choose the *Picking* tab page.
 - f) Note the total *Gross weight*.
4. When will the goods reach the ship-to party?
Delivery date: _____
- a) Choose *Header Details* → *Shipment* → *Delivery Date*.
5. Display the sales order to which this delivery refers and check its delivery status.
Delivery status: _____
- a) Choose *Logistics* → *Sales and Distribution* → *Sales* → *Order* → *Display*.
 - b) Choose *Enter*.
 - c) Choose *Goto* → *Header* → *Status*.
 - d) *Delivery status: Fully delivered*.
6. Does the delivery status of the sales order tell you whether the goods have already left your warehouse? What is the reason for your answer?
- a) No, it doesn't. The delivery status in the sales order tells you only whether an outbound delivery already exists for the order items. If you want to find out about the actual progress of the delivery, you need to view the status of the outbound delivery itself.

Unit 1 Exercise 3

Create, Pick, and Goods Issue an Outbound Delivery



Simulation: Create, Pick, and Goods Issue an Outbound Delivery

For more information on *Create, Pick, and Goods Issue an Outbound Delivery*, please view the simulation in the lesson *Explaining the Concept and Structure of the Delivery Document* in your online course.

Business Example

Your company receives customer orders that are then delivered. As an employee with responsibilities in shipping, you are also a member of the project team working on system implementation for shipping. You want to familiarize yourself with the basic steps of the shipping process in SAP S/4HANA using SAP Fiori apps.

1. Start the SAP Fiori launchpad from the Microsoft Windows apps menu. Use your user S4610-## and password, as provided by your instructor.
2. Create a Sales Order using the information below. Save the order and record the document number.

Field name	Value
Order Type	OR
Sales Organization	1010
Distribution Channel	10
Division	00
Sold-To Party	C610-A##
Cust. Reference	01-03-##
Req. Deliv. Date	In 1 week
Material	P610-1##
Order Quantity	10

3. Create an outbound delivery with reference to the sales order just created and record the document number. Use the information in the following table. Save the outbound delivery and record the document number.

Field Name	Value
Ship-To Party	C610-A##
Shipping Point	Z0##
Planned Creation Date	Due Up Until Next Week

4. Display the outbound delivery.

Which storage location has the system determined for the delivery item?

What is the overall status of the outbound delivery?

5. Display the stock situation for material P610-1## in plant 1010.

How many pieces are in Unrestricted Use stock?

6. Complete the shipping process by picking and posting goods issue for the outbound delivery.

7. Display the outbound delivery again.

What is the overall status of the outbound delivery now?

8. Redisplay the stock situation for material P610-1## in plant 1010.

How many pieces are in Unrestricted Use stock now?

9. Display your delivery again, this time using the *Manage Outbound Deliveries* app. Use the following information:

Field	Value
Shipping Point	Z0##
Ship-to party	C610-A##
Overall Status	GI Posted

What is the goods movement status for the outbound delivery?

To which loading group is the material in item 10 assigned?

What is the number of the inventory management (IM) goods issue document?

Create, Pick, and Goods Issue an Outbound Delivery



Simulation: Create, Pick, and Goods Issue an Outbound Delivery

For more information on *Create, Pick, and Goods Issue an Outbound Delivery*, please view the simulation in the lesson *Explaining the Concept and Structure of the Delivery Document* in your online course.

Business Example

Your company receives customer orders that are then delivered. As an employee with responsibilities in shipping, you are also a member of the project team working on system implementation for shipping. You want to familiarize yourself with the basic steps of the shipping process in SAP S/4HANA using SAP Fiori apps.

1. Start the SAP Fiori launchpad from the Microsoft Windows apps menu. Use your user S4610-## and password, as provided by your instructor.
 - a) Choose the *Microsoft Windows* icon and select *Fiori Launchpad*.
 - b) To log on, enter your given user **s4610-##** and password. Choose *Log On*.
2. Create a Sales Order using the information below. Save the order and record the document number.

Field name	Value
<i>Order Type</i>	OR
<i>Sales Organization</i>	1010
<i>Distribution Channel</i>	10
<i>Division</i>	00
<i>Sold-To Party</i>	C610-A##
<i>Cust. Reference</i>	01-03-##
<i>Req. Deliv. Date</i>	In 1 week
<i>Material</i>	P610-1##
<i>Order Quantity</i>	10

- a) On the SAP Fiori launchpad, choose the *Sales Documents* tile group and start the *Create Sales Orders VA01* app.
 - b) On the *Create Sales Documents* screen, enter the values for *Order Type*, *Sales Organization*, *Distribution Channel*, and *Division*. Choose *Continue*.
 - c) On the *Create Standard Order: Overview* screen, enter the sold-to party, customer reference and requested delivery date, material and order quantity. Choose *Enter*.
 - d) An information dialog box may display stating *Change in invoice date: The billing date is redetermined*. Choose the *Continue* button.
 - e) Choose *Save*. The document number is displayed.
 - f) Close the app.
3. Create an outbound delivery with reference to the sales order just created and record the document number. Use the information in the following table. Save the outbound delivery and record the document number.

Field Name	Value
<i>Ship-To Party</i>	C610-A##
<i>Shipping Point</i>	Z0##
<i>Planned Creation Date</i>	Due Up Until Next Week

- a) On the SAP Fiori launchpad, choose the *Shipping and Warehouse Management* tile group and start the *Create Outbound Deliveries From Sales Orders* app.
 - b) On the *Create Outbound Deliveries* screen, enter the *Ship-To Party* and *Shipping Point*. On the *Planned Creation Date* screen, choose the dropdown list and select the option *Due Up Until Next Week*. Choose the *Go* button.
 - c) Select the line containing the sales order and choose the *Create Deliveries* button.
 - d) A message displays informing you that a log has been created. Choose the *Display Log* button.
 - e) On the right-hand side of the *Analyze Delivery Logs* screen, the system displays the number of the created outbound delivery.
 - f) Choose the *Back* button twice to return to the SAP Fiori launchpad.
4. Display the outbound delivery.

Which storage location has the system determined for the delivery item?

What is the overall status of the outbound delivery?

- a) On the SAP Fiori launchpad, choose the *Shipping and Warehouse Management* tile group and start the *Display Outbound Delivery* app.
- b) On the *Display Outbound Delivery* screen, enter the number of the outbound delivery and choose the *Continue* button.

- c) On the *Delivery Display: Overview* screen, choose the *Picking* tab page. Here it can be seen that storage location 101C has been determined.
 - d) Choose the *Document Flow* button. The *Document Flow* UI displays and it shows that the delivery status is *Open*.
 - e) Close the app.
5. Display the stock situation for material P610-1## in plant 1010.
How many pieces are in Unrestricted Use stock?
-
- a) On the SAP Fiori launchpad, choose the *Material Availability* tile group and start the *Stock Single Material* app.
 - b) On the *Stock – Single Material* screen, enter the material number. Stocks of this material, including Unrestricted Use stock, are displayed.
 - c) Choose the *Back* button to return to the SAP Fiori launchpad.
6. Complete the shipping process by picking and posting goods issue for the outbound delivery.
- a) On the SAP Fiori launchpad, choose the *Shipping and Warehouse Management* tile group and start the *Pick Outbound Delivery* app.
 - b) On the *Pick Outbound Delivery* screen, enter the outbound delivery number and press *Enter*.
 - c) Under *Delivery Items* (lower part of the screen), select the delivery item and enter **10** in the *Picking Quantity* field. Choose the *Copy Picking Quantity* button.
 - d) Choose the *GI Ready* icon.
 - e) Choose the *Post GI* button. A message is returned confirming goods issue has been posted.
 - f) Choose the *Back* button to return to the SAP Fiori launchpad.
7. Display the outbound delivery again.
What is the overall status of the outbound delivery now?
-
- a) On the SAP Fiori Launchpad, choose the *Shipping and Warehouse Management* tile group and start the *Display Outbound Delivery* app.
 - b) On the *Display Outbound Delivery* screen, enter the number of the outbound delivery and choose the *Continue* button.
 - c) Choose the *Document Flow* button. The *Document Flow* displays and it shows the delivery status is *In Process*.
 - d) Close the app.
8. Redisplay the stock situation for material P610-1## in plant 1010.
How many pieces are in Unrestricted Use stock now?
-

- a) On the SAP Fiori launchpad, choose the *Material Availability* tile group and start the *Stock Single Material* app.
 - b) On the *Stock – Single Material* screen, enter the material number. Stocks of this material, including Unrestricted Use stock, are displayed.
 - c) Close the app.
9. Display your delivery again, this time using the *Manage Outbound Deliveries* app. Use the following information:

Field	Value
Shipping Point	Z0##
Ship-to party	C610-A##
Overall Status	GI Posted

What is the goods movement status for the outbound delivery?

To which loading group is the material in item 10 assigned?

What is the number of the inventory management (IM) goods issue document?

- a) On the SAP Fiori launchpad, choose the *Shipping and Warehouse Management* tile group and start the *Manage Outbound Deliveries* app.
- b) If the app filters are not displayed, choose *Expand Header*.
- c) On the *Manage Outbound Deliveries* screen, enter the information provided in the table and choose *Go*.
- d) Select the line containing the delivery and select the delivery number.
- e) Select the delivery number again.
- f) On the *Outbound Delivery* screen, choose the *General Information* tab page. Here it can be seen that the *Goods Movement Status* is Completed.
- g) On the *Outbound Delivery* screen, choose the *Items* tab page and select the item number.
- h) On the *Outbound Delivery Items* screen, choose the *Loading/Shipment* tab page. Here it can be seen that the Loading Group is 0003.
- i) Go back one step.
- j) On the *Outbound Delivery* screen, choose the *Process Flow* tab page. The goods issue document details are visible here.
- k) Return to the SAP Fiori launchpad.



LESSON SUMMARY

You should now be able to:

- Describe the application areas for delivery documents
- Display a delivery document

Learning Assessment

1. Which delivery document references a sales document?

Choose the correct answer.

- A Inbound delivery
- B Outbound delivery
- C Replenishment delivery
- D Posting change

2. At item level, the detailed screen displays tabstrips with information about the items.

Determine whether this statement is true or false.

- True
- False

3. As of SAP S/4HANA 1709, SAP Transportation Management is included in the core.

Determine whether this statement is true or false.

- True
- False

UNIT 2

Basic Organizational Units for the Delivery Process

Lesson 1

Maintaining the Organizational Units for Delivery Processes	30
Exercise 4: Create a New Shipping Point for Delivery Processes	37

UNIT OBJECTIVES

- Maintain the organizational units for delivery processes

Maintaining the Organizational Units for Delivery Processes

LESSON OVERVIEW

This lesson introduces you to the organizational units and structures that are most important for the shipping (goods issue) or goods receipt processes. The lesson also describes the organizational elements of inventory management and Extended Warehouse Management.

Business Example

As a project team member, one of the first tasks in your project is to map the organizational structure in the company for shipping and other related areas. To do this, you need to define the organizational units and assign the ones required for shipping. For example, shipping of refrigerated goods has very specific requirements in your company, so you need a separate organizational unit for this type of shipment. For this reason, you require an understanding of how to define and assign organizational units in the Implementation Guide.

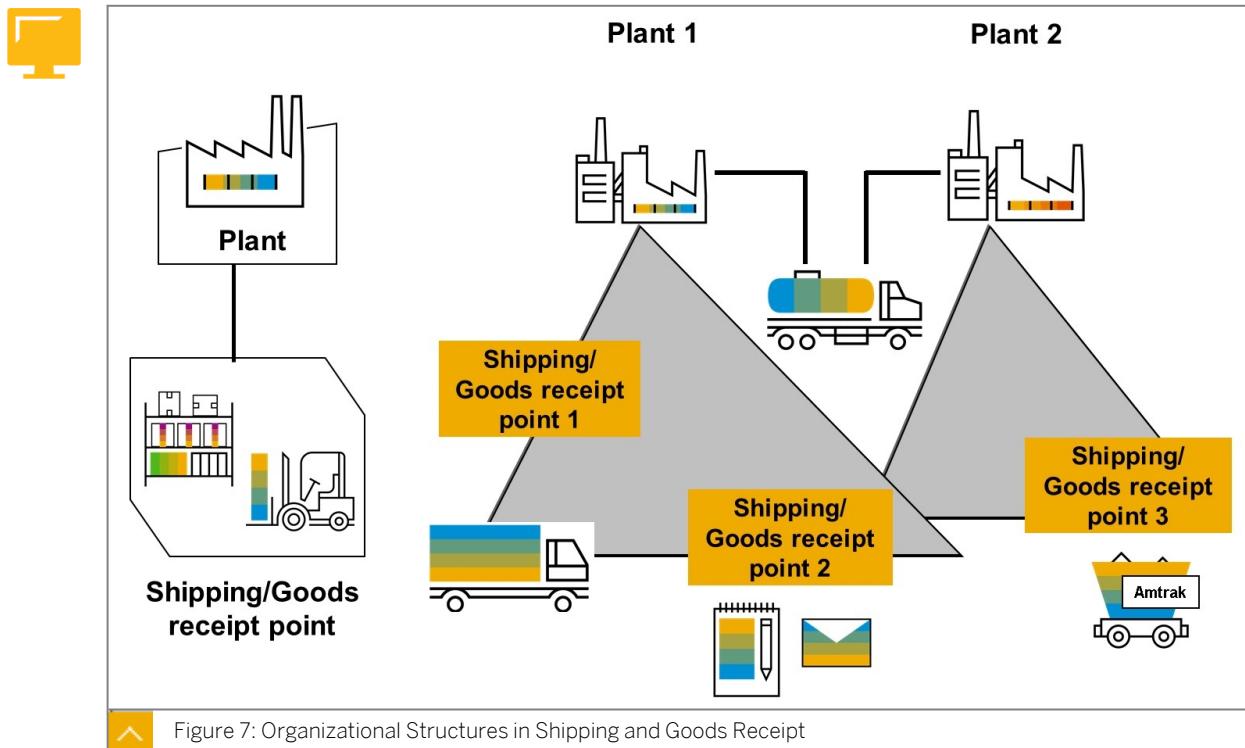


LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Maintain the organizational units for delivery processes

Organizational Structures – Shipping and Goods Receipt



Animation: Organizational Structures in Shipping and Goods Receipt

For more information on *Organizational Structures in Shipping and Goods Receipt*, please view the animation in the lesson *Maintaining the Organizational Units for Delivery Processes* in your online course.

A shipping point is an independent organizational unit at a fixed location that processes and monitors outbound deliveries and goods issues. Each outbound delivery is managed by a single shipping point. The responsible shipping point is determined in the sales order at the item level. A single shipping point can process the outbound deliveries of several different plants. However, this practice is only useful if the plants are located close to each other.

Several shipping points that support, for example, different loading equipment, different processing times or different modes of transport, can be assigned to one plant. The allowed combinations of shipping points and plants in the enterprise structure are defined in Customizing.

Another organizational unit in shipping is the loading point. The loading point is used to structure shipping. Loading points are defined in Customizing for Logistics Execution and are assigned manually in the delivery document header. If desired, the loading points can be included in the delivery output. Any number of loading points can be assigned to a shipping point, but only one shipping point can be assigned to each loading point.

A shipping point can also be set as a goods receiving point. This means that shipping points can additionally be used to manage inbound deliveries.

Organizational Structures – Inventory Management

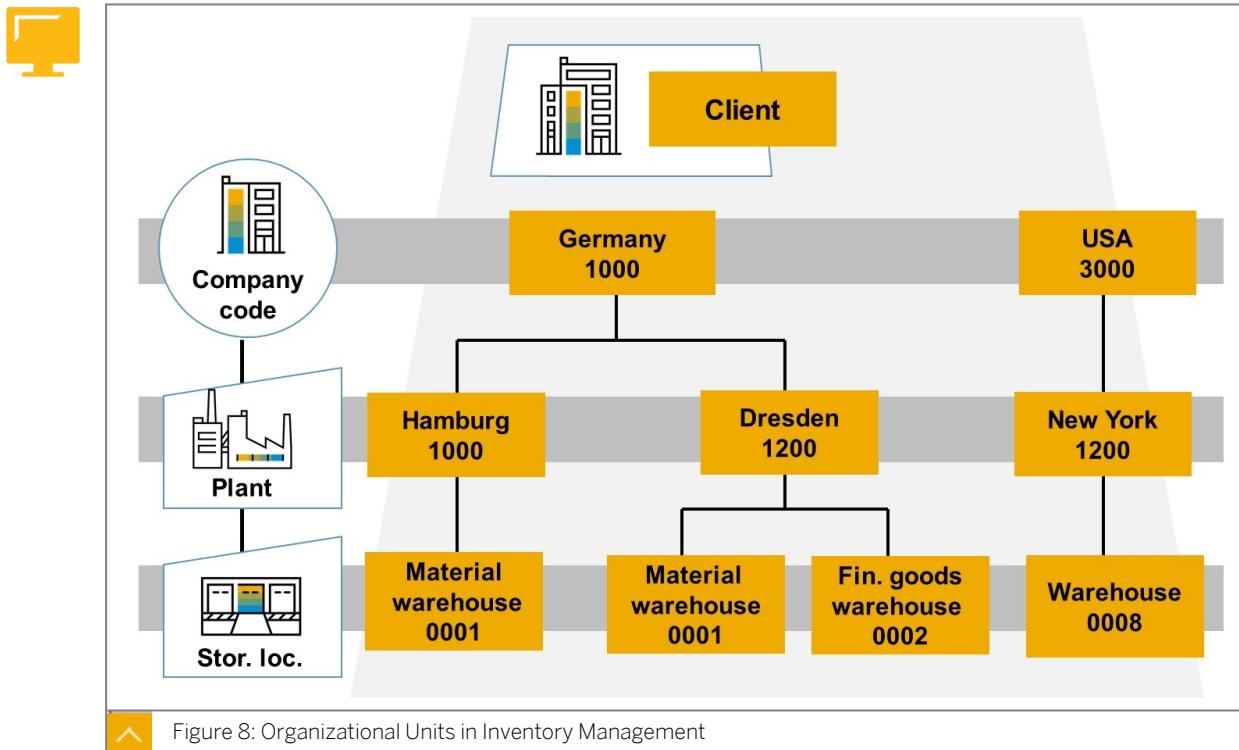


Figure 8: Organizational Units in Inventory Management



Animation: Organizational Units in Inventory Management

For more information on *Organizational Units in Inventory Management*, please view the animation in the lesson *Maintaining the Organizational Units for Delivery Processes* in your online course.

You can model the inventory management structure of a corporate group by using clients, company codes, plants and storage locations.

A plant represents a corporate group, while a company code represents a legally independent accounting unit.

The plant plays a central role in inventory management. A plant is an organizational unit that represents a physical location at which inventory is stored, for example, a manufacturing site or distribution center. Activities such as production, procurement, maintenance, and materials planning are managed at plant level. Assigned to each plant are one or many storage locations. Storage locations are sub-divisions of a plant which enable differentiation of the various stocks of a material in that plant. Stock is managed at storage location level.

A plant can only be assigned to one company code. In this way, you can manage stocks and stock values independently for individual companies.

Organizational Units in SAP Extended Warehouse Management (EWM)

The warehouse number is the highest level of organizational unit in SAP EWM. In practice, the warehouse number usually corresponds to a physical building or distribution center. Each warehouse number has a substructure that maps the spatial relationship in the warehouse complex in detail.

There are different forms in which products are physically stored in a warehouse. These forms, called storage types, include the following:

- Various types of racks
- Any open storage space
- Goods receipt areas
- Goods issue areas

Storage types are represented as groups of warehouse storage bins with similar characteristics - for example, high rack storage, large pallet storage, or bulk storage. Storage types are defined on the basis of their spatial or organizational features.

Storage sections are subdivisions of a storage type. A storage section represents a group of bins that have a common attribute, for example, bins that are used to store fast-moving items. Storage sections are used when determining the storage bin into which goods are placed during putaway.

Storage bins are the lowest level of organizational structure. They are assigned to a storage type and a storage section (if one exists). Storage bins represent the exact physical location where goods are stored in the warehouse.

When you store a product in your warehouse, you need to know its exact physical location, that is, its storage bin. The coordinates of the storage bin indicate the precise location in the warehouse. Storage bins are master data.

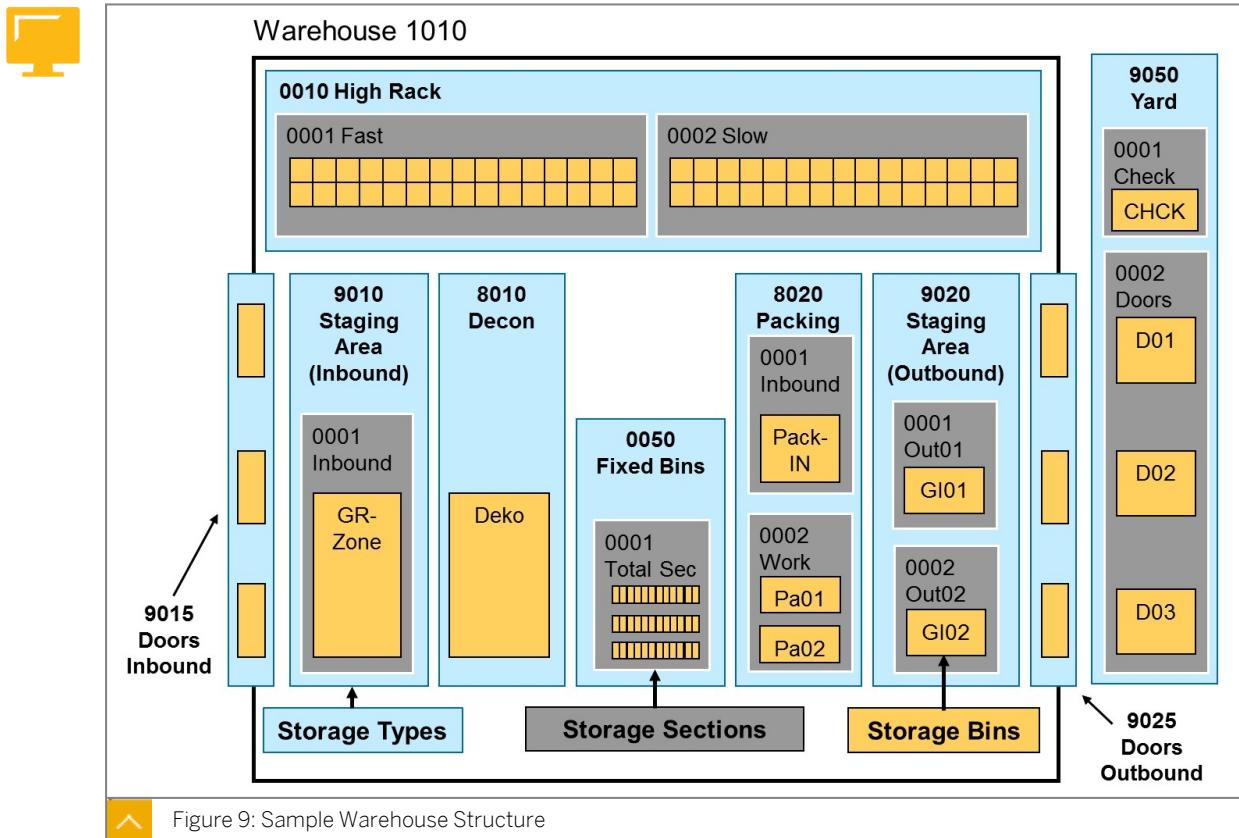
Storage bins, independent of their storage type, are logically grouped in activity areas. You define an activity area for each activity, as follows:

- Picking
- Putaway
- Physical inventory

Activity areas are used to define bin sorting when warehouse orders are created. According to the activity, the same storage bin can be assigned to multiple activity areas.

If stock is kept in a storage bin, the quantity of stock in that bin is represented as a “quant”. A quant is a record that represents the content of a storage bin, and is used for management of a product in a storage bin.

Sample Warehouse Structure



The organizational and physical attributes of a warehouse building are entered under the warehouse number in Customizing. Examples of some attributes are as follows:

- Weight unit of measure
- Volume unit of measure
- Time unit of measure

There are also various determination procedures for palletization data and packaging specifications that are assigned at the warehouse number level.

We recommend that you use one warehouse number for each group of storage areas or buildings (warehousing complexes) in the same geographical area. If your warehousing facilities are located in different cities or are physically separated by a long distance, it is appropriate to assign a separate warehouse number to each warehousing complex.

In order to identify the owner of the stock, the warehouse number must be assigned to a supply chain unit (SCU). An SCU is a physical or organizational unit that models the supply chain of your organization.

Storage Type

A storage type is a physical or logical subdivision of a warehouse. It is characterized by the following:

- Warehouse technologies
- Nature of the products to be stored

- Space required
- Organizational form or function

The storage type is a four character code which is defined when customizing EWM. Storage types have a storage type role, which defines what they are used for. Storage type roles and their purposes are outlined in this table.

Storage Section

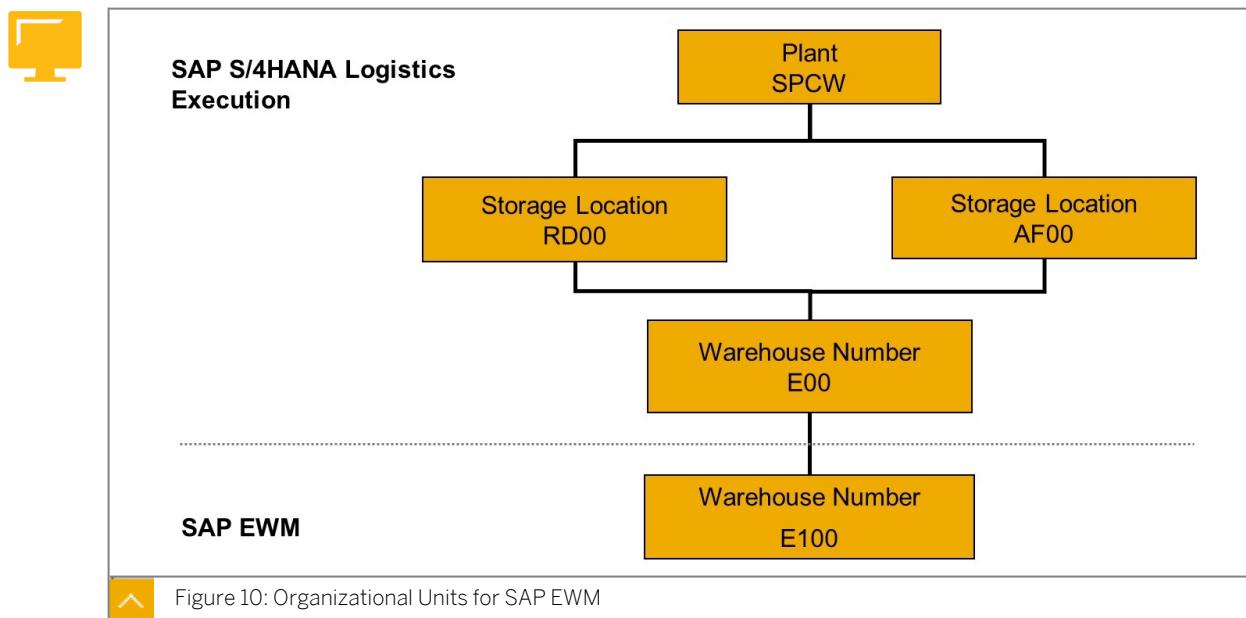
A storage section is an organizational subdivision of a storage type. It associates storage bins that have similar attributes. This information is then used during the putaway process. The criteria for associating these bins (or the attributes of the bins) can be defined in any way, for example:

- Heavy parts
- Bulky parts
- Hazardous materials with certain characteristics
- Fast-moving items
- Slow-moving items

Storage Bin

A storage bin is the smallest addressable unit of space in a warehouse. It represents the exact location in the warehouse where a product can be stored.

Connection Between Warehouse Number and Plant and Storage Location





Animation: Organizational Units for SAP EWM

For more information on *Organizational Units for SAP EWM*, please view the animation in the lesson *Maintaining the Organizational Units for Delivery Processes* in your online course.

To activate warehouse management in the SAP S/4HANA system, a plant and a storage location (for that plant) are linked to the relevant warehouse number.

Several storage locations within a plant can refer to the same warehouse number. As a result, they form the warehouse complex from the perspective of inventory management.

Unit 2

Exercise 4

Create a New Shipping Point for Delivery Processes



Simulation: Create a New Shipping Point for Delivery Processes

For more information on *Create a New Shipping Point for Delivery Processes*, please view the simulation in the lesson *Maintaining the Organizational Units for Delivery Processes* in your online course.

Business Example

Shipping point Z0## is responsible for standard shipping operations. It is already defined in the training system. However, a new shipping point is required for processing express goods. As a project team member, you need to define this new shipping point. For this reason, you need to know how to create a new shipping point for delivery processes.

Task 1: Identify the Role of the Shipping Point

1. What is the role of the shipping point?
2. To which plant is shipping point Z0## assigned?

Task 2: Set up a New Shipping Point for Processing Express Goods Deliveries

Set up a new shipping point for processing express goods deliveries. This shipping point should be near shipping point Z0##.

1. In your system, create this new shipping point with the key Y0## by copying the existing shipping point Z0##.



Hint:

Use the *Copy shipping point* function for shipping points instead of the *Define shipping point* function. When you use the *Copy shipping point* function, the dependent tables are automatically maintained by the system as well.

2. Change the description of *Shipping Point Y0##* to **## Expr. Shipm. Hamburg**.
3. Maintain the address screen for the shipping point you have just defined.
4. Make sure that the newly created *Shipping Point Y0##* works for the same plant as *Shipping Point Z0##* (which is responsible for standard shipping processes).

Unit 2 Solution 4

Create a New Shipping Point for Delivery Processes



Simulation: Create a New Shipping Point for Delivery Processes

For more information on *Create a New Shipping Point for Delivery Processes*, please view the simulation in the lesson *Maintaining the Organizational Units for Delivery Processes* in your online course.

Business Example

Shipping point Z0## is responsible for standard shipping operations. It is already defined in the training system. However, a new shipping point is required for processing express goods. As a project team member, you need to define this new shipping point. For this reason, you need to know how to create a new shipping point for delivery processes.

Task 1: Identify the Role of the Shipping Point

1. What is the role of the shipping point?
 - a) The shipping point performs the following roles.
 - The shipping point processes and monitors outbound deliveries.
 - Each outbound delivery is uniquely assigned to one shipping point.
 - If you want to use the same point for inbound deliveries in MM, you have to define it as a goods receiving point.
2. To which plant is shipping point Z0## assigned?

-
- a) In Customizing, choose *Enterprise Structure* → *Assignment* → *Logistics Execution* → *Assign shipping point to plant*.

The *Shipping point Z0##* is assigned to *Plant 1010*.

Task 2: Set up a New Shipping Point for Processing Express Goods Deliveries

Set up a new shipping point for processing express goods deliveries. This shipping point should be near shipping point Z0##.

1. In your system, create this new shipping point with the key **X0##** by copying the existing shipping point Z0##.

**Hint:**

Use the *Copy shipping point* function for shipping points instead of the *Define shipping point* function. When you use the *Copy shipping point* function, the dependent tables are automatically maintained by the system as well.

a) In Customizing, choose *Enterprise Structure* → *Definition* → *Logistics Execution* → *Copy, Delete, and Check Shipping Point*.

b) Choose *Organizational object* → *Copy org.object*.

c) Enter the following values:

Field	Value
<i>From Shipping Point</i>	Z0##
<i>To Shipping Point</i>	Y0##

d) If the *Transport number ranges and addresses* pop-up window displays, choose *Continue (Enter)*.

e) If the *Number range management messages* pop-up window displays, choose Yes.

f) When the pop-up window appears to confirm that shipping point Z0## has been copied to Y0##, choose *Continue (Enter)*.

2. Change the description of *Shipping Point Y0##* to **## Expr. Shipm. Hamburg**.

a) In Customizing, choose *Enterprise Structure* → *Definition* → *Logistics Execution* → *Define Shipping Point*.

b) Select *Shipping Point Y0##*.

c) Overwrite the *Description* to **## Expr. Shipm. Hamburg** and press Enter on your keyboard.

d) Save your work.

3. Maintain the address screen for the shipping point you have just defined.

a) In Customizing, choose *Enterprise Structure* → *Definition* → *Logistics Execution* → *Define Shipping Point*.

b) Select the row with the entry Y0##.

c) Choose the *Details* button.

d) Choose the *Address* button.

e) In the *Edit Address: Y0##* pop-up window, choose *Copy (Enter)*.

f) Save your work.

4. Make sure that the newly created *Shipping Point Y0##* works for the same plant as *Shipping Point Z0##* (which is responsible for standard shipping processes).

a) In Customizing, choose *Enterprise Structure* → *Assignment* → *Logistics Execution* → *Assign shipping point to plant*.

Shipping Point Y0## is assigned to *Plant 1010*.



LESSON SUMMARY

You should now be able to:

- Maintain the organizational units for delivery processes

Learning Assessment

1. Several storage locations within a plant can be assigned to the same warehouse number.

Determine whether this statement is true or false.

- True
- False

2. A shipping point may also be set as a _____, which means it can also be used for inbound deliveries.

Choose the correct answer.

- A Goods receiving point
- B Loading point
- C Company code
- D Plant

3. The storage bin identifies the exact location in the warehouse where goods are stored or can be stored.

Determine whether this statement is true or false.

- True
- False

4. Different items in an outbound delivery can be managed by different shipping points.
Determine whether this statement is true or false.

Determine whether this statement is true or false.

- True
- False

Lesson 1

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UNIT OBJECTIVES

- Use Customizing settings to control delivery documents

Controlling Delivery Documents

LESSON OVERVIEW

This lesson introduces the basic settings in the delivery Customizing. It explains the delivery type and the delivery item category as elementary control objects.

Business Example

In shipping and goods receipt, different processes are mapped using different delivery types. So, for example, you may need different delivery types to process standard deliveries, express deliveries, stock transfers, returns deliveries and so on. The different delivery types usually require different processing. For example, a returns delivery must be goods received, not goods issued.

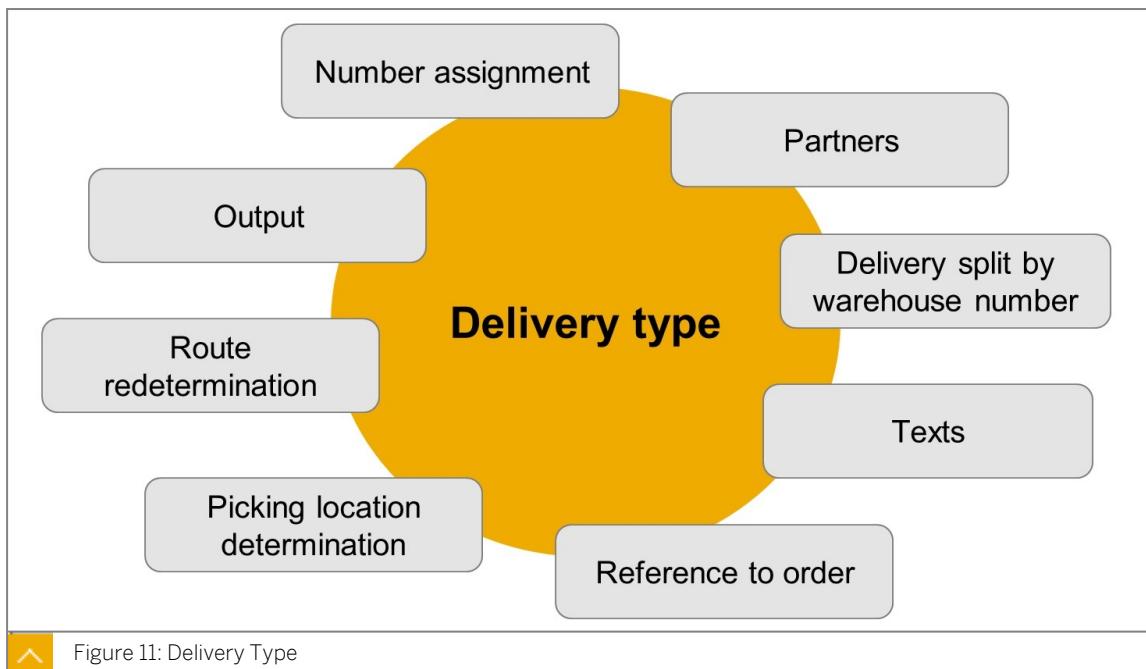


LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Use Customizing settings to control delivery documents

Delivery Type





Animation: Delivery Type

For more information on *Delivery Type*, please view the animation in the lesson *Controlling Delivery Documents* in your online course.

The delivery type controls the entire delivery. You see the delivery type in the delivery header. Delivery types are used to represent various business transactions in shipping and goods receipt processing.

Examples of Delivery Types

Examples of delivery types defined in the standard system are as follows:

Delivery Type	Description
EL	Inbound delivery (shipping notification)
LB	Delivery for subcontract order
LF	Outbound delivery
LO	Delivery without reference (no sales order necessary to create a delivery)
LP	Delivery from project
RE	Returns delivery
NL	Replenishment delivery

Using Customizing settings, you can configure each delivery type to perform different functions. You can adjust the delivery types in the standard system to meet your business requirements. However, if you require major adjustments, we recommend that you create a new delivery type.

Delivery Item Categories



Figure 12: Delivery Item Categories

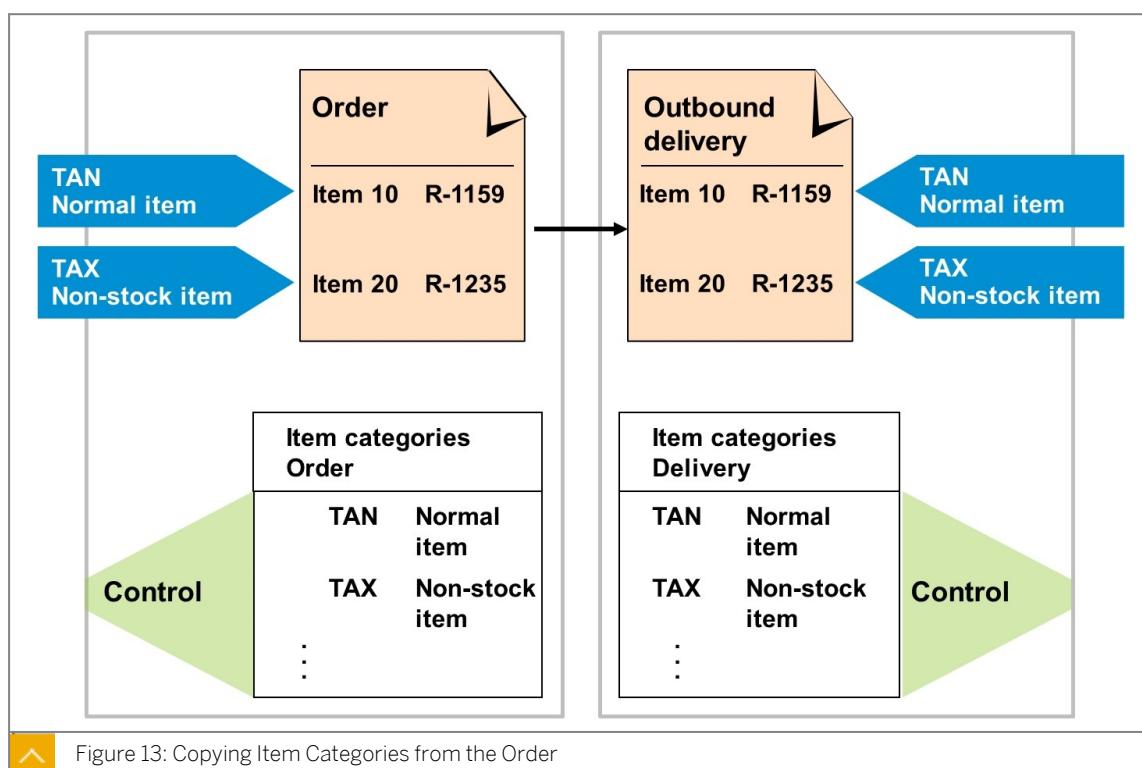


Animation: Delivery Item Categories

For more information on *Delivery Item Categories*, please view the animation in the lesson *Controlling Delivery Documents* in your online course.

The delivery item category controls how delivery items are handled and processed during the shipping or goods receipt process. The control elements available provide a high degree of automatic determination and checking. You can also configure the item categories to meet the specific requirements of your system installation.

Delivery Item Category Determination

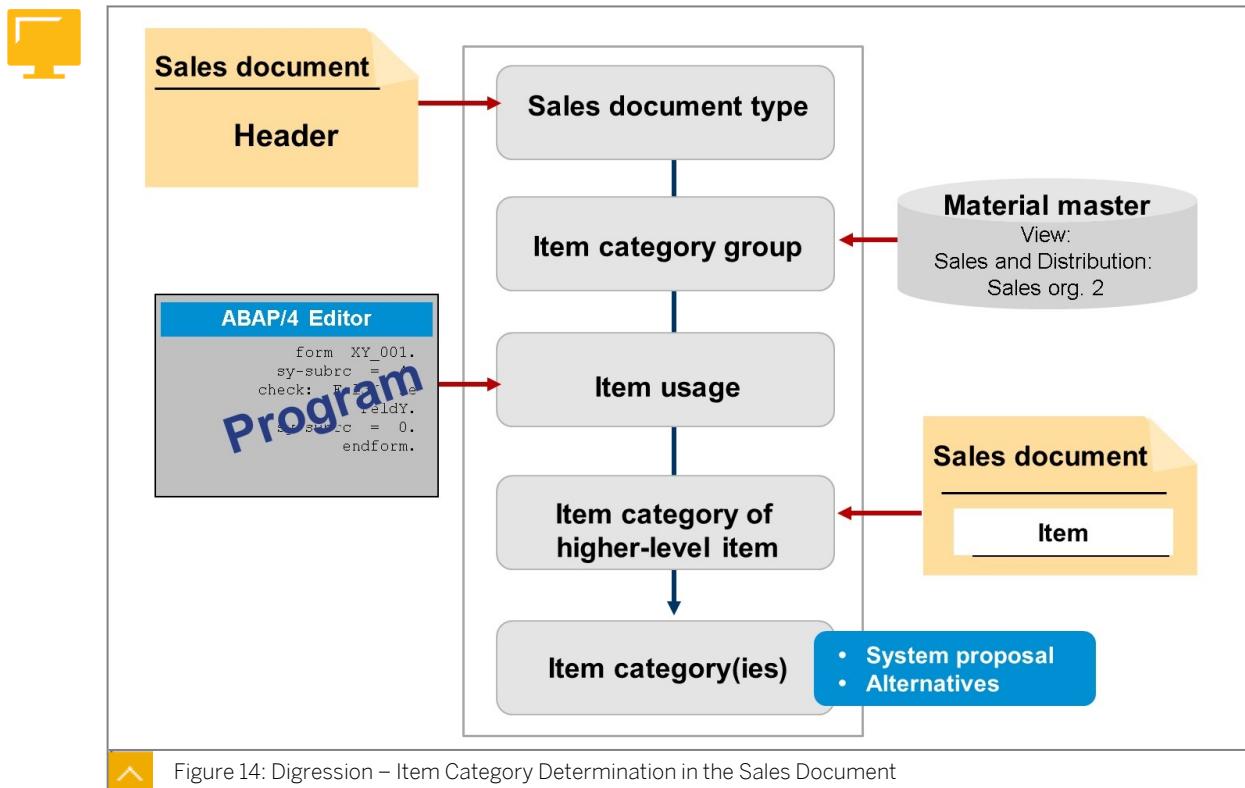


Animation: Copying Item Categories from the Order

For more information on *Copying Item Categories from the Order*, please view the animation in the lesson *Controlling Delivery Documents* in your online course.

When a delivery is created with reference to a sales order item, the system copies the item category of the order item to the delivery item. If an order item or the schedule line assigned to it is relevant for delivery, you must define a corresponding item category for the delivery. The delivery item category must have the same key as the order item category.

Item Category Determination in the Sales Document



Animation: Digression – Item Category Determination in the Sales Document

For more information on *Digression – Item Category Determination in the Sales Document*, please view the animation in the lesson *Controlling Delivery Documents* in your online course.

The system determines the items in the sales order that are relevant for delivery (for example, a standard item in the order is relevant for delivery, whereas a service item in the order is not relevant for delivery) and transfers it to the delivery item. To understand the Delivery Customizing, it is important that you first know about the item category determination in the sales document.

Factors Determining Item Category in the Sales Document

The item category in the sales document is determined by the following factors:

- Sales document type of the order:

Depending on your business process, you specify the sales document type you want to use when you create an order. For example, you may be creating a standard order, a rush order, a cash sales order or a consignment fill-up order.

- Item category group:

Depending on your business process, you can specify the item category group for each material (for each combination of sales organization and distribution channel). Examples are standard, third party item, service, make to order and so on. In this way, you enable the

material in the sales document item to influence the determination of the sales document item category.

- Item category usage:

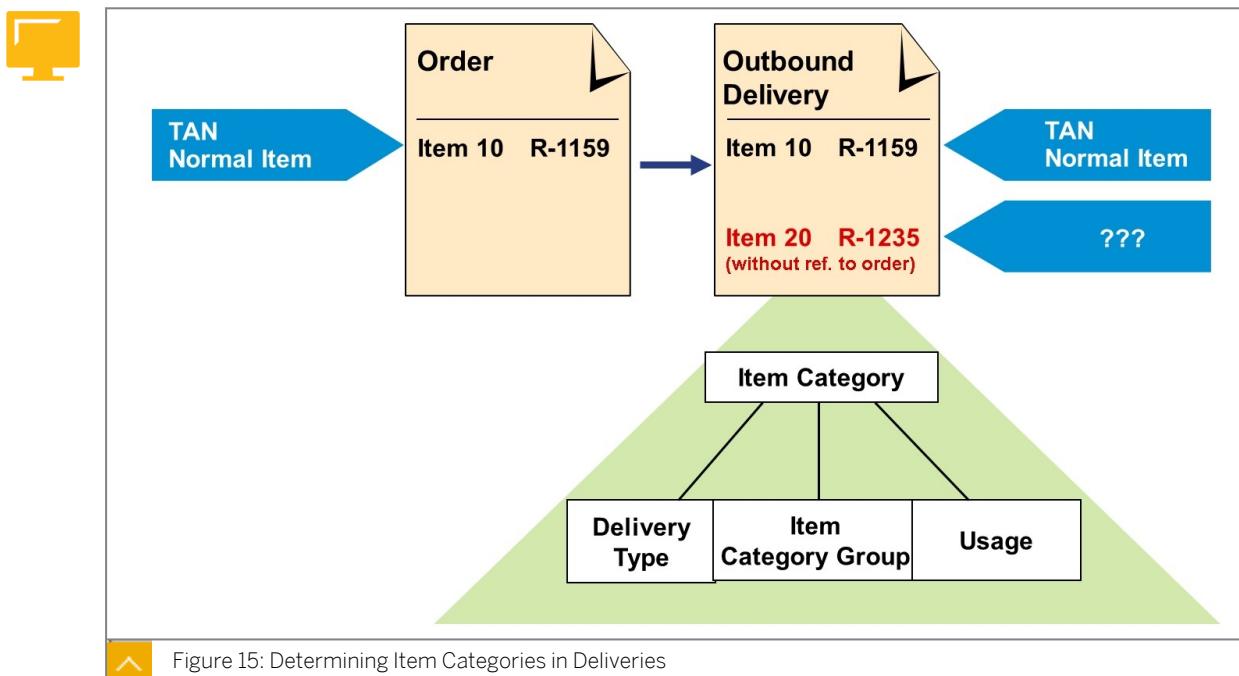
SAP S/4HANA uses the item category usage to identify very specific functions and scenarios, thereby enabling these to be reflected in the choice of item category. Examples include a text item, a free of charge item or an item where a material has been substituted. The item category usage is allocated by SAP S/4HANA's internal programming logic when such specific scenarios are detected. It is also possible to define an item category usage in the customer material information record.

- Item category of higher-level item:

If the sales document item is a sub-item, the system will already have determined the item category for the higher-level item. This is then used to influence determination of the item category for the sub-item.

In Customizing, for each valid combination of these four criteria, you define a default item category and, optionally, additional item categories as manual alternatives.

Determine Item Categories in Deliveries



Animation: Determining Item Categories in Deliveries

For more information on *Determining Item Categories in Deliveries*, please view the animation in the lesson *Controlling Delivery Documents* in your online course.

For items in a delivery that do not reference a sales order item (for example, packing material), for deliveries without reference to an order (delivery type LO), or for inbound deliveries (for example, delivery type EL for a purchase order), it is clearly not possible to copy the item category from a sales order.

In such cases, the system determines an item category for the delivery using delivery item category determination. This is similar in principle to the item category determination in the sales order, except that the system takes into account the delivery type instead of the sales document type.

Additional Usages Set Internally

Additional usages are set internally and used for the following functions:

- PACK for generating packing items
- CHSP for a batch split
- PSEL for product selection
- V for inbound deliveries for purchase orders and for deliveries in stock transport processes

This means that the system can determine a different item category for the delivery items resulting from processes where these specific functionalities are used.

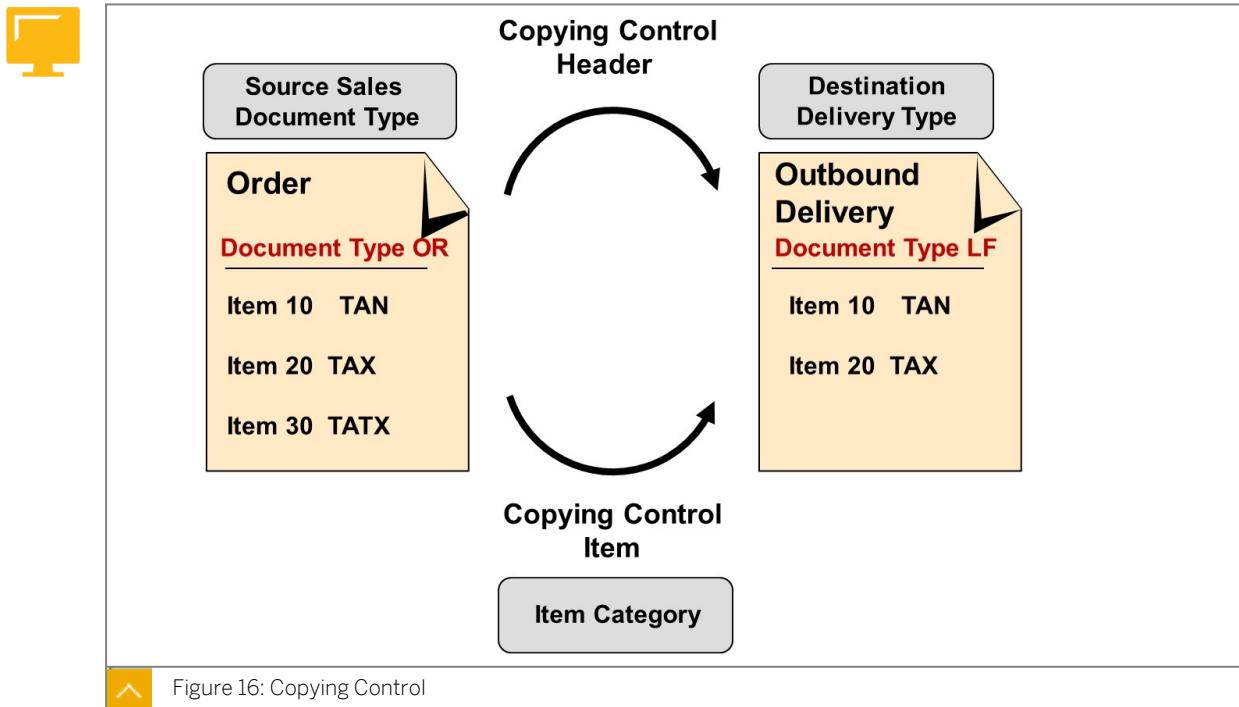


Note:

The determination of a usage is hard-coded. This means that usages are determined in the underlying program logic of the process. Hence, any change to usage determination must be made as a code modification, not through Customizing. However, a usage can be specified in the customer-material info record. The item category determination considers this usage only in the sales document and not in the delivery.

The material master contains two item category group fields, a general item category group and an item category group. The general item category group is maintained purely at the material level, and hence is not dependent on the sales organization and distribution channel. This field is used for item category determination in inbound deliveries. The other entry is the item category group maintained at the level of the sales organization and distribution channel. This is used if the delivery contains a sales organization and distribution channel (for example, an outbound delivery for a sales document).

Copying Control



Animation: Copying Control

For more information on *Copying Control*, please view the animation in the lesson *Controlling Delivery Documents* in your online course.

You specify the following data in the copying control table:

- Which sales document types can be copied to which delivery types
- Which item categories are copied from reference documents

You can also specify the following:

- Under what conditions is data copied from the order to the outbound delivery
- Under what conditions can several orders be combined in an outbound delivery
- Which data is to be transferred
- Whether the reference needs to be recorded in the item-level document flow

The customer may require that multiple orders or order items are shipped together. If so, the system can combine into a single delivery all order items that have the same delivery split criteria.

The requirement to perform this order combination is set in the customer master. It can also be entered manually in the sales order header.

The shipping point, route, and ship-to party are examples of required delivery splitting criteria. Certain delivery splitting criteria in the standard system are optional and can be removed as splitting criteria from the copying control table. You can also define additional splitting criteria that prevent order combination if the defined fields have different values.

Shipping-Relevant Customizing in Sales

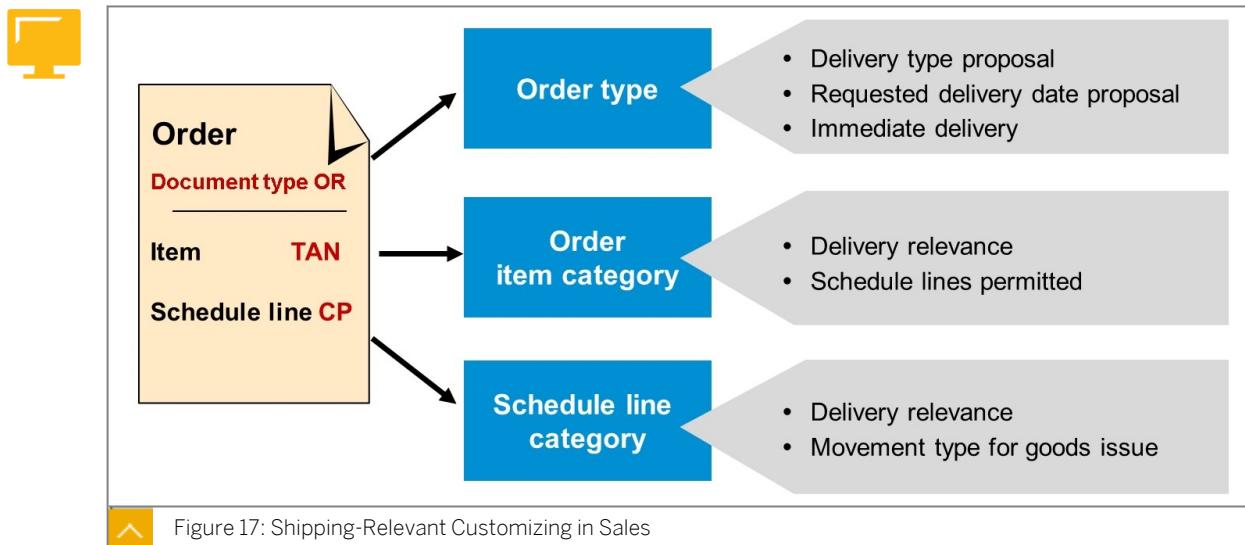


Figure 17: Shipping-Relevant Customizing in Sales

You enter delivery relevant settings in the sales order types by maintaining the following fields/settings:

- Which delivery type the system proposes for the outbound delivery
- Whether the system proposes a date in the *Requested delivery date* field in the order and, if so, how many days in the future this should be
- Whether the system creates the outbound delivery automatically in the background as soon as you save the order



Animation: Shipping-Relevant Customizing in Sales

For more information on *Shipping-Relevant Customizing in Sales*, please view the animation in the lesson *Controlling Delivery Documents* in your online course.

Delivery relevance at the order item category level is valid only for text or value items. For example, you can set a text item as relevant for delivery so that the system transfers it to the outbound delivery from the standard order. This means that the text item will be available in the delivery document.

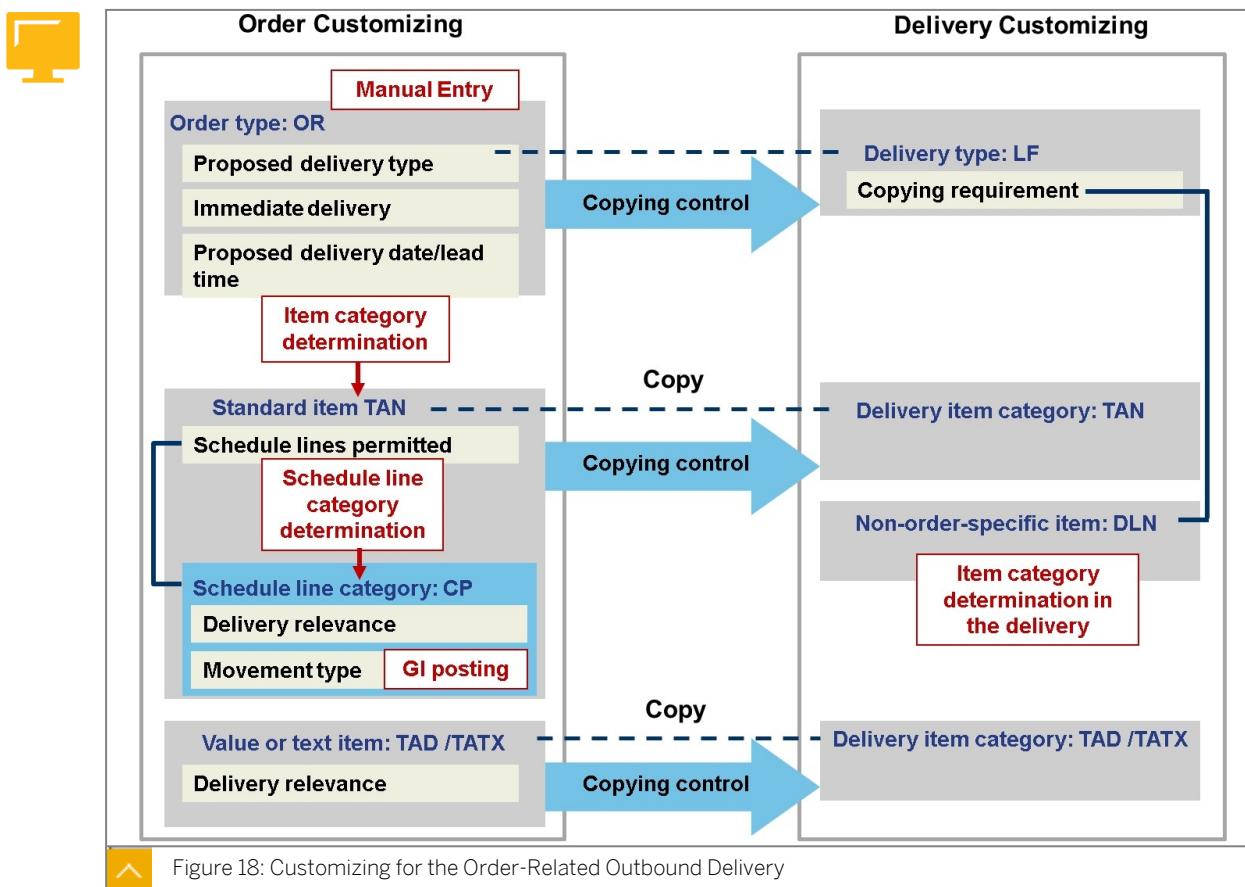
It is only possible to use the SAP S/4HANA inventory management component with deliveries (for example, to post goods issue) if schedule lines are used. Therefore, you must allow schedule lines for the order item category. You must also set the schedule line category as relevant for delivery. Finally, you must define the goods movement type for the schedule line category. This will normally be a goods issue movement type, but would be a goods receipt in the case of returns deliveries.

Conditions for Shipping-Relevant Customizing Settings

These shipping-relevant Customizing settings require the following conditions:

- You must define all delivery item categories as sales item categories in Sales and Distribution. This condition applies even to the item categories that are never found in sales documents (for example, DLN or ELN).
- You must determine a schedule line category in Sales and Distribution for all delivery item categories that do not have SD document category 7. This is because the movement type used to post goods issue comes from the schedule line category. However, you can directly specify the movement type in Customizing for a delivery item category that has the SD document category 7 (for example, the delivery item category ELN - Inbound Delivery).

Process Customizing



The delivery type controls the delivery document and is located in the header of the delivery document. The system derives the delivery type of the delivery document from the order type of the order that you are delivering. In the transaction "Create Outbound Delivery", you can select an alternative delivery type for the delivery document. To use a delivery type within the order-related outbound delivery, you must link the relevant order type to the required delivery types in copy control.

To deliver order items, these items must be relevant for delivery. For text and value items, you define the delivery relevance in the order item category. For normal items, you control the delivery relevance at the level of the schedule line.

Schedule lines are permitted in standard order item categories. The system uses automatic schedule line category determination to determine the correct schedule line category. A movement type is maintained for each schedule line category, thereby providing the link to inventory management.

For each order item category, there is a delivery item category defined in the system. If you create a delivery document with reference to a sales order, the item category in the delivery document is copied from the sales order. For delivery items that do not reference a sales order, the system cannot copy item categories from the sales order. For these delivery items, item category determination occurs in the delivery document.

Customizing of the Outbound Delivery Without Order Reference

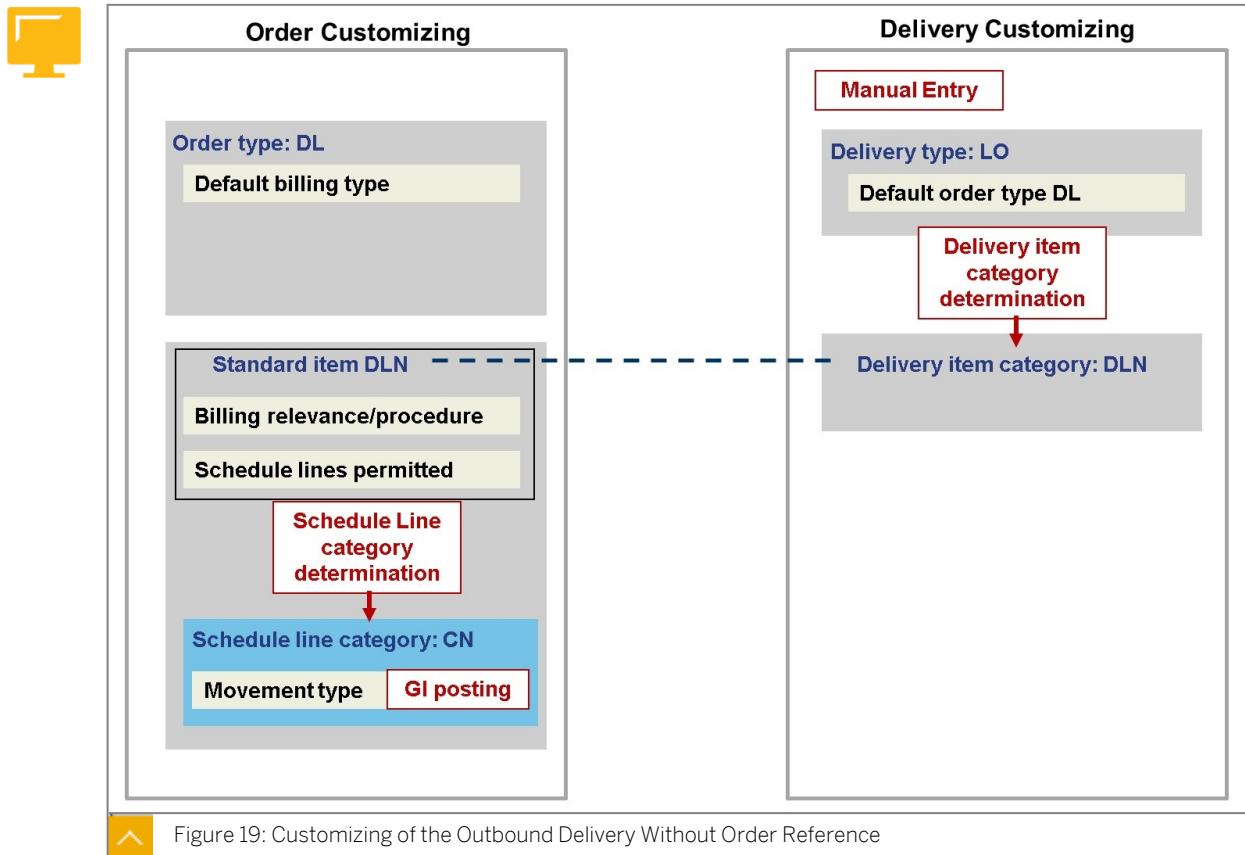


Figure 19: Customizing of the Outbound Delivery Without Order Reference



Animation: Customizing of the Outbound Delivery Without Order Reference

For more information on *Customizing of the Outbound Delivery Without Order Reference*, please view the animation in the lesson *Controlling Delivery Documents* in your online course.

If you create deliveries without reference to an order, you must manually select the delivery type on the initial screen of the transaction *Create Outbound Delivery without Order Reference*.

For this delivery process (and subsequent billing), the system accesses sales document Customizing to reference a default order type, which holds the billing type to be used to bill the delivery. For this reason, you must define a default order type in the Customizing of the delivery type. A delivery without reference does not, however, reference a real sales order.

If you enter an item in the delivery without order reference, the system uses delivery item category determination to determine the item category for the item. You must ensure that there is a corresponding order item category for this delivery item category. This order item

category controls whether this item is relevant for billing and which billing procedure is to be used.

To enable inventory management to be accessed by the delivery item, the system must allow schedule lines in the corresponding order item category. This enables the system to perform schedule line category determination to find the correct schedule line category. This in turn provides the correct movement type to be used when posting goods issue for the delivery item.

Customizing of the Inbound Delivery

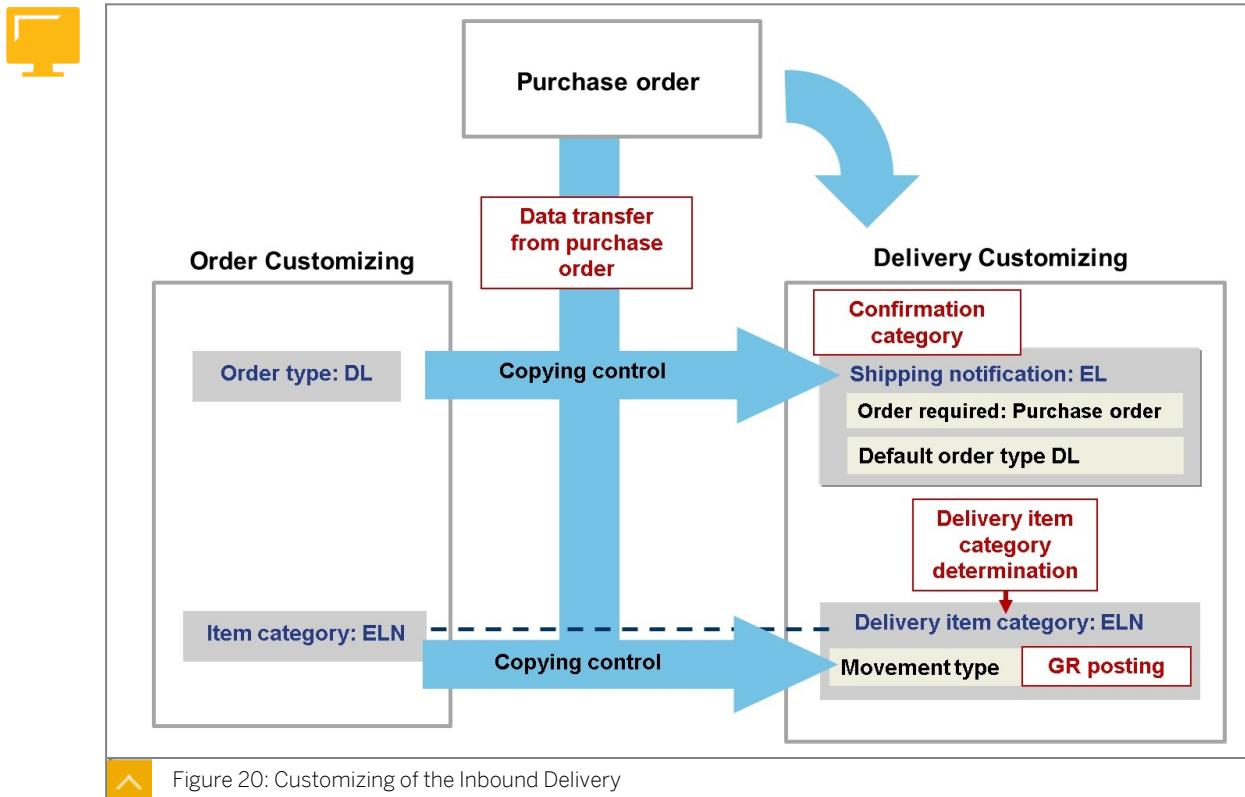


Figure 20: Customizing of the Inbound Delivery



Animation: Customizing of the Inbound Delivery

For more information on *Customizing of the Inbound Delivery*, please view the animation in the lesson *Controlling Delivery Documents* in your online course.

If you create an inbound delivery with reference to a purchase order, the purchase order items to be delivered must contain an appropriate confirmation control key. In Customizing, the confirmation control key is defined with reference to a confirmation sequence which includes a confirmation category. The confirmation category is in turn assigned to the delivery type to be used for the inbound delivery. For this delivery type, the preceding document must be defined as a purchase order.

In addition, a default order type is defined for this delivery type, because the system uses the copy control for *Order Type to Delivery Type* to transfer information from the purchase order to the delivery (using a data transfer routine).

In the delivery document, the system creates delivery items for the items of the purchase order. Delivery item category determination determines the item categories for these items,

taking into account the delivery document type, the general item category group (from the material master) and item usage V (purchase order).

A corresponding order item category must exist for this delivery item category, so that the system can create a copying relationship between the order and delivery document at the item level. The system uses this copying relationship to provide data from the purchase order using the data transfer routine in the delivery copy control.

For the delivery item category used in an inbound delivery (for example, ELN), you maintain the movement type in the delivery item category itself. You are able to do this because these delivery item categories have a value of 7 (*inbound delivery/shipping notification*) in the document category field. For other item categories, you maintain the movement type in the schedule line category.

Unit 3 Exercise 5

Use Customizing Settings to Control Delivery Documents



Simulation: Use Customizing Settings to Control Delivery Documents

For more information on *Use Customizing Settings to Control Delivery Documents*, please view the simulation in the lesson *Controlling Delivery Documents* in your online course.

Business Example

In your company, you model various operations using shipping functions. Therefore, you require different delivery types and item categories to control the different elements of the delivery.

Describe how to control key shipping functions at the header and the item levels in the delivery, and how to set item category determination and copy control for delivery types.



Caution:

Do not change the standard Customizing settings. Use only your own order type ZA## and delivery type ZL## for testing and making changes.

Task 1: Task 1: Define the Following Controls (Delivery Type or Delivery Item Category)

At which level do you define the following controls (delivery type or delivery item category)? To find your answers, look for the relevant fields in Customizing.

1. Number range for deliveries when internal numbering is used

2. Picking relevance

3. Check minimum quantity for a material in the delivery

4. What type of preceding document is required for the delivery

Task 2: Task 2: Create an Outbound Delivery with Reference to a Sales Order

When you create an outbound delivery with reference to a sales order, the system automatically determines the delivery type.

1. In the sales process, how does the system know which type of delivery to use for sales order type ZA## (*Trade Fair##-Order*)?

2. You should always deliver your orders of type ZA## (*Trade Fair##-Order*) using express deliveries (delivery type ZL##). Make the relevant settings in Customizing.

**Caution:**

Make sure that you are definitely on the *Details* screen for ZA## in the *SaTy* field.

Task 3: Define the Permitted Combination of Sales Document Type and Delivery Type

In *Define copying control*, you can define the permitted combination of sales document type and delivery type.

1. In Customizing, check which order types can be delivered using ZL## in the *Delivery type* field.

Result

**Note:**

You see that *Delivery type ZL##* as the target document has, for example, both *Trade Fair##-Order ZA##* and *Standard Order OR* as the source document types assigned to it.

Task 4: Determine the Item Category in the Delivery

The system automatically determines the item categories in the delivery. What does the system take into account when it determines the item category in the delivery?

1. How is the item category determined for items that come from the sales order?
2. How is the item category determined for items that are added to the delivery?
3. In *Customizing*, find out which item category the system proposes when you create an additional item with *NORM* in the *ItCG* field in the material master and ZL## in the *DlVT* field.

Task 5: Create your own Item Category and Trade Fair Item for Orders and Deliveries

In addition to your own delivery type ZL##, you want to create and use your own *Item category ZA## (Trade Fair item ##)* for orders and deliveries.

1. Copy the sales document *item category TAN* and all dependent entries.
2. After the sales document item category has been created, check whether a corresponding delivery item category was generated and whether the entries in copy control are complete.
3. To use item category ZA## in orders with order type ZA##, you have to adjust the sales item category assignment in Sales and Distribution. Change the assignment for item category group **NORM**, without affecting the item category of any of the higher-level items.
4. Ensure your new item category does not permit over-delivery.

Task 6: Check your Customizing Settings

Check your Customizing settings.

1. Create a trade fair order using the following data:

Field	Value
Order Type	ZA##
Sold-to Party	C610-A##
Sales Area	1010/10/00
Cust. Reference	##-4-1
Req. deliv.date	<Tomorrow's date>
Material	P610-1##
Order Quantity	12

Which item category does the system determine for the item?

2. Deliver the order. What is the delivery type of the outbound delivery?

3. Change the delivery quantity of the item to 15. After changing the delivery quantity, what message does the system display?

4. Change the delivery quantity back to 12.
5. Add another item to the outbound delivery. Enter material **P610-2##** and a quantity of **5**. What is the item category of this item?

6. Save the outbound delivery. What is the number of the outbound delivery?

Unit 3 Solution 5

Use Customizing Settings to Control Delivery Documents



Simulation: Use Customizing Settings to Control Delivery Documents

For more information on *Use Customizing Settings to Control Delivery Documents*, please view the simulation in the lesson *Controlling Delivery Documents* in your online course.

Business Example

In your company, you model various operations using shipping functions. Therefore, you require different delivery types and item categories to control the different elements of the delivery.

Describe how to control key shipping functions at the header and the item levels in the delivery, and how to set item category determination and copy control for delivery types.



Caution:

Do not change the standard Customizing settings. Use only your own order type ZA## and delivery type ZL## for testing and making changes.

Task 1: Task 1: Define the Following Controls (Delivery Type or Delivery Item Category)

At which level do you define the following controls (delivery type or delivery item category)? To find your answers, look for the relevant fields in Customizing.

1. Number range for deliveries when internal numbering is used
 - a) Delivery type
2. Picking relevance
 - a) Delivery item category
3. Check minimum quantity for a material in the delivery
 - a) Delivery item category
4. What type of preceding document is required for the delivery
 - a) Delivery type

Task 2: Task 2: Create an Outbound Delivery with Reference to a Sales Order

When you create an outbound delivery with reference to a sales order, the system automatically determines the delivery type.

1. In the sales process, how does the system know which type of delivery to use for sales order type ZA## (*Trade Fair##-Order*)?
 - a) In Customizing, choose *Sales and Distribution* → *Sales* → *Sales Documents* → *Sales Document Header* → *Define Sales Document Types*.
 - b) Choose the *Position* button and enter **ZA##** in the *Sales Doc. Type* field. Choose *Continue (Enter)*.
 - c) Select *ZA## (Trade Fair##-Order)* and choose the *Details* button.
The *Delivery type* field contains *LF*.
2. You should always deliver your orders of type ZA## (*Trade Fair##-Order*) using express deliveries (delivery type ZL##). Make the relevant settings in Customizing.
 - a) In Customizing, choose *Sales and Distribution* → *Sales* → *Sales Documents* → *Sales Document Header* → *Define Sales Document Types*.
 - b) Choose the *Position* button and enter **ZA##** in the *Sales Doc. Type* field. Choose *Continue (Enter)*.
 - c) Select *ZA## (Trade Fair##-Order)* and choose the *Details* button.
Change the value of the *Delivery type* field from *LF* to *ZL##*. Save your change.



Caution:

Make sure that you are definitely on the *Details* screen for ZA## in the SaTy field.

Task 3: Define the Permitted Combination of Sales Document Type and Delivery Type

In *Define copying control*, you can define the permitted combination of sales document type and delivery type.

1. In Customizing, check which order types can be delivered using ZL## in the *Delivery type* field.
 - a) In Customizing, choose *Logistics Execution* → *Shipping* → *Copying Control* → *Specify Copy Control for Deliveries*.
 - b) Choose the *Position* button and enter **ZL##** in the *Delivery type* field. Choose *Continue (Enter)*.

Result



Note:

You see that *Delivery type ZL##* as the target document has, for example, both *Trade Fair##-Order ZA##* and *Standard Order OR* as the source document types assigned to it.

Task 4: Determine the Item Category in the Delivery

The system automatically determines the item categories in the delivery. What does the system take into account when it determines the item category in the delivery?

1. How is the item category determined for items that come from the sales order?
 - a) The item category in the respective order is copied as the item category for the delivery item.
2. How is the item category determined for items that are added to the delivery?
 - a) In Customizing, choose *Logistics Execution → Shipping → Deliveries → Define Item Category Determination in Deliveries*
3. In *Customizing*, find out which item category the system proposes when you create an additional item with *NORM* in the *ItCG* field in the material master and *ZL##* in the *DlVt* field.
 - a) In *Customizing*, choose *Logistics Execution → Shipping → Deliveries → Define Item Category Determination in Deliveries*.
 - b) Choose the *Position* button.
 - c) Select the following data:

Field	Value
<i>Delivery Type</i>	<i>ZL##</i>
<i>Item Cat. Group</i>	<i>NORM</i>

- d) Choose *Continue (Enter)*.

The system proposes *DLN* in the *ItmC* field.

Task 5: Create your own Item Category and Trade Fair Item for Orders and Deliveries

In addition to your own delivery type *ZL##*, you want to create and use your own *Item category ZA## (Trade Fair item ##)* for orders and deliveries.

1. Copy the sales document *item category TAN* and all dependent entries.
 - a) In *Customizing*, choose *Sales and Distribution → Sales → Sales Documents → Sales Document Item → Define Item Categories*.
 - b) Choose the *Position* button and enter **TAN** in the *Item category* field. Choose the *Continue (Enter)* button.
 - c) Select *TAN* in the *ItCa* field.
 - d) Choose *Edit → Copy As...*
 - e) Enter **ZA##** in the *Item category* field and enter **Trade Fair item ##** in the adjacent description field.
 - f) Choose *Copy (Enter)*.
 - g) In the *Dependent entries for copying control* pop-up window, choose the *Yes* button.
 - h) Save the item category.

2. After the sales document item category has been created, check whether a corresponding delivery item category was generated and whether the entries in copy control are complete.

- a) In Customizing, choose *Logistics Execution → Shipping → Deliveries → Define Delivery Item Categories*.

Check whether ZA## exists in the *ItCa* field.

- b) In Customizing, choose *Logistics Execution → Shipping → Copying Control → Specify Copy Control for Deliveries*.

- c) Choose the *Position* button and enter the following data:

Field	Value
<i>Delivery type</i>	ZL##
<i>SalesDocType</i>	ZA##

- d) Choose *Continue (Enter)*.

- e) Select ZL## in the *Tgt* field and ZA## in the *Source* field.

- f) Double-click *Item* in the *Dialog Structure* tree.

Check whether ZA## exists in the *ItmCt* field.

3. To use item category ZA## in orders with order type ZA##, you have to adjust the sales item category assignment in Sales and Distribution. Change the assignment for item category group NORM, without affecting the item category of any of the higher-level items.

- a) In Customizing, choose *Sales and Distribution → Sales → Sales Documents → Sales Document Item → Assign Item Categories*.

- b) Choose the *Position* button and enter the following data:

Field	Value
<i>Sales Doc. Type</i>	ZA##
<i>Item Cat. Group</i>	NORM
<i>Item Usage</i>	Leave Blank
<i>ItemCat-HglVitm</i>	Leave Blank

- c) Choose *Continue (Enter)*.

- d) In the *DfltC* column, replace TAN with ZA##.

- e) Save the item category assignment.

4. Ensure your new item category does not permit over-delivery.

- a) In Customizing, choose *Logistics Execution → Shipping → Deliveries → Define Delivery Item Categories*.

- b) Select ZA## in the *Item Category* field and choose the *Details* button.

- c) Select *Cancel action and display error message (B)* in the *Overdelivery field* and save the delivery item category.

Task 6: Check your Customizing Settings

Check your Customizing settings.

1. Create a trade fair order using the following data:

Field	Value
Order Type	ZA##
Sold-to Party	C610-A##
Sales Area	1010/10/00
Cust. Reference	##-4-1
Req. deliv.date	<Tomorrow's date>
Material	P610-1##
Order Quantity	12

Which item category does the system determine for the item?

-
- a) Choose *Logistics → Sales and Distribution → Sales → Order → Create*.
 - b) Enter the following data:

Field	Value
Order Type	ZA##
Sold-to Party	C610-A##
Cust. Reference	##-4-1
Req. deliv.date	<Tomorrow's date>
Material	P610-1##
Order Quantity	12

The item category is ZA##.

2. Deliver the order. What is the delivery type of the outbound delivery?

-
- a) Choose *Sales Document → Deliver*.
 - b) Choose *Goto → Header → Administration*.

The delivery type should be ZL##.

3. Change the delivery quantity of the item to 15. After changing the delivery quantity, what message does the system display?

-
- a) The system displays an error message because over-delivery is not allowed.

4. Change the delivery quantity back to 12.

5. Add another item to the outbound delivery. Enter material **P610-2##** and a quantity of **5**. What is the item category of this item?

a) Enter **P610-2##** in the *Material* field.

b) Enter **5** in the *Deliv. Qty* field. Choose *Enter*.

The system should determine the item category *DLN*.

6. Save the outbound delivery. What is the number of the outbound delivery?

a) The number should be within the number range 20000000 to 24999999.



LESSON SUMMARY

You should now be able to:

- Use Customizing settings to control delivery documents

Learning Assessment

1. Order items that are due for delivery and have the same delivery split criteria may be shipped using a single delivery document.

Determine whether this statement is true or false.

- True
- False

2. To determine the item category for an item added in the delivery, the system takes into account the delivery type and the item category group from the material master referenced in the item.

Determine whether this statement is true or false.

- True
- False

3. When a delivery is created for a sales order, how does the system know which type of delivery to use?

Choose the correct answer.

- A A default delivery type is specified in the shipping point.
- B The delivery type is specified in the sales document type.
- C The delivery type is specified in the sales item category.

UNIT 4

The Goods Issue Process Based on the Delivery

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UNIT OBJECTIVES

- Adjust the automatic determination of relevant fields for outbound delivery creation
- Adjust delivery and transportation scheduling
- Process outbound deliveries
- Work with the outbound delivery monitor

Unit 4

Lesson 1

Adjusting Automatic Determination of Relevant Fields for Outbound Delivery Creation

LESSON OVERVIEW

This lesson discusses the basic functions of shipping: delivering plant determination, shipping point determination, and route determination.

Business Example

When you configure SAP S/4HANA, the shipping points and routes you determine depend on the business process.

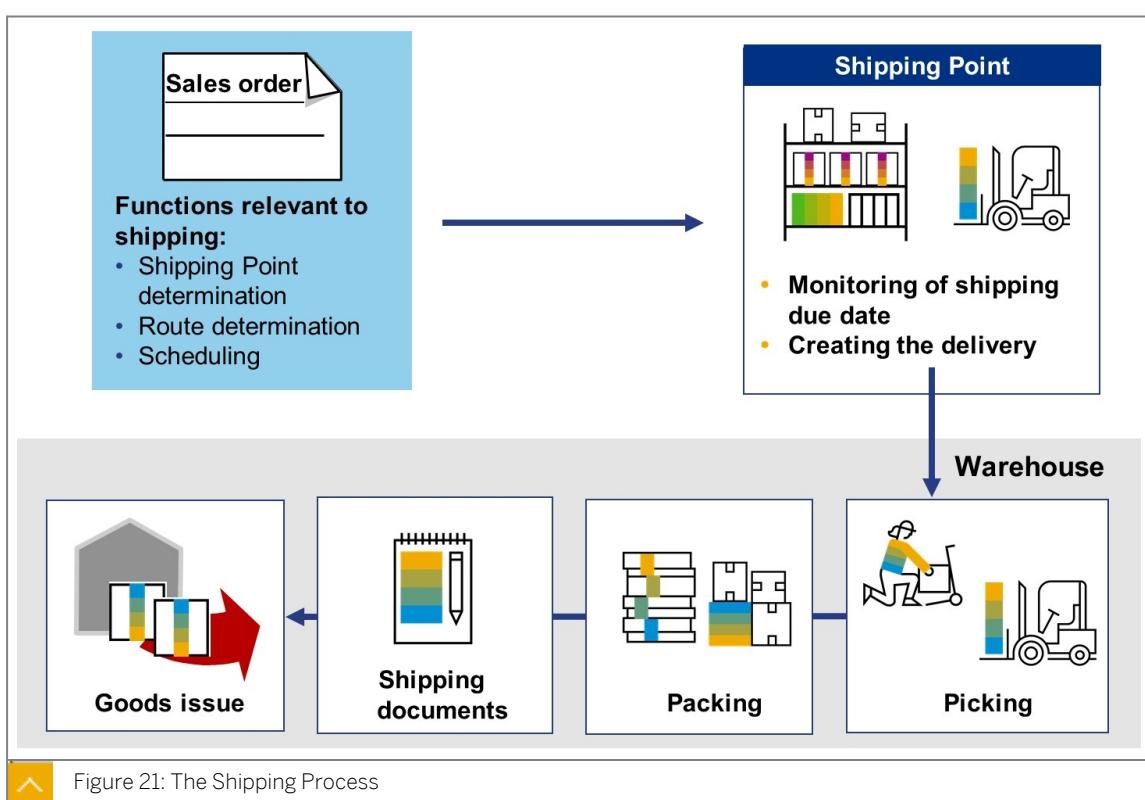


LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Adjust the automatic determination of relevant fields for outbound delivery creation

The Shipping Process





Animation: The Shipping Process

For more information on *The Shipping Process*, please view the animation in the lesson *Adjusting Automatic Determination of Relevant Fields for Outbound Delivery Creation* in your online course.

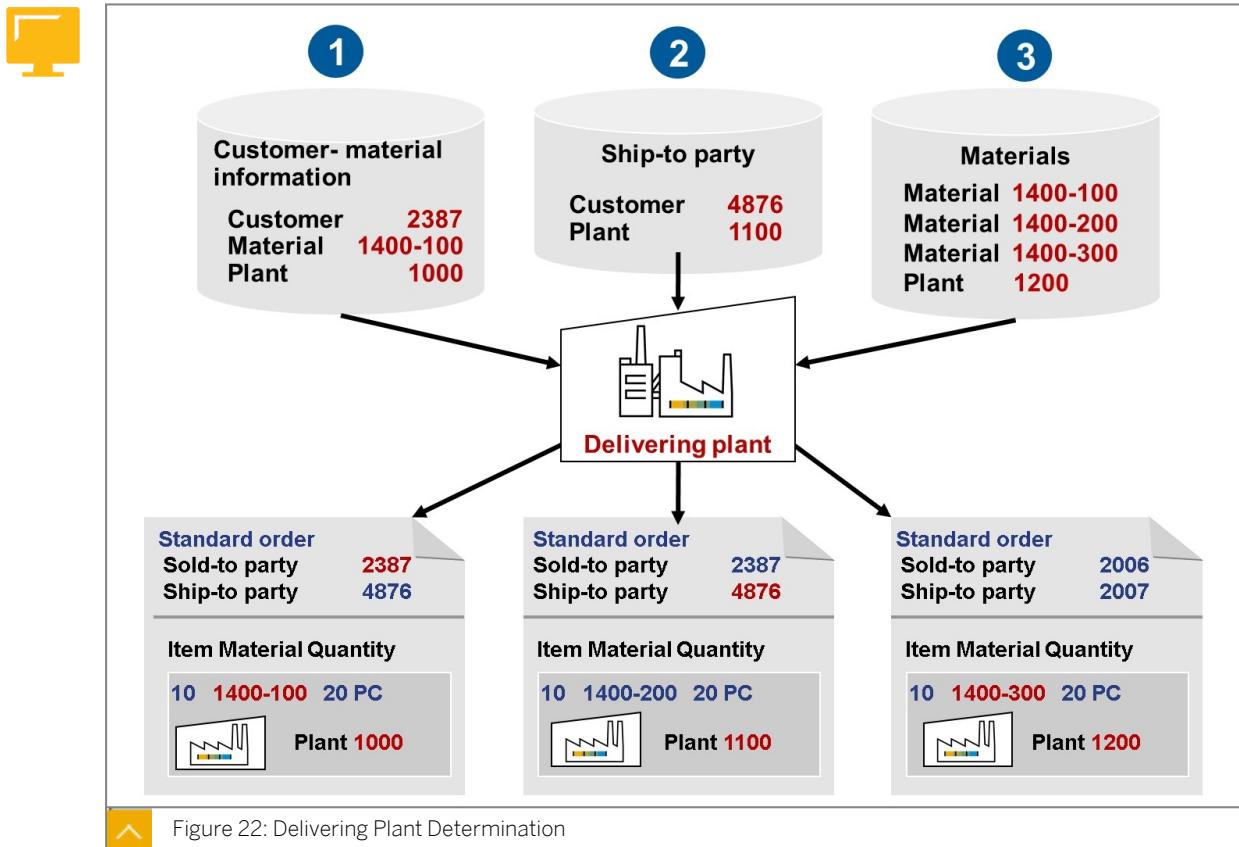
Shipping activities follow sales activities.

SAP S/4HANA supports the following functions within the shipping process:

- Monitoring of deadlines for reference documents due for shipping (for example, customer orders and purchase orders)
- Creating and processing outbound deliveries
- Monitoring goods availability
- Monitoring the capacity situation in the warehouse in WM and EWM
- Support for picking (with a link to the WM system or to EWM)
- Packing the delivery, which usually takes place in EWM
- Printing and distributing shipping documents
- Processing the goods issue, which usually takes place in EWM
- Controlling (through overviews) deliveries currently in progress, activities still to be performed, and possible bottlenecks

When a goods issue has been posted, deliveries are added to the billing due list. This acts as the basis for creation of a worklist for customer billing.

Determination of the Delivering Plant



In a sales order, the system determines the plant for each item based on the following priorities:

1. Customer-material information record
2. Customer master of the ship-to party
3. Material master



Animation: Delivering Plant Determination

For more information on *Delivering Plant Determination*, please view the animation in the lesson *Adjusting Automatic Determination of Relevant Fields for Outbound Delivery Creation* in your online course.

This determination logic is hard-coded. If you wish to change it, you can use the user exit "USEREXIT_SOURCE_DETERMINATION".

If the system locates a customer-material information master record, and a delivering plant is maintained there, the system proposes this plant with the highest priority for the order item.

If no customer-material information master record exists, or if no delivering plant is maintained there, the system attempts to determine the delivering plant from the ship-to party master record. If no plant is maintained in the ship-to party master record, the system looks for the delivering plant in the material master record.

Shipping Conditions

The shipping conditions field describes the shipping requirements for how goods are delivered to the customer. For example, your company might offer its customers a choice of express delivery or standard delivery. Some customers may choose express delivery to ensure their goods are delivered urgently, perhaps paying a surcharge for this, whereas others may be satisfied with a standard delivery, perhaps once per week.

The field is sometimes also used to identify the type of transport to be used in delivery. For example, most of your company's orders may be delivered by road (truck), while exports must be shipped using export containers. This would typically require two distinct shipping processes, each with its own team of responsible employees, and also its own set of delivery lead times.

Shipping conditions is stored at header level in the sales order. As we shall see shortly, it forms a critical input into the determination of the shipping point and also the route.

The system determines shipping conditions for a sales order based on the following priorities:

1. The sales document type
2. The business partner (customer)

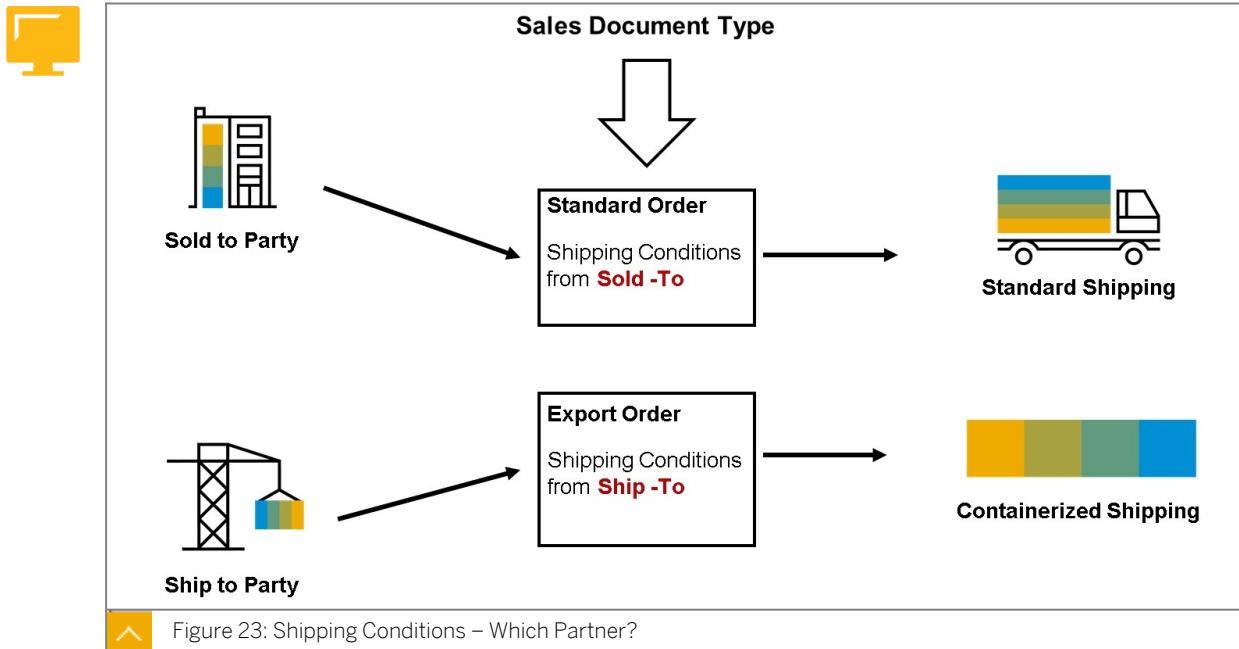
In earlier releases of SAP S/4HANA, the customer in this context was the sold-to party. The reason was that the shipping conditions represented part of the contractual agreement with the customer and must therefore be associated with the sold-to party. However, not all SAP customers wanted to work this way, believing the field was more logically associated with the ship-to party.

As of SAP S/4HANA 1909, this processing has become more flexible. A field called *Shipping Conditions from Ship-to-party Master Record* (or *Ship.Con.Ship-to-p.*) is available in the customizing of the sales document type. This enables you to choose, per sales document type, from which partner (sold-to or ship-to) you determine the shipping conditions.

The following values can be entered in the new field:

- Blank – Shipping conditions is retrieved from the sold-to party (as before)
- A – Shipping conditions is retrieved from the ship-to party
- B – Shipping conditions is retrieved from the ship-to party unless it is not maintained, in which case it is taken from the sold-to party

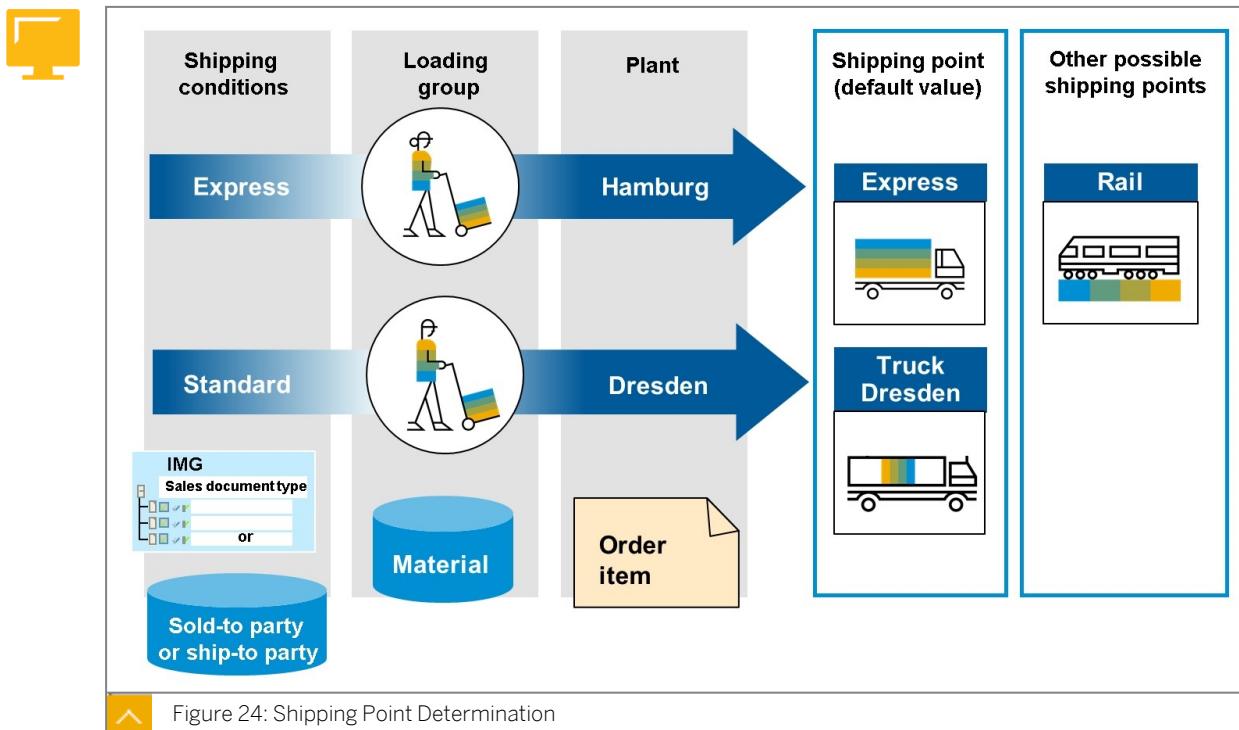
The figure *Shipping Conditions – Which Partner?* illustrates a scenario that makes use of this flexibility.



Animation: Shipping Conditions – Which Partner?

For more information on *Shipping Conditions – Which Partner?*, please view the animation in the lesson *Adjusting Automatic Determination of Relevant Fields for Outbound Delivery Creation* in your online course.

Determination of the Shipping Point



The system determines the responsible shipping point for each order item. It automatically proposes a shipping point, but you can change the shipping point within certain limits.

An outbound delivery is always managed by one shipping point only. The shipping point cannot be changed in the outbound delivery.



Animation: Shipping Point Determination

For more information on *Shipping Point Determination*, please view the animation in the lesson *Adjusting Automatic Determination of Relevant Fields for Outbound Delivery Creation* in your online course.

The shipping point depends on the following criteria:

- The delivering plant determined for each order item (from the customer-material information record, the ship-to party customer master record, or the material master record)
- The shipping requirements (for example, express shipping) in the *Shipping Conditions* field
- The required loading equipment within the material master record in the *Loading Group* field

If a shipping condition has been assigned to the sales document type, the system proposes that shipping condition first from the sales document type. If not, the system proposes the shipping conditions from the master record of either the sold-to party or ship-to party, depending on customizing of the sales order type.

The system does not copy order items with different shipping points into the same outbound delivery.

Route Determination

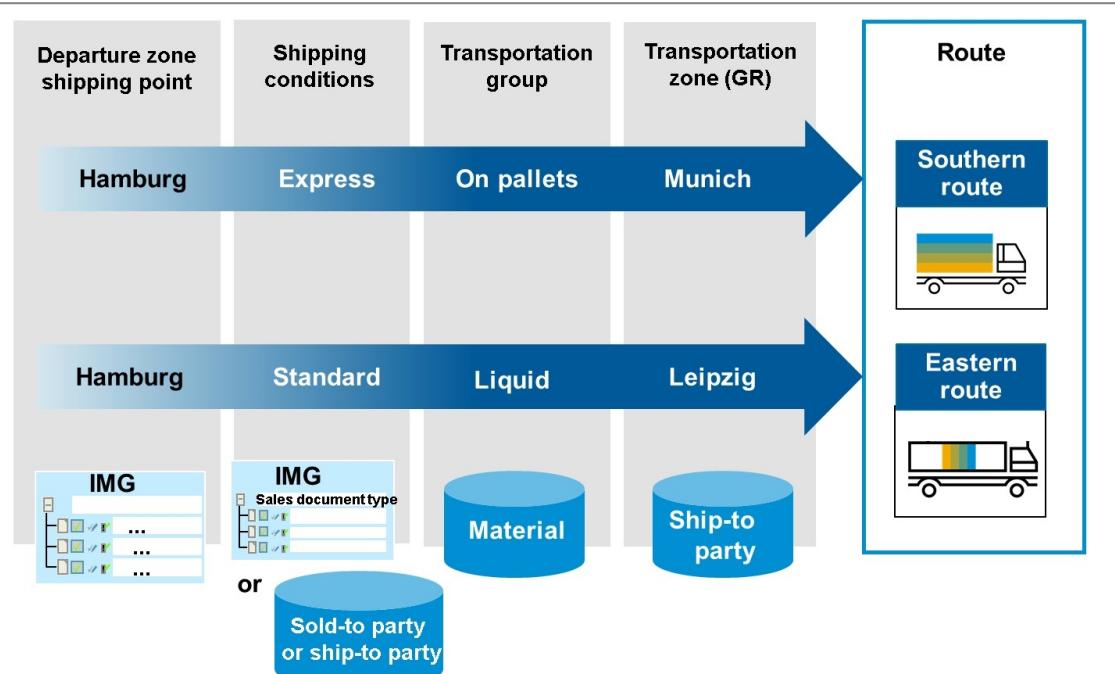


Figure 25: Route Determination



Animation: Route Determination

For more information on *Route Determination*, please view the animation in the lesson *Adjusting Automatic Determination of Relevant Fields for Outbound Delivery Creation* in your online course.

The system carries out automatic route determination in the sales order for each item.

Route determination depends on the following factors

- The country and departure zone of the shipping point (assigned in Customizing)
- The shipping condition from the *sales document type* or the customer master of the sold-to party or ship-to party (depending on the customization of the sales document type)
- The transportation group assigned to the material master
- The country and transportation zone of the ship-to party (assigned in the customer master record)

In the order item, you can manually overwrite the route determined by the system.

You can determine the route again in the outbound delivery. This route re-determination takes into account the same four factors as used in the order, but additionally evaluates the weight of the delivery against a series of predefined weight groups. Use of route re-determination is optional, and is set per delivery type in Customizing.

Unit 4

Exercise 6

Adjust the Automatic Determination of Relevant Fields for Outbound Delivery Creation



Simulation: Adjust the Automatic Determination of Relevant Fields for Outbound Delivery Creation

For more information on *Adjust the Automatic Determination of Relevant Fields for Outbound Delivery Creation*, please view the simulation in the lesson *Adjusting Automatic Determination of Relevant Fields for Outbound Delivery Creation* in your online course.

Business Example

Up to now, all of your deliveries have been processed by shipping point Z0##. Now you want to ensure that express materials are automatically processed by your newly created shipping point for express goods.

Configure the settings for determining the relevant shipping point and route for an outbound delivery.

Task 1:

1. Up to now, all your deliveries have been processed by shipping point Z0##. Find the table for determining the shipping point in Customizing and identify which table entry has been used to determine the shipping point in sales orders created so far.
2. You have decided to make the processing of express goods recognizable by the selection of an appropriate loading group. The shipping point for express goods, Y0##, processes deliveries for order items with loading group 0004. Set up shipping point determination so that the shipping point for express goods is proposed when you enter the following data:

Field	Value
Shipping Condition	50+##
Loading Group	0004
Plant	1010
Shipping Point	Y0##
Alternative Shipping Point	Z0##

Task 2:

Routes are used in various ways, depending on requirements. For simple delivery processing, you do not need to maintain stages for routes.

1. Create route Expr## – Express Route ## with the following entries:

Field	Value
TransLd Tm.	1
TrLeadTimeHrs	1:00

2. Maintain a new entry for route determination in the order. The system needs to determine the route **Expr##** in the following situation:

Field	Value
Shipping point	Y0##
Customer	C610-B##
Shipping conditions	50+##
Transportation group	0007

3. Deliveries with a weight of less than 1 kg are sent through a special transportation service provider. For this reason, you need to execute another route determination in the delivery to take into account the weight group. Maintain a new entry for route determination in the delivery using the following data:

Field	Value
Shipping Point	Y0##
Customer	C610-B##
Shipping conditions	50+##
Transportation group	0007
Weight group	0001
Actual route	R00030

You do not need to make any additional entries. The system retains the route from the order for other combinations of the shipping conditions, transportation group, and weight group.

4. Check whether a new route determination is executed for delivery type **ZL##**.

Adjust the Automatic Determination of Relevant Fields for Outbound Delivery Creation



Simulation: Adjust the Automatic Determination of Relevant Fields for Outbound Delivery Creation

For more information on *Adjust the Automatic Determination of Relevant Fields for Outbound Delivery Creation*, please view the simulation in the lesson *Adjusting Automatic Determination of Relevant Fields for Outbound Delivery Creation* in your online course.

Business Example

Up to now, all of your deliveries have been processed by shipping point Z0##. Now you want to ensure that express materials are automatically processed by your newly created shipping point for express goods.

Configure the settings for determining the relevant shipping point and route for an outbound delivery.

Task 1:

1. Up to now, all your deliveries have been processed by shipping point Z0##. Find the table for determining the shipping point in Customizing and identify which table entry has been used to determine the shipping point in sales orders created so far.
 - a) In Customizing, choose *Logistics Execution → Shipping → Basic Shipping Functions → Shipping Point and Goods Receiving Point Determination → Assign Shipping Points*.
 - b) Choose the *Position* button and enter the following data:

Field	Value
Shp. Cond.	50+## (Determined from the customer master)
Loading Group	0003 (Determined from the material master)
Plant	1010 (Determined from the material master)

The proposed shipping point is Z0##.

2. You have decided to make the processing of express goods recognizable by the selection of an appropriate loading group. The shipping point for express goods, Y0##, processes

deliveries for order items with loading group **0004**. Set up shipping point determination so that the shipping point for express goods is proposed when you enter the following data:

Field	Value
<i>Shipping Condition</i>	50##
<i>Loading Group</i>	0004
<i>Plant</i>	1010
<i>Shipping Point</i>	Y0##
<i>Alternative Shipping Point</i>	Z0##

- In Customizing, choose *Logistics Execution → Shipping → Basic Shipping Functions → Shipping Point and Goods Receiving Point Determination → Assign Shipping Points*.
- Choose the *New Entries* button.
- Enter the data indicated.
- Choose *Enter*.
- Save your data.

Task 2:

Routes are used in various ways, depending on requirements. For simple delivery processing, you do not need to maintain stages for routes.

- Create route **Expr## – Express Route ##** with the following entries:

Field	Value
<i>TransLd Tm.</i>	1
<i>TrLeadTimeHrs</i>	1:00

- In Customizing, choose *Logistics Execution → Shipping → Basic Shipping Functions → Routes → Define Routes → Define Routes and Stages*.
- Choose the *New Entries* button and enter **Expr##** in the *Route* field and **Express Route ##** in the *Description* field.
- Enter the following data:

Field	Value
<i>TransLd Tm.</i>	1
<i>TrLeadTimeHrs</i>	1:00



Note:

You can enter the transportation lead times in the *TransLdTm.* and *TrLeadTimeHrs* fields on the Change View "Routes": Overview screen, or you can select **Expr##** in the Route field and choose *Goto → Details*.

- d) Save your data.
2. Maintain a new entry for route determination in the order. The system needs to determine the route **Expr##** in the following situation:

Field	Value
<i>Shipping point</i>	X0##
<i>Customer</i>	C610-B##
<i>Shipping conditions</i>	50+##
<i>Transportation group</i>	0007

- a) In Customizing, choose *Logistics Execution → Shipping → Basic Shipping Functions → Routes → Route Determination → Maintain Route Determination*.
- b) Choose the *Position* button and enter the following data:

Field	Value
<i>Shipping Point</i>	X0##
<i>Customer</i>	C610-B##

- c) Choose *Continue (Enter)*.
- d) In the table *Ctry of dep./dep zone* and *ctry of dest./recv.zone*, the entry for the requested shipping point and ship-to party is displayed as the first entry. Select this entry and in the Dialog Structure tree, double-click *Route Determination Without Weight Group (Order)*.

- e) Choose the *New Entries* button and enter the following data:

Field	Value
<i>SC</i>	50+##
<i>TGroup</i>	0007
<i>Proposed route</i>	Expr##

- f) Save your data.

3. Deliveries with a weight of less than 1 kg are sent through a special transportation service provider. For this reason, you need to execute another route determination in the delivery to take into account the weight group. Maintain a new entry for route determination in the delivery using the following data:

Field	Value
Shipping Point	X0##
Customer	C610-B##
Shipping conditions	50+##
Transportation group	0007
Weight group	0001
Actual route	R00030

You do not need to make any additional entries. The system retains the route from the order for other combinations of the shipping conditions, transportation group, and weight group.

- a) In Customizing, choose *Logistics Execution → Shipping → Basic Shipping Functions → Routes → Route Determination → Maintain Route Determination*.

- b) Choose the *Position* button and enter the following data:

Field	Value
Shipping Point	X0##
Customer	C610-B##

- c) Choose *Continue (Enter)*.

- d) In the table *Ctry of dep./dep zone* and *ctry of dest./recv.zone*, the entry for the requested shipping point and ship-to party is displayed as the first entry. Select this entry and in the Dialog Structure tree, double-click *Route Determination with Weight Group (Delivery)*.

- e) Choose the *New Entries* button and enter the following data:

Field	Value
SC	50+##
TGroup	0007
WgtGr	0001
Actual Route	R00030

- f) Save the new entry.

4. Check whether a new route determination is executed for delivery type ZL##.

- a) In Customizing, choose *Logistics Execution → Shipping → Basic Shipping Functions → Routes → Route Determination → Define New Route Determination By Delivery Type*.

The value in the column *RD* is A for delivery type ZL##. This means that a new route determination is performed in the delivery.



LESSON SUMMARY

You should now be able to:

- Adjust the automatic determination of relevant fields for outbound delivery creation

Adjusting Delivery and Transportation Scheduling

LESSON OVERVIEW

This lesson discusses the concepts of backward scheduling, forward scheduling, precise scheduling, and route schedules. It also discusses how to adjust the Customizing settings for scheduling.

Business Example

When you configure the delivery and transportation scheduling, you must consider various elements. Different shipping activities require different levels of processing and the corresponding lead times must be taken into account. For regular outbound deliveries, consider using SAP route schedules. For this reason, you require the following knowledge:

- An understanding of how to configure transportation scheduling and use the route schedule function

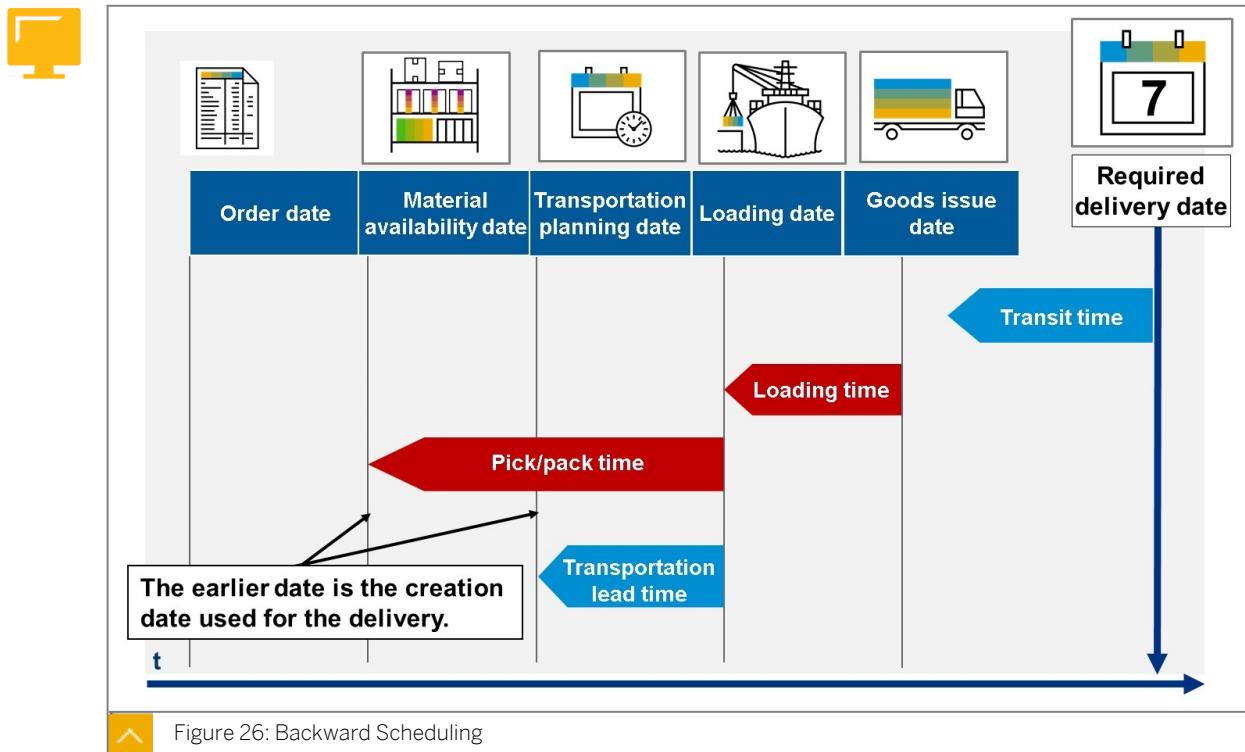


LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Adjust delivery and transportation scheduling

Backward Scheduling



Animation: Backward Scheduling

For more information on *Backward Scheduling*, please view the animation in the lesson *Adjusting Delivery and Transportation Scheduling* in your online course.

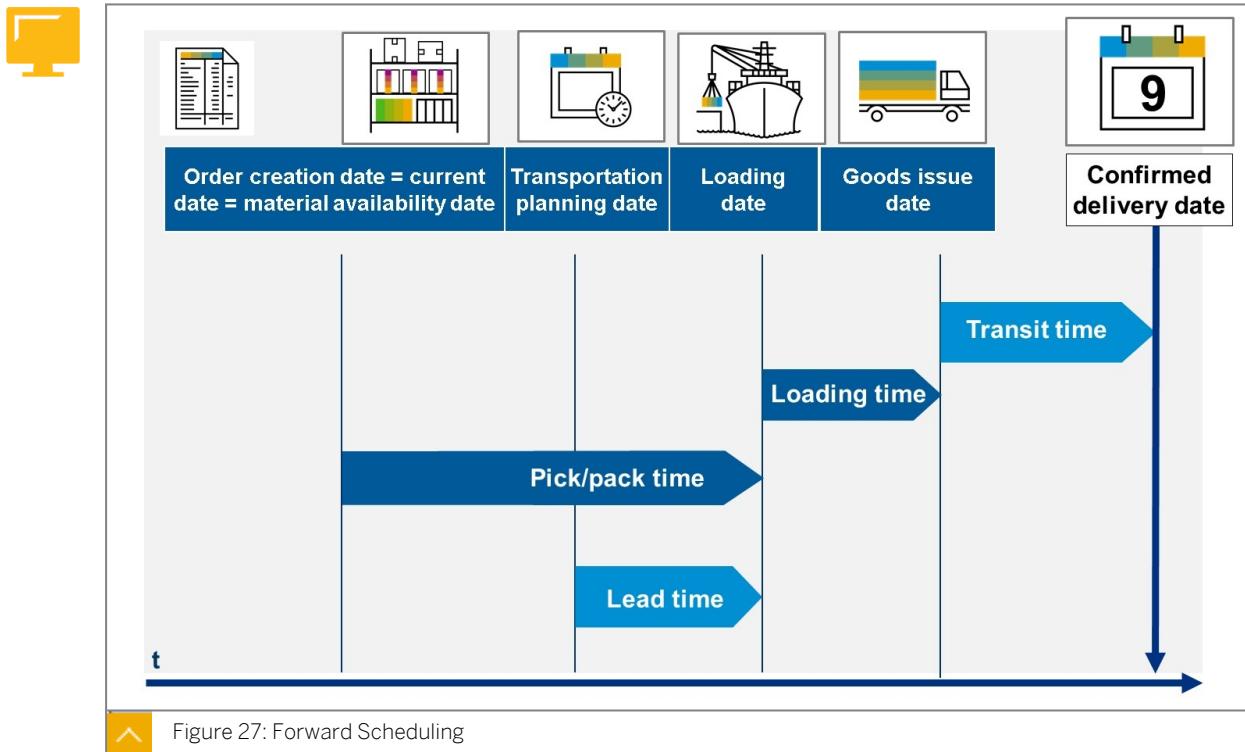
When you create an order, the system determines the required material availability date based on the delivery date requested by the customer. The goods to be delivered must be available for shipping at that point in time.

Scheduling takes into account the following lead times:

- **Transit time**
Time required to ship an outbound delivery to the ship-to party
- **Loading time**
Time required for loading the goods
- **Pick/pack time**
Time required for picking and packing
- **Transportation lead time**
Time required for organizing the transportation

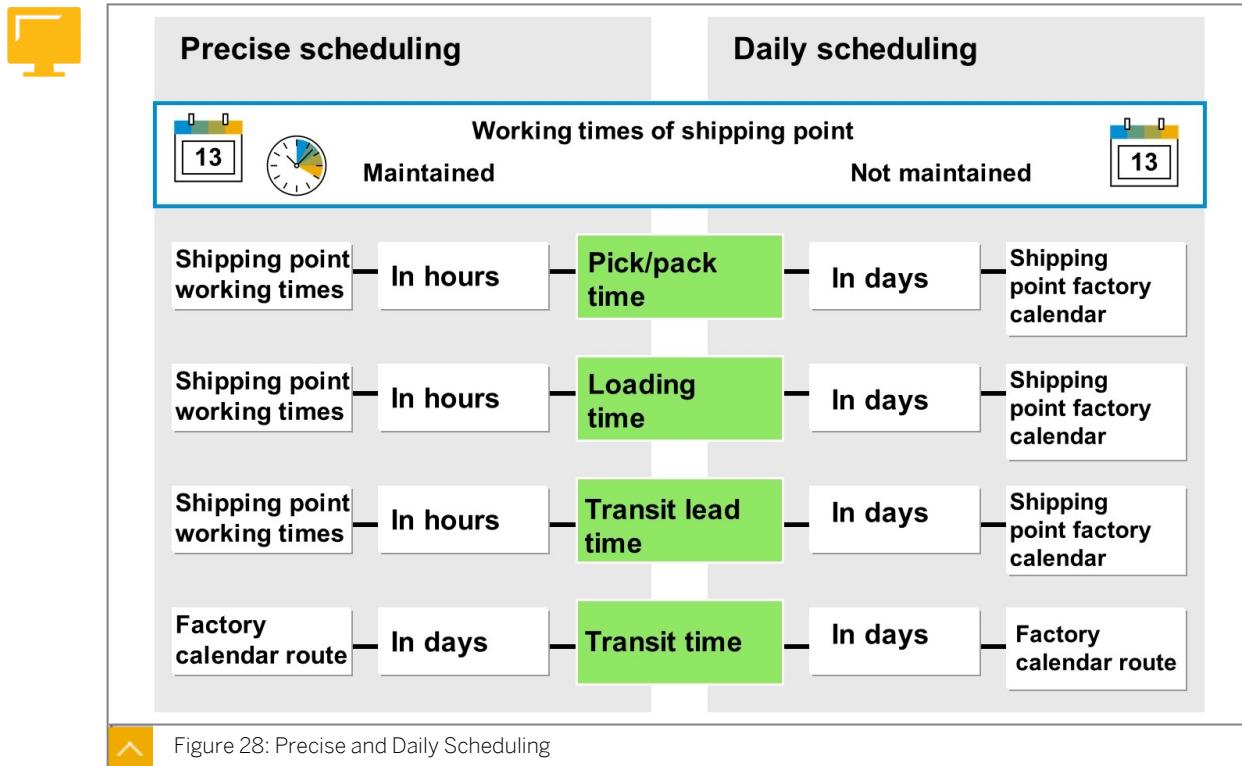
The loading time and pick/pack time are taken from the shipping point, whereas the transit time and the transportation lead time are taken from the route.

Forward Scheduling



The system first performs backward scheduling in the order. If this results in a date in the past, the system automatically performs forward scheduling, which confirms a new delivery date. The system also performs forward scheduling if the material is not available on the material availability date. When you create an outbound delivery you can carry out forward scheduling again. Forward scheduling also resolves the "delay" in an outbound order that occurs if the material availability date determined in an order falls before the time when the outbound delivery is created. For each delivery type, you can specify whether rescheduling is needed.

Precise Scheduling



You can choose which scheduling logic the system should use for each shipping point. The working times of the shipping point can be taken into account during scheduling. The working times of a shipping point consist of a calendar, which must agree with the factory calendar stored for the shipping point, as well as a shift sequence. The shift sequence defines the shifts for each weekday, and the shifts define the times for starting and finishing work. The route is used to determine the transportation planning lead time. It is also used to determine the transit time.

If you have maintained the working times of the shipping point, the system performs precise scheduling. Both types of scheduling use the factory calendar of the route to determine when the route is used.



Animation: Precise and Daily Scheduling

For more information on *Precise and Daily Scheduling*, please view the animation in the lesson *Adjusting Delivery and Transportation Scheduling* in your online course.

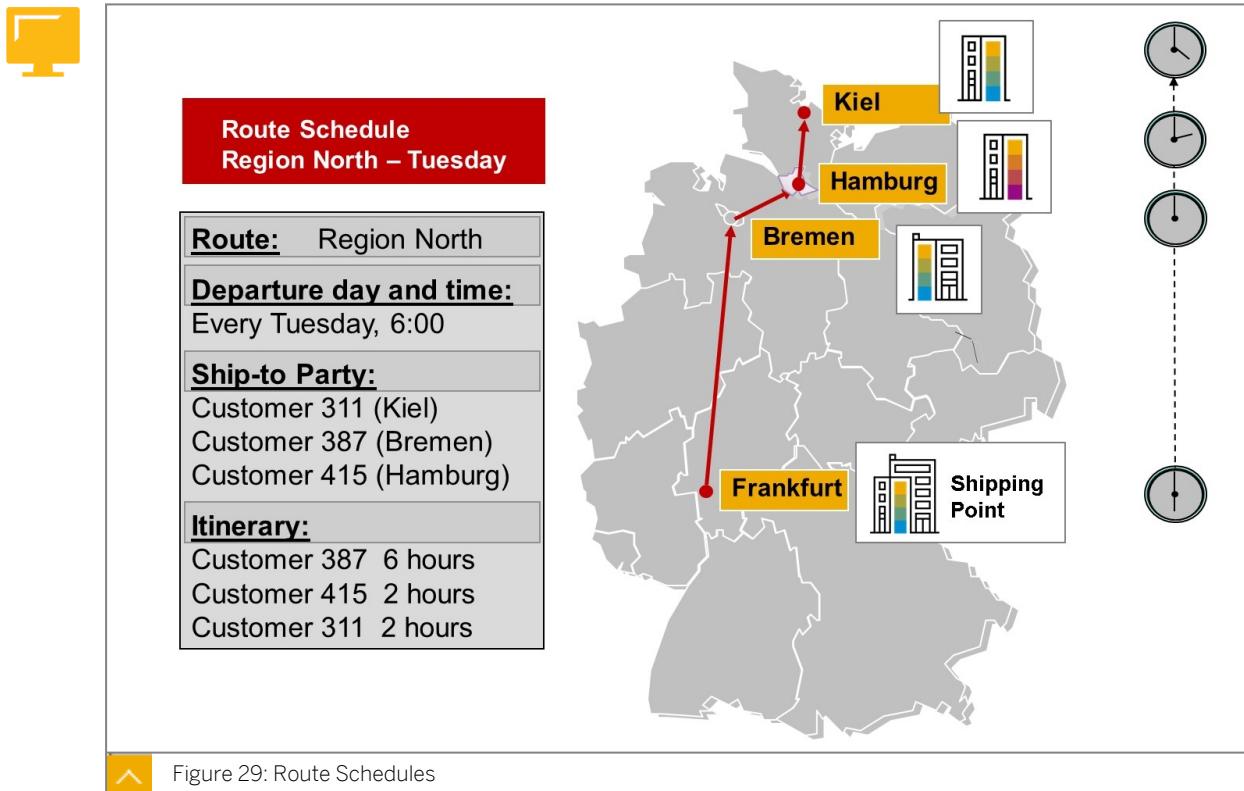
The following are some of the features of precise scheduling:

- The system calculates and displays the results of scheduling to the minute.
- The system uses the working times of the shipping point.
- Pick/pack and loading times are specified in hours and minutes.

The following are some of the features of daily scheduling:

- The system uses days, hours, and minutes for calculation but only displays the resulting date.
- The system uses the factory calendar of the shipping point.

Route Schedules



Animation: Route Schedules

For more information on *Route Schedules*, please view the animation in the lesson *Adjusting Delivery and Transportation Scheduling* in your online course.

You can use a route schedule to organize outbound deliveries from a particular shipping point to different ship-to parties that occur regularly in the same sequence for a certain route. You can also use route schedules as selection criteria for the individual steps in shipping processing. For example, you could pick all the deliveries that belong to the same route schedule together.

The route schedule generally contains the following:

- A route
- A weekday as the departure date, along with a departure time
- A list of ship-to parties
- An itinerary (optional)

You can use route schedules in sales orders, stock transfer orders, and outbound deliveries. The system determines them automatically.

In Customizing, you define whether the system should assign a route schedule for each shipping point, order type, purchasing document type, delivering plant and delivery type. For more information about the route schedule, see SAP Note 146829.

Unit 4

Exercise 7

Adjust Delivery and Transportation Scheduling



Simulation: Adjust Delivery and Transportation Scheduling

For more information on *Adjust Delivery and Transportation Scheduling*, please view the simulation in the lesson *Adjusting Delivery and Transportation Scheduling* in your online course.

Business Example

Shipping point Z0## has processed all your deliveries. Now, you want to determine the scheduling that the shipping point uses. For this reason, you must know how to configure scheduling for a shipping point.

Determine the scheduling for your shipping point and configure precise scheduling for the shipping point by assigning working times.

In Customizing, check the scheduling for your shipping point for express goods Y0##.

1. Determine whether shipping point Y0## uses daily or precise scheduling. Which field tells you this?
2. Configure precise scheduling for *Shipping Point Y0##* by assigning *Working time - 2 shifts*.
3. The pick/pack time and loading time each take two and a half hours. Define these times for the shipping point.

Result

Unit 4 Solution 7

Adjust Delivery and Transportation Scheduling



Simulation: Adjust Delivery and Transportation Scheduling

For more information on *Adjust Delivery and Transportation Scheduling*, please view the simulation in the lesson *Adjusting Delivery and Transportation Scheduling* in your online course.

Business Example

Shipping point Z0## has processed all your deliveries. Now, you want to determine the scheduling that the shipping point uses. For this reason, you must know how to configure scheduling for a shipping point.

Determine the scheduling for your shipping point and configure precise scheduling for the shipping point by assigning working times.

In Customizing, check the scheduling for your shipping point for express goods Y0##.

1. Determine whether shipping point Y0## uses daily or precise scheduling. Which field tells you this?
 - a) In Customizing, choose *Logistics Execution → Shipping → Basic Shipping Functions → Scheduling → Delivery Scheduling and Transportation Scheduling → Define Scheduling By Shipping Point*.
 - b) Select Y0## in the *Shipping Point* field.
 - c) Choose the *Details* button.

The shipping point Y0## uses daily scheduling because the *Working times* field is empty.

2. Configure precise scheduling for *Shipping Point Y0##* by assigning *Working time - 2 shifts*.
 - a) Enter **2-SHIFT 2-Shifts working Times**.
 - b) Choose *Enter*.
3. The pick/pack time and loading time each take two and a half hours. Define these times for the shipping point.
 - a) In the *Determine times* screen area, enter the following data:

Field	Value
<i>Loading time - w.hrs</i>	2:30
<i>Pick/Pack Time-Wk Hrs</i>	2:30

- b) Choose *Enter*.

c) Save.

Result

Unit 4

Exercise 8

Test Scheduling Settings



Simulation: Test Scheduling Settings

For more information on *Test Scheduling Settings*, please view the simulation in the lesson *Adjusting Delivery and Transportation Scheduling* in your online course.

Business Example:

Once you have configured the corresponding settings, you want to test whether the system really does determine the new shipping point for express orders. For this reason, you must know how to test the settings that you have made in Customizing.

Test the settings you have made in Customizing for orders for express goods that your shipping point has to process, and confirm that you get the results you expect.

1. Create a trade fair order (**ZA##**). Use the following data:

Field	Value
Sold-To Party	C610-B##
Cust. Reference	##-5-1
Req. Deliv.Date	<Day after tomorrow>
Material	Material P610-3##
Order Quantity	15

2. Which shipping point does the system determine in the item?

3. Which route does the system determine in the item?

4. Can the required delivery date be confirmed?

5. Check the following dates and times that the system generated:

Field	Value
Delivery date	
Goods issue date	
Loading date	

Field	Value
<i>Material avail.date</i>	
<i>Transportation Plan. Date</i>	
<i>Tr. Plan. Time.</i>	

Result

Unit 4 Solution 8

Test Scheduling Settings



Simulation: Test Scheduling Settings

For more information on *Test Scheduling Settings*, please view the simulation in the lesson *Adjusting Delivery and Transportation Scheduling* in your online course.

Business Example:

Once you have configured the corresponding settings, you want to test whether the system really does determine the new shipping point for express orders. For this reason, you must know how to test the settings that you have made in Customizing.

Test the settings you have made in Customizing for orders for express goods that your shipping point has to process, and confirm that you get the results you expect.

1. Create a trade fair order (**ZA##**). Use the following data:

Field	Value
Sold-To Party	C610-B##
Cust. Reference	##-5-1
Req. Deliv.Date	<Day after tomorrow>
Material	Material P610-3##
Order Quantity	15

- a) Choose *Logistics → Sales and Distribution → Sales → Order → Create*.
- b) Enter **ZA##** in the *Order Type* field and choose *Enter*.
- c) Enter the data provided in the table.
- d) Save the order.

2. Which shipping point does the system determine in the item?

- a) Choose *Logistics → Sales and Distribution → Sales → Order → display*.
- b) Enter the number of the order you created in step 1 and press *Enter*.
- c) Choose the *Shipping* tab page.
The system determines shipping point **Y0##**.

3. Which route does the system determine in the item?

- a) On the *Shipping* tab page, the system determines route *Expr##*.
4. Can the required delivery date be confirmed?
- a) Select *P610-3##* in the *Material* field.
- b) Choose *Goto → Item → Schedule Lines*.
- You can also choose the *Schedule lines* tab page to validate the delivery date. In this case, the system does not generate a further schedule line. The required delivery date can therefore be confirmed as deadline for the delivery.
5. Check the following dates and times that the system generated:

Field	Value
<i>Delivery date</i>	
<i>Goods issue date</i>	
<i>Loading date</i>	
<i>Material avail.date</i>	
<i>Transportation Plan. Date</i>	
<i>Tr. Plan. Time.</i>	

- a) Select *P610-3##* in the *Material* field.
- b) Choose the *Display item details* button.
- c) Choose the *Schedule lines* tab page.
- d) Choose the *Shipping* button.

Result



LESSON SUMMARY

You should now be able to:

- Adjust delivery and transportation scheduling

Processing Outbound Deliveries

LESSON OVERVIEW

This lesson provides an overview of further options for creating outbound delivery documents. It discusses how to adapt the processing of delivery due lists to meet the requirements of your company. It also discusses the determination of the picking location, as well as changing and adding to outbound deliveries.

Business Example

Outbound deliveries can be created using collective processing, which groups together sales orders with identical shipping criteria. The system creates the documents required for the shipping process based on the delivery documents. For this reason, you require the following knowledge:

- An understanding of how to create outbound deliveries using collective processing.
- An understanding of how to determine the picking location.
- An understanding of how to change and add to outbound deliveries.

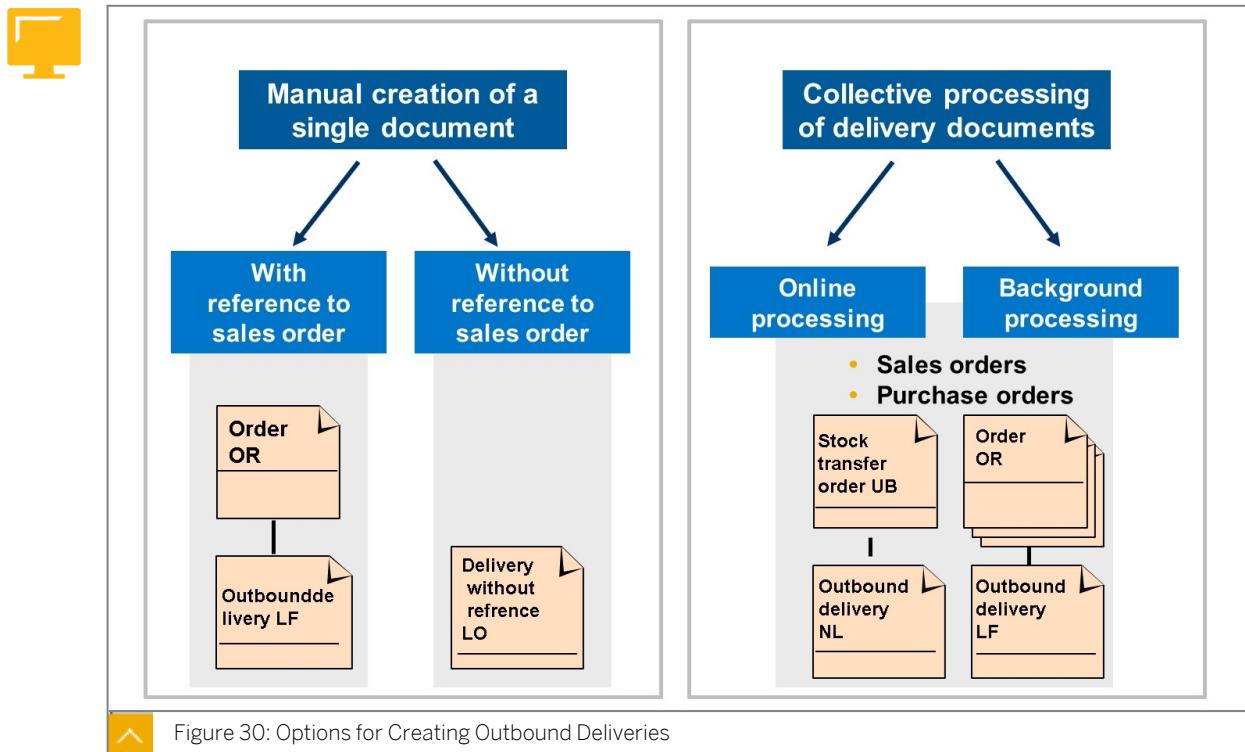


LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Process outbound deliveries

Creation of Outbound Deliveries



Animation: Options for Creating Outbound Deliveries

For more information on *Options for Creating Outbound Deliveries*, please view the animation in the lesson *Processing Outbound Deliveries* in your online course.

You can create a single outbound delivery manually with or without reference to a sales order. However, you cannot use this approach to deliver purchase orders or other requests.

If you use collective processing, you can create deliveries for both sales orders and purchase orders. This type of processing automatically creates multiple outbound deliveries, and can be executed either online or by a background task (for example, using an overnight run).

Delivery Due List

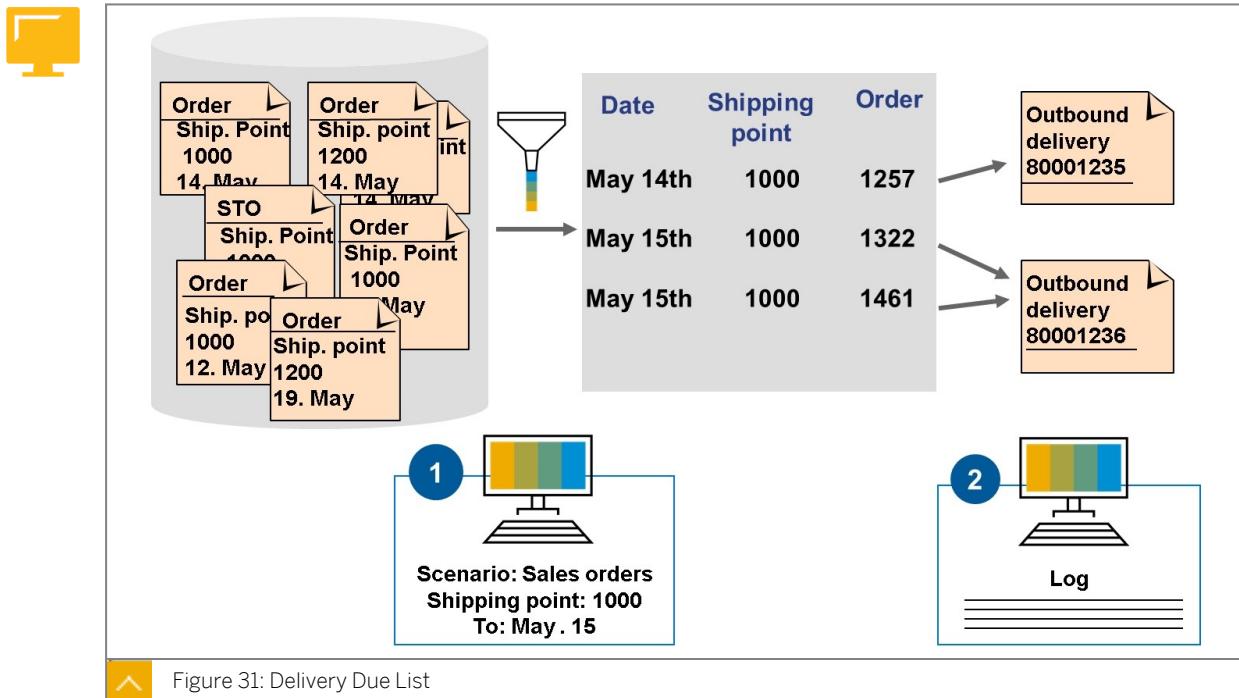


Figure 31: Delivery Due List



Animation: Delivery Due List

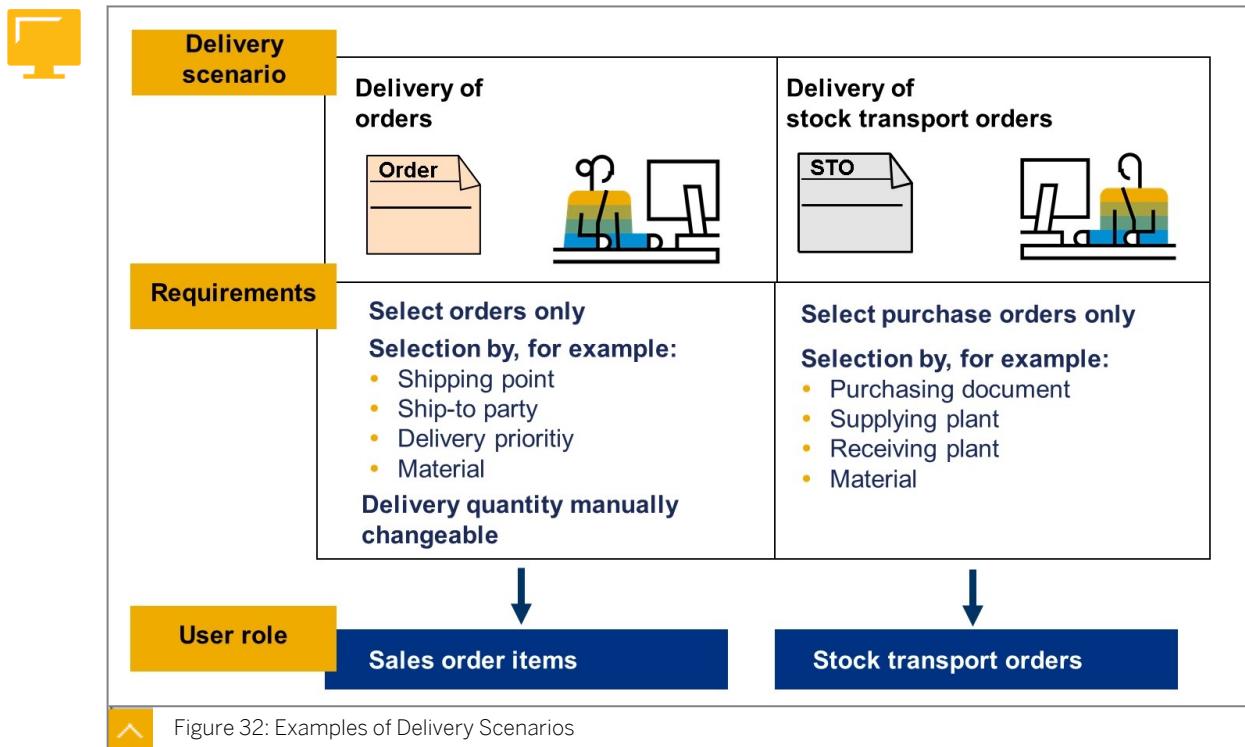
For more information on *Delivery Due List*, please view the animation in the lesson *Processing Outbound Deliveries* in your online course.

The delivery due list is a worklist of all operations requiring deliveries. You use various criteria to select the documents that you need to deliver using collective processing. Then, the system automatically creates the outbound deliveries.

If the shipping criteria (for example, shipping point, route, ship-to party) are the same, the system can combine sales documents to form one outbound delivery, if required (order combination). This option must of course be requested by the customer and recorded using the *Order Combination* field (as a default in the customer master, or alternatively in the header of a specific order or orders). Alternatively, the system may split an order into several outbound deliveries if the shipping criteria are different in the various order items.

You use delivery scenarios to model the different business processes for deliveries. When you process the delivery due list, you choose the most appropriate scenario.

Delivery Scenarios



A delivery scenario models a business process for delivering goods for orders that are due to be shipped. For example, one delivery scenario might support the creation of deliveries for sales orders on an item-by-item basis, whereas another might enable you to deliver stock transport orders on an order-by-order basis. A range of delivery scenarios is delivered as standard in SAP S/4HANA.

Using user roles (also known as list profiles), you can model your requirements for the delivery process. User roles enable you to fine-tune your processing of the delivery due list, allowing you to control the scope of selection, the display of the delivery due list, and the delivery type.



Animation: Examples of Delivery Scenarios

For more information on *Examples of Delivery Scenarios*, please view the animation in the lesson *Processing Outbound Deliveries* in your online course.

In the standard system, a user role is assigned to each delivery scenario. You can maintain the user roles in Customizing. If users always or frequently work with the same scenario, they can configure it to meet their personal requirements and use it as their default scenario (user specific delivery scenario).

The following parameters and values have to be defined for creating a user-specific delivery scenario:

Parameter ID	Parameter Value
LE_VL10_SZENARIO	VL10
LE_VL10_PROFIL	Key for list profile

Parameter ID	Parameter Value
LE_VL10_USER_VARIANT	Variant name

Selection and Display of the Delivery Due List

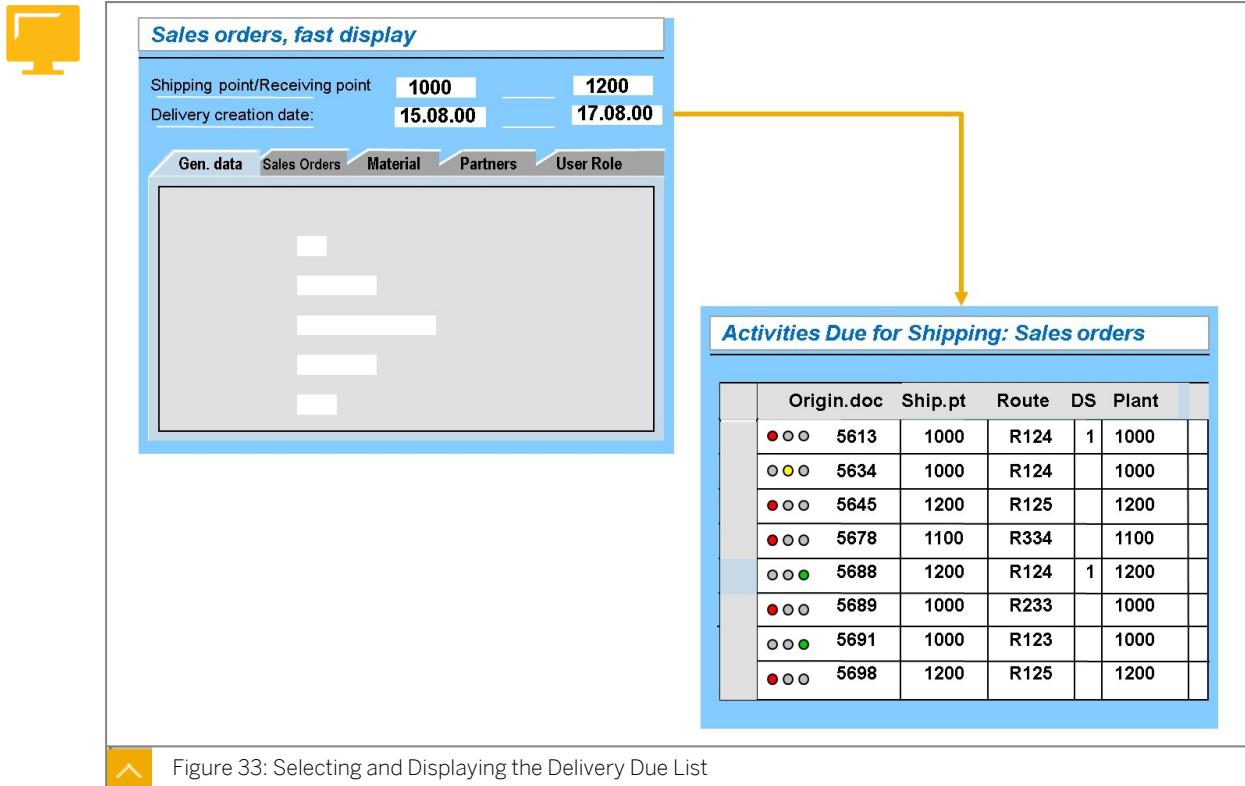


Figure 33: Selecting and Displaying the Delivery Due List

The different criteria for selecting documents due for delivery are displayed on tabstrips. The number of tabstrips and the selection criteria differ according to the delivery scenario and user role.

Users can define variants in their user-specific scenarios and, thus, create user-specific selection criteria. When you have made your selection, the system displays a list of all documents due for delivery that correspond to your selection criteria. The settings in the user role also affect how the list is displayed. There are many SAP List Viewer functions available within the list, such as sort, sum, and filter.

From the list, you can create deliveries online or in the background, and branch to the relevant documents. You can also change the display of the list while you are using it by accessing display variants.

Determination of the Picking Location

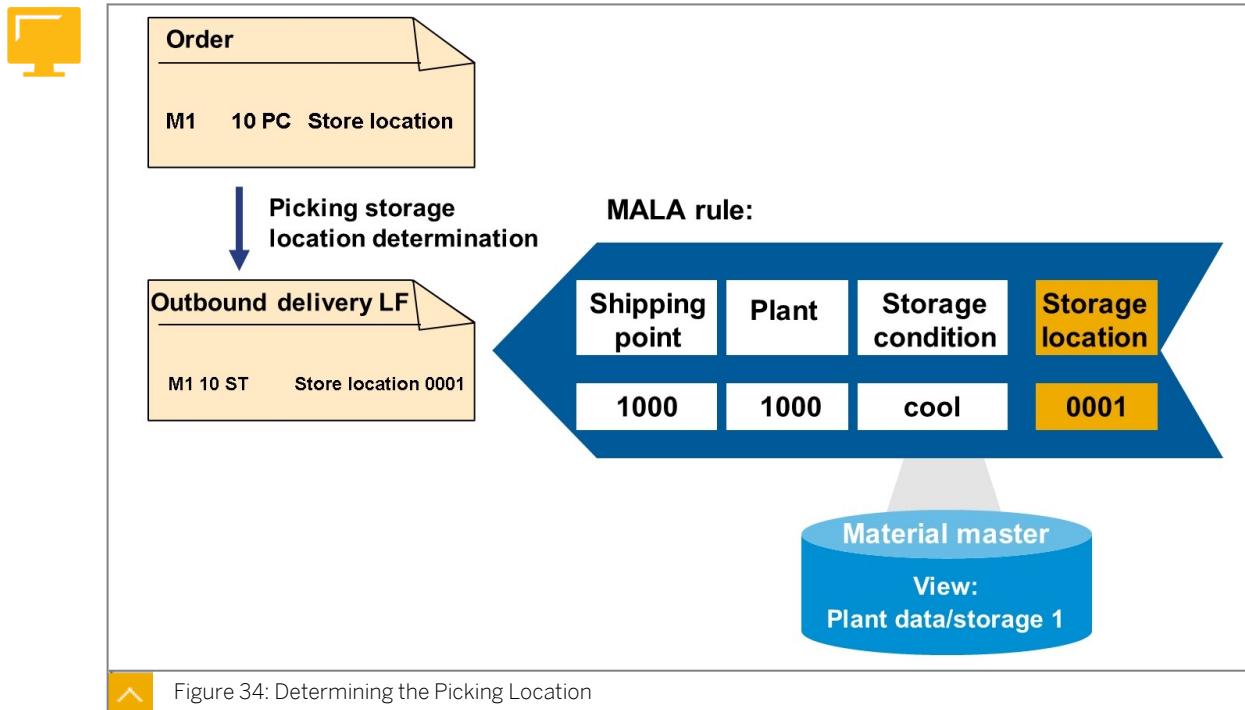


Figure 34: Determining the Picking Location

If you do not specify any storage location in the order item, the system determines the storage location when it creates the outbound delivery and copies it into the delivery item. The system determines the picking location based on a rule defined in the delivery type.

The following rules are shipped in the standard system:

- **MALA**

The system determines the picking location based on the shipping point, the delivering plant, and the material's storage condition (as defined in the material master).

- **RETA and MARA**

The system uses these rules mainly in trade scenarios.

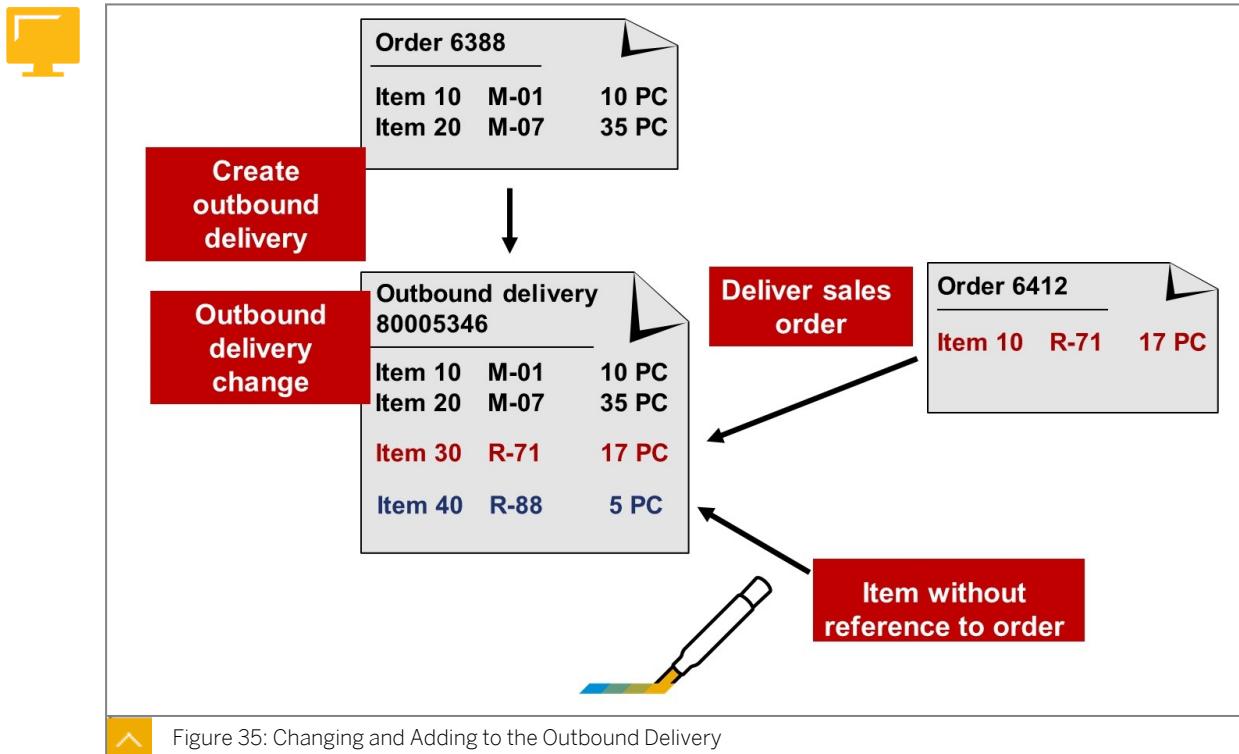


Animation: Determining the Picking Location

For more information on *Determining the Picking Location*, please view the animation in the lesson *Processing Outbound Deliveries* in your online course.

You can also use the customer exit in SAP enhancement V02V0002 to implement storage location determination. The picking location search is activated for each delivery item category.

Change of Outbound Deliveries



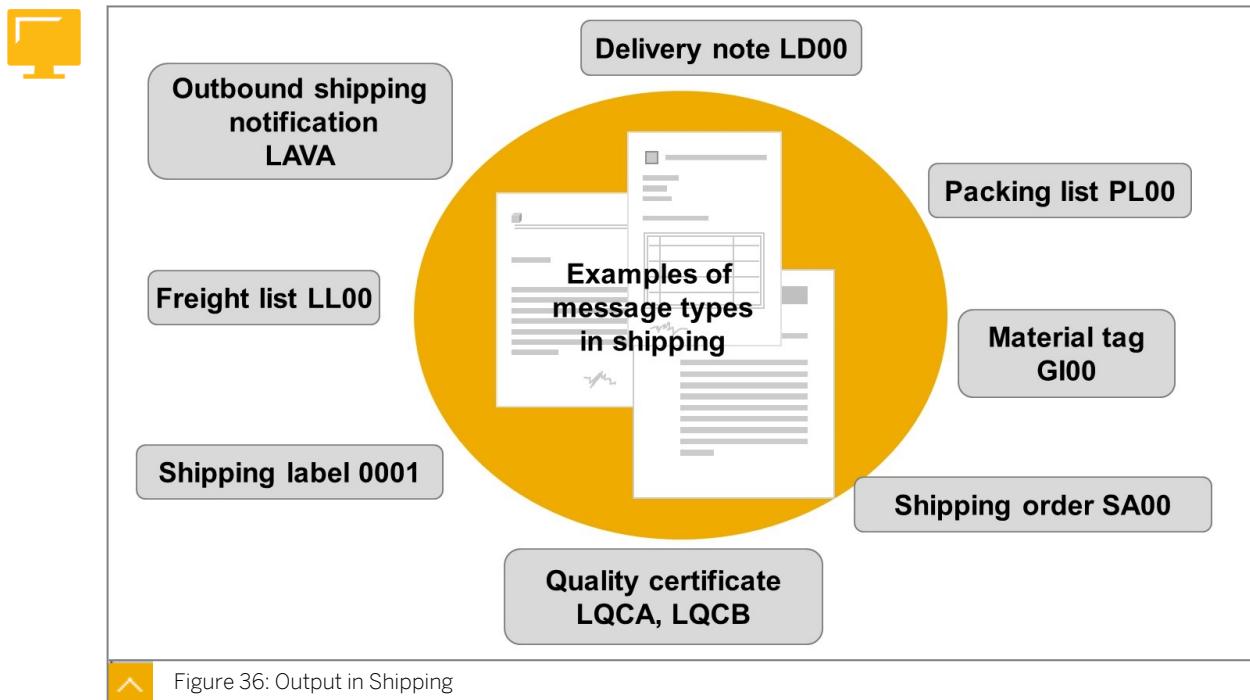
Animation: Changing and Adding to the Outbound Delivery

For more information on *Changing and Adding to the Outbound Delivery*, please view the animation in the lesson *Processing Outbound Deliveries* in your online course.

You can change or add to delivery documents after you have saved them. For example, you could add items to the outbound delivery. These items may refer to other orders (deliver order function). The same split criteria apply to the additional orders as to the combination of orders during collective processing.

You can also add items to the outbound delivery without referring to an order. For these items, the system determines the item category using the usual rules. However, when you have created an outbound delivery, you can no longer change critical information, such as the ship-to party and shipping point.

Output



Output is a communication tool that supports the exchange of information between you and your partners. Output can be sent from different objects such as an outbound delivery, a group of outbound deliveries, or a handling unit. For example, the delivery note and the packing list are created on the basis of the outbound delivery, and the freight list is created on the basis of a group of outbound deliveries.

You can make output determination dependent on different criteria. The condition technique provides you with flexible control options.

Features of Output with Condition Technique

Using condition technique, you can manage the following features of output:

- How does the system send the output (for example, printout, fax, or electronic data interchange)?
- When does the system create the output (send time)?
- To whom does the system send the output (partner or partner function)?
- To which printer does the system send the output (for printed output)?

In the outbound delivery, there is a distinction between header and item output. Header output refers to the entire document (for example, a delivery note). You can also create item output for each document item (for example, a quality inspection certificate).

For handling units, you typically print labels. The standard system provides sample forms for output types. You can adapt these to suit your own company-specific requirements.

Unit 4 Exercise 9

Process Outbound Deliveries



Simulation: Process Outbound Deliveries

For more information on *Process Outbound Deliveries*, please view the simulation in the lesson *Processing Outbound Deliveries* in your online course.

Business Example

You create a single outbound delivery (specifically for a particular sales order) only in exceptional circumstances. For your daily operations, you automate your processes and deliver matching orders together. To do this, you use the worklist for shipping, which is called the delivery due list.

When you commence the picking process, you need to know from which storage location the goods are to be taken. For automatic storage location determination, both the physical storage criteria and material requirements for storage conditions play a role. During shipping processing, you often need an overview of the outbound deliveries that have been created. You also use lists and worklists for different shipping activities, such as picking, loading or posting goods issue.

Task 1:

Delivery due list.

1. In the shipping point that processes standard operations, **Z0##**, you work with the delivery due list to create outbound deliveries for sales orders. You now want to create outbound deliveries for all orders. Because you want to fully deliver sales orders only, choose the scenario *Sales Orders* for collective processing. On the selection screen, make the necessary entries to select the orders you want to deliver.
2. Display the log. How many deliveries were created? Give a reason for the result.
3. You now want to look at the log for this collective processing run, but you have already left the transaction. Go to the log and make the selection using your user name.

Task 2:

Determining the picking location.

1. When you defined the shipping point for express goods **Y0##**, you used the copy function and copied the entries into dependent tables. This also affected the settings for determining the picking location. These settings were already maintained for the copy source (shipping point **Z0##**). Check that the following storage location is determined for shipping point **Y0##** with different combinations.

Shipping Point	Plant	Storage Condition	Storage Location
Y0##	1010	<Blank>	101S

Shipping Point	Plant	Storage Condition	Storage Location
YO##	1010	70	101C

Unit 4 Solution 9

Process Outbound Deliveries



Simulation: Process Outbound Deliveries

For more information on *Process Outbound Deliveries*, please view the simulation in the lesson *Processing Outbound Deliveries* in your online course.

Business Example

You create a single outbound delivery (specifically for a particular sales order) only in exceptional circumstances. For your daily operations, you automate your processes and deliver matching orders together. To do this, you use the worklist for shipping, which is called the delivery due list.

When you commence the picking process, you need to know from which storage location the goods are to be taken. For automatic storage location determination, both the physical storage criteria and material requirements for storage conditions play a role. During shipping processing, you often need an overview of the outbound deliveries that have been created. You also use lists and worklists for different shipping activities, such as picking, loading or posting goods issue.

Task 1:

Delivery due list.

1. In the shipping point that processes standard operations, **z0##**, you work with the delivery due list to create outbound deliveries for sales orders. You now want to create outbound deliveries for all orders. Because you want to fully deliver sales orders only, choose the scenario *Sales Orders* for collective processing. On the selection screen, make the necessary entries to select the orders you want to deliver.
 - a) Choose *Logistics* → *Logistics Execution* → *Outbound Process* → *Goods Issue for Outbound Delivery* → *Outbound Delivery* → *Create* → *Collective Processing of Documents Due for Delivery* → *Sales Orders*.
 - b) On the *Sales Orders, Fast Display* screen, enter the following data:

Field	Value
<i>Shipping Point/Receiving Pt</i>	z0##
<i>Deliv. Creation Date</i>	<From: Blank. To: today's date>

- c) Choose the *Execute* button.
 - d) Choose the *Select All* button.
 - e) Choose the *Background* button.
2. Display the log. How many deliveries were created? Give a reason for the result.

- a) Choose the *Log for Delivery Creation* button.

If the system has created multiple outbound deliveries, this is probably because the orders to be delivered had different ship-to parties.

3. You now want to look at the log for this collective processing run, but you have already left the transaction. Go to the log and make the selection using your user name.

- a) Choose *Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Lists and Logs → Collective Processing Log*.

- b) Enter the following data:

Field	Value
Type of Coll. Run	I
Started By	S4610-##

- c) Choose the *Execute* button.

Task 2:

Determining the picking location.

1. When you defined the shipping point for express goods Y0##, you used the copy function and copied the entries into dependent tables. This also affected the settings for determining the picking location. These settings were already maintained for the copy source (shipping point Z0##). Check that the following storage location is determined for shipping point Y0## with different combinations.

Shipping Point	Plant	Storage Condition	Storage Location
Y0##	1010	<Blank>	101S
Y0##	1010	70	101C

- a) In Customizing, choose *Logistics Execution → Shipping → Picking → Determine Picking Location → Assign Picking Locations*.
- b) Choose the *Position* button.
- c) Enter shipping point **Y0##**, plant **1010**, and storage condition **<blank>**.
- d) Change the storage location in the first entry from **101S** to **101C**.
- e) Save the data.



LESSON SUMMARY

You should now be able to:

- Process outbound deliveries

Unit 4

Lesson 4

Using the Outbound Delivery Monitor

LESSON OVERVIEW

This lesson discusses the concept of the outbound delivery monitor.

Business Example

Depending on the business process, you have to perform various functions from the outbound deliveries list that the outbound delivery monitor displays. For this reason, you require the following knowledge:

- An understanding of how to use the outbound delivery monitor

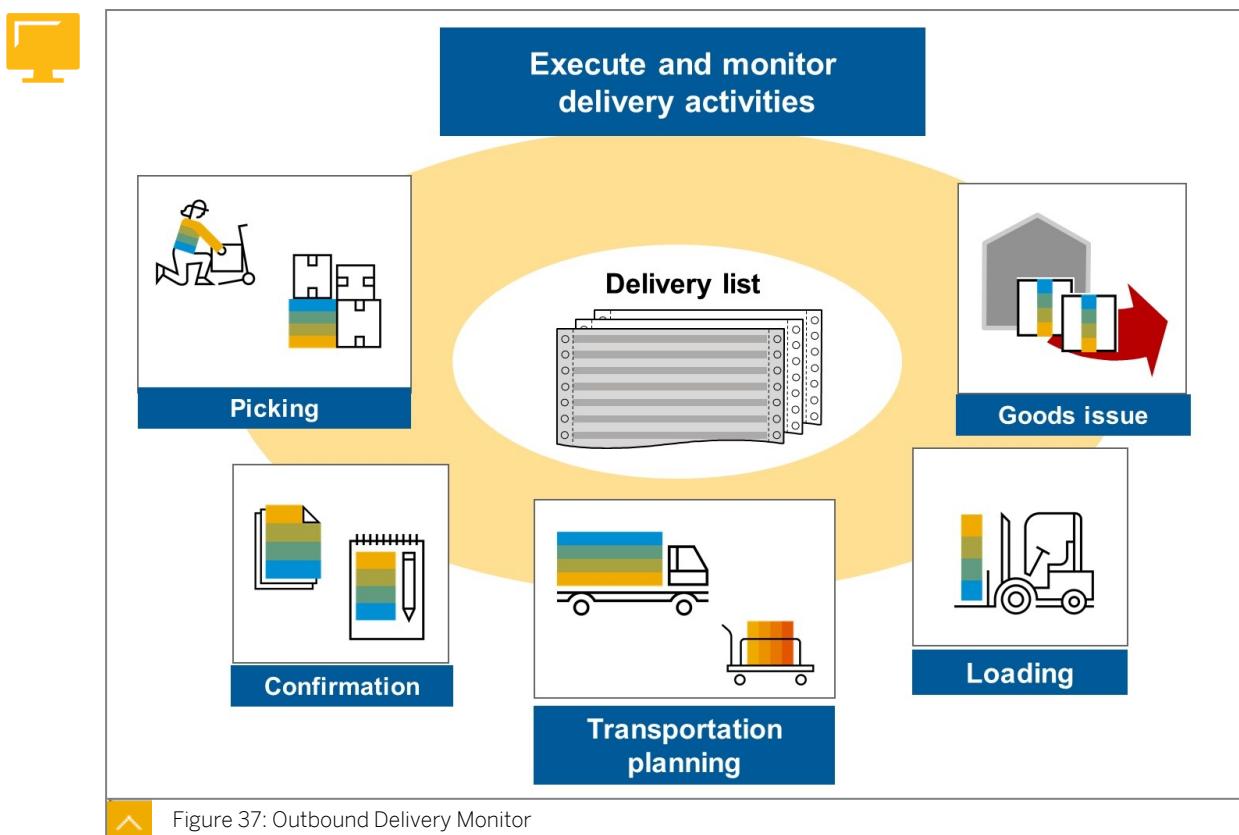


LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Work with the outbound delivery monitor

Outbound Delivery Monitor





Animation: Outbound Delivery Monitor

For more information on *Outbound Delivery Monitor*, please view the animation in the lesson *Using the Outbound Delivery Monitor* in your online course.

The outbound delivery monitor displays all deliveries that are still to be processed or that have been processed. The system displays a list of the selected outbound deliveries, and you can perform subsequent functions from this list.

You can define user-specific variants, such as selection variants or display variants, for selecting and displaying documents. You can also use the outbound delivery monitor to execute important follow-on functions in collective processing, such as posting goods issue.

You can use the inbound delivery monitor to monitor and execute inbound delivery activities in the same way.

Unit 4 Exercise 10

Work with the Outbound Delivery Monitor - Optional



Simulation: Work with the Outbound Delivery Monitor

For more information on *Work with the Outbound Delivery Monitor*, please view the simulation in the lesson *Using the Outbound Delivery Monitor* in your online course.

Business Example

You need an overview of the deliveries that the system has created. You also need a list of these deliveries for different shipping activities. For this reason, you need to know how to work with the outbound delivery monitor.

Create a list of outbound deliveries in descending order and send this list to another group.

1. You want to display all outbound deliveries that you have created this week in your *Shipping Point z0##*. Create a list of outbound deliveries in the outbound delivery monitor. Make your selection using your *Shipping Point z0##* and the delivery creation date (start of this week until today).
2. Sort the list by delivery date in descending order.

Unit 4 Solution 10

Work with the Outbound Delivery Monitor - Optional



Simulation: Work with the Outbound Delivery Monitor

For more information on *Work with the Outbound Delivery Monitor*, please view the simulation in the lesson *Using the Outbound Delivery Monitor* in your online course.

Business Example

You need an overview of the deliveries that the system has created. You also need a list of these deliveries for different shipping activities. For this reason, you need to know how to work with the outbound delivery monitor.

Create a list of outbound deliveries in descending order and send this list to another group.

1. You want to display all outbound deliveries that you have created this week in your *Shipping Point z0##*. Create a list of outbound deliveries in the outbound delivery monitor. Make your selection using your *Shipping Point z0##* and the delivery creation date (start of this week until today).
 - a) Choose *Logistics* → *Logistics Execution* → *Outbound Process* → *Goods Issue for Outbound Delivery* → *Outbound Delivery* → *Lists and Logs* → *Outbound Delivery Monitor*.
 - b) Choose the *List Outbound Deliveries* button.
 - c) Enter the following data and choose the *Execute* button:

Field	Value
<i>Shipping Point</i>	z0##
<i>Created on</i>	<From the beginning of the week to to-day's date>

2. Sort the list by delivery date in descending order.
 - a) Position the cursor on the *Deliv. date* field and choose the *Sort in Descending Order* button.



LESSON SUMMARY

You should now be able to:

- Work with the outbound delivery monitor

Learning Assessment

1. If the system finds a customer-material information record which contains a plant, this plant takes highest priority when determining the delivering plant for the order item.

Determine whether this statement is true or false.

- True
 False

2. You can issue an outbound delivery from two different shipping points.

Determine whether this statement is true or false.

- True
 False

3. Deliveries that have already been posted for goods issue can form the basis for creating a billing worklist.

Determine whether this statement is true or false.

- True
 False

4. Transit time is the time that the system requires for organizing the transportation.

Determine whether this statement is true or false.

- True
 False

5. In precise scheduling, the system uses days, hours, and minutes for calculation, but only displays the resulting date.

Determine whether this statement is true or false.

- True
 False

6. The working hours of a shipping point consist of a calendar (which must agree with the factory calendar stored for the shipping point) and a shift sequence.

Determine whether this statement is true or false.

True

False

7. The route schedule contains the following:

Choose the correct answers.

A A route

B A weekday as the arrival date, along with an arrival time

C A list of ship-to parties

D An itinerary (optional)

8. If you create an outbound delivery manually, with or without reference to a sales order, you can use the same delivery to deliver purchase orders or other requests.

Determine whether this statement is true or false.

True

False

9. The delivery due list is a worklist of all operations requiring deliveries.

Determine whether this statement is true or false.

True

False

10. As per the RETA rule, the system determines the picking location based on the shipping point, the delivering plant, and the material's storage conditions defined in the material master.

Determine whether this statement is true or false.

True

False

11. The outbound delivery monitor can display all deliveries processed by the system.

Determine whether this statement is true or false.

True

False

12. You can use the outbound delivery monitor to monitor and execute inbound delivery activities.

Determine whether this statement is true or false.

True

False

UNIT 5

Processes and Functions based on the Delivery with Embedded EWM

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UNIT OBJECTIVES

- Use EWM for picking
- Process EWM-relevant documents
- Post a goods issue
- Create inbound deliveries in SAP EWM
- Use special functions in deliveries

Picking Outbound Deliveries with EWM

LESSON OVERVIEW

This lesson discusses the picking process in SAP S/4HANA. This process makes use of transfer orders (TOs) when using Warehouse Management (WM). However, as of SAP S/4HANA 1610, it is becoming more common that Extended Warehouse Management (EWM) is used to perform warehouse management tasks. This lesson therefore focuses on the picking process using EWM.

Business Example

Your company wants to use embedded EWM for the picking process as well as the posting of goods issue via EWM. For this reason you need the following knowledge:

- An understanding of the picking process using EWM
- An understanding of the process flow between SD and EWM
- How to use the EWM warehouse monitor

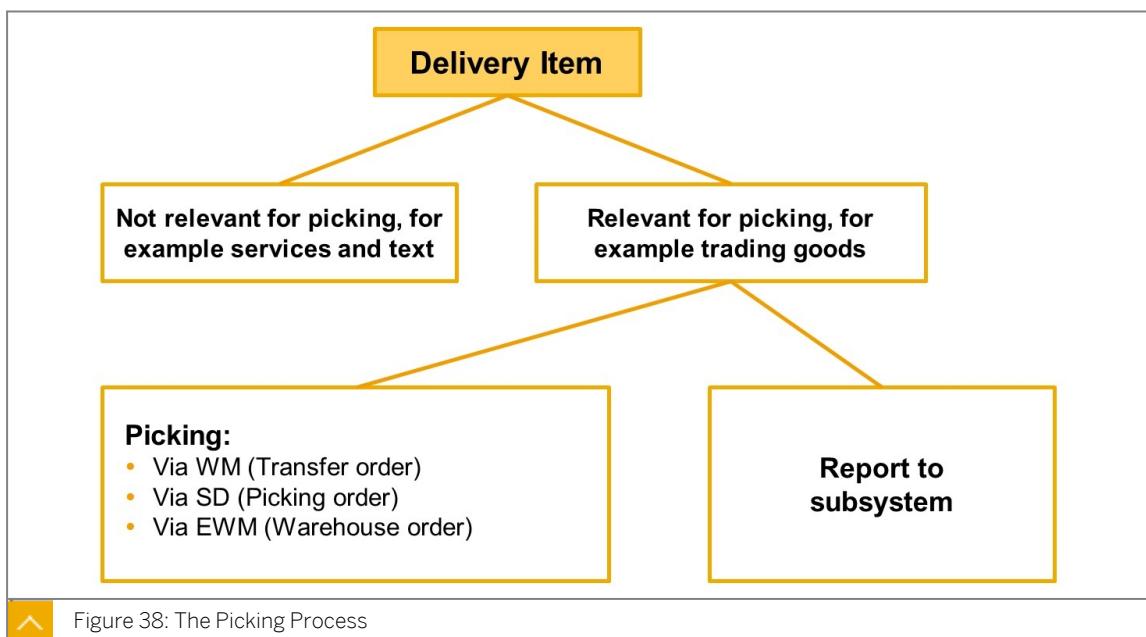


LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Use EWM for picking
- Process EWM-relevant documents

Overview



A picking and goods issue process is necessary to fulfill customer orders, supply demand for production, or issue goods internally to a cost center or against an internal order.

Demand from external customers is captured in the form of sales orders. A manufacturing order is the source for demand from production. For internal usage of material, only an outbound delivery is required. This could be created in inventory management (IM), but can also be created directly in SAP EWM, which is usually simpler.

Goods Issue with EWM

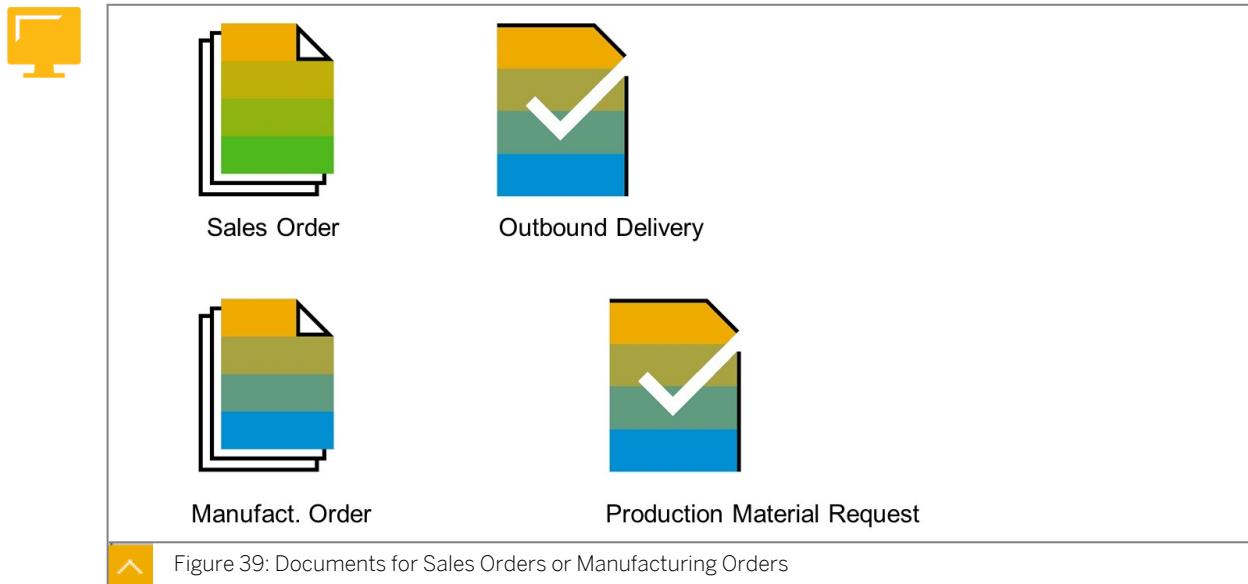


Figure 39: Documents for Sales Orders or Manufacturing Orders



Animation: Documents for Sales Orders or Manufacturing Orders

For more information on *Documents for Sales Orders or Manufacturing Orders*, please view the animation in the lesson *Picking Outbound Deliveries with EWM* in your online course.

For goods issue in an SAP EWM managed warehouse, different documents are used, depending on the business process and system settings. In the case of a sales order, an outbound delivery is used. There is a Logistics Execution (LE) outbound delivery and corresponding documents in SAP EWM. To supply manufacturing orders, LE outbound deliveries may be created, but it is also possible to create a production material request directly in SAP EWM, thereby reducing the number of documents in frequently running production processes.

Sales Order and Outbound Delivery

For sales order items which need to be processed in an SAP EWM warehouse, an LE outbound delivery is created with reference to the sales order. The delivery is replicated to SAP EWM as an outbound delivery order. This outbound delivery order is used for the creation of warehouse tasks to pick the goods.

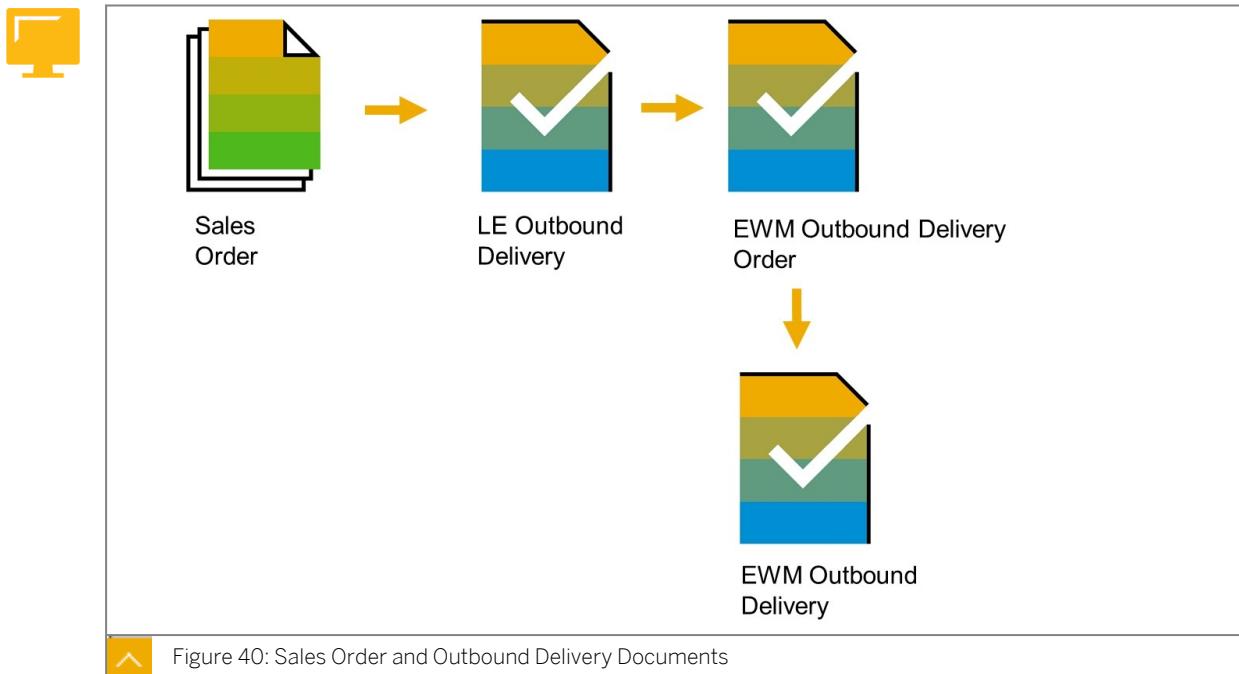


Figure 40: Sales Order and Outbound Delivery Documents



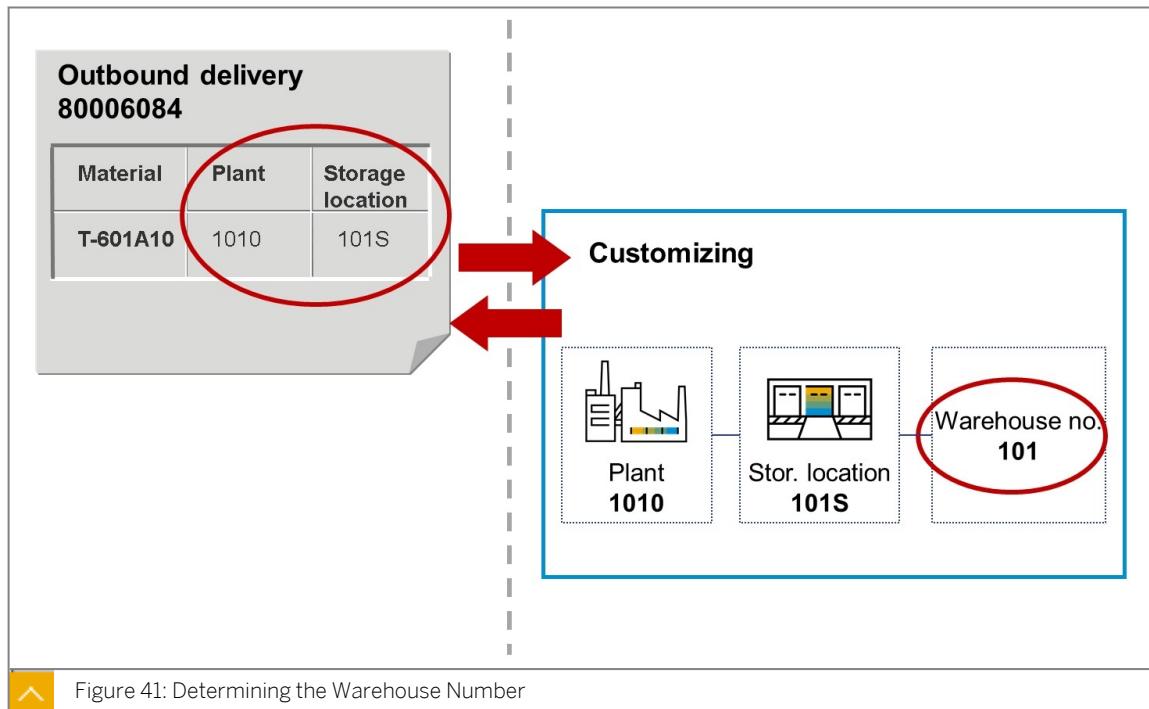
Animation: Sales Order and Outbound Delivery Documents

For more information on *Sales Order and Outbound Delivery Documents*, please view the animation in the lesson *Picking Outbound Deliveries with EWM* in your online course.

At the end of the process in SAP EWM, an additional document (another outbound delivery) is created. This is necessary for a potential split of the LE outbound delivery in case of partial deliveries.

Determining the Warehouse Number

Once the picking storage location is determined and the combination of plant and storage location is assigned to a warehouse number, then picking must be performed using SAP WM or SAP EWM.



Unit 5 Exercise 11

Create a Sales Order and an Outbound Delivery



Simulation: Create a Sales Order and an Outbound Delivery

For more information on *Create a Sales Order and an Outbound Delivery*, please view the simulation in the lesson *Picking Outbound Deliveries with EWM* in your online course.

Business Example

You receive purchase orders from a customer for material which is in stock in your warehouse. For this, you must know how to enter a sales order and how to create the outbound delivery for this order.



Note:

In this exercise, when a value includes ##, replace the ## characters with the number that your instructor has assigned to you.

1. Create a sales order with the following details:

Field	Value
Order Type	ZA##
Sales Organization	1010
Distribution Channel	10
Division	00
Header Data	
Sold-To Party	C610-A##
Cust. Reference	##-5-1
Req. Deliv. Date	In 1 week
Item Data	
Material	P610-5##
Order Quantity	10

Note down the following details:

- a. Requested delivery date
- b. Material availability date
- c. Shipping point
- d. Route
- e. Sales order number:

2. Create the outbound delivery.

Note down the following details:

- a. Storage location
- b. Warehouse number
- c. Delivery number

Unit 5 Solution 11

Create a Sales Order and an Outbound Delivery



Simulation: Create a Sales Order and an Outbound Delivery

For more information on *Create a Sales Order and an Outbound Delivery*, please view the simulation in the lesson *Picking Outbound Deliveries with EWM* in your online course.

Business Example

You receive purchase orders from a customer for material which is in stock in your warehouse. For this, you must know how to enter a sales order and how to create the outbound delivery for this order.



Note:

In this exercise, when a value includes ##, replace the ## characters with the number that your instructor has assigned to you.

1. Create a sales order with the following details:

Field	Value
Order Type	ZA##
Sales Organization	1010
Distribution Channel	10
Division	00
Header Data	
Sold-To Party	C610-A##
Cust. Reference	##-5-1
Req. Deliv. Date	In 1 week
Item Data	
Material	P610-5##
Order Quantity	10

Note down the following details:

- a. Requested delivery date
 - b. Material availability date
 - c. Shipping point
 - d. Route
 - e. Sales order number:
- a) On the SAP Easy Access screen, choose *Logistics → Sales and Distribution → Sales → Order → Create*.
- b) Enter the following data:

Field	Value
Order Type	ZA##
Sales Organization	1010
Distribution Channel	10
Division	00

Press Enter.

- c) Enter the header data as in the table.

Field	Value
Sold-To Party	C610-A##
Cust. Reference	##-5-1
Req. Deliv. Data	In 1 week

Enter the header data and press Enter to confirm your entries.



Note:

If you press Enter after entering the *Sold-To Party*, the system will show a warning message and require that you enter the *Cust. Reference*. Enter the *Cust. Reference* and press Enter again.

- d) Note down the *Req. Deliv. Date*.



Note:

This is the date when the customer wants to receive the material.

- e) Enter the item data as in the table.

Field	Value
Material	P610-5##

Field	Value
Order Quantity	10

Enter the item data and press Enter to confirm your entries.

- f) Choose the *Shipping* tab page. Note down the *Mat. Av. Dt.*, the *Shipping Point*, and the *Route*.

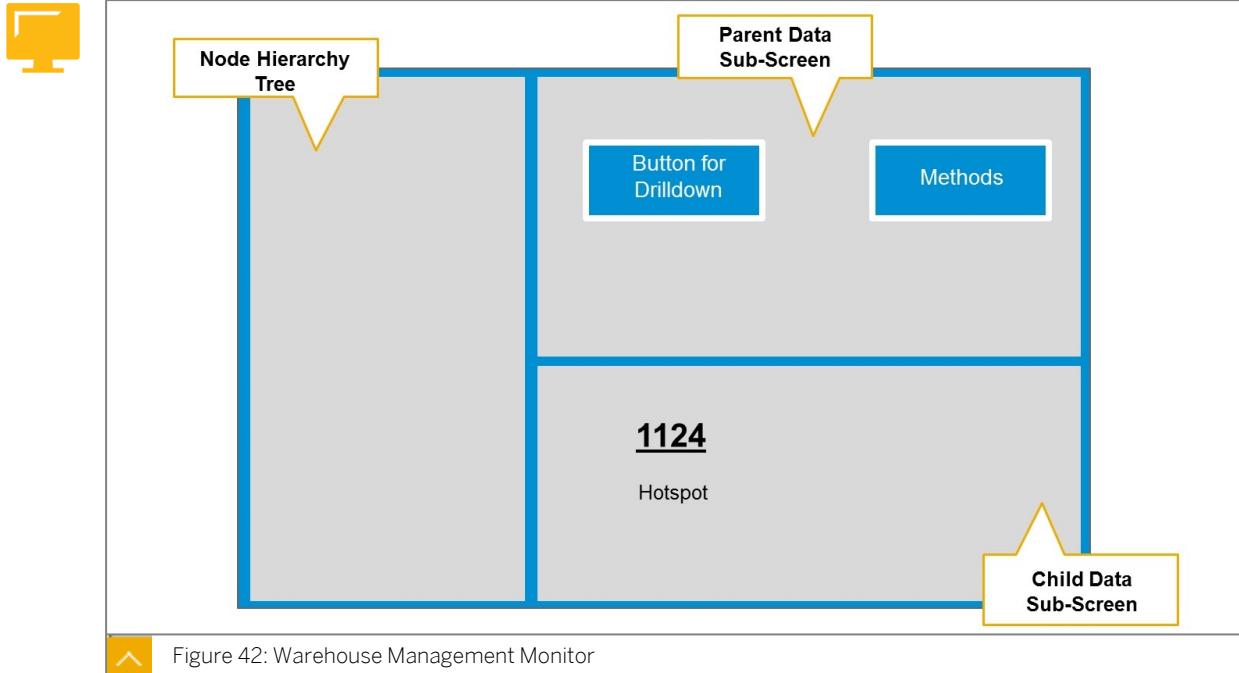


Note:
The material availability date is important for creating the outbound delivery.

- g) Save the sales order. Note down the number of the sales order.
- h) Choose *Back* twice to exit the transaction.
2. Create the outbound delivery.
- Note down the following details:
- a. Storage location
 - b. Warehouse number
 - c. Delivery number
- a) On the SAP Easy Access screen, choose *Logistics* → *Logistics Execution* → *Outbound Process* → *Goods Issue for Outbound Delivery* → *Outbound Delivery* → *Create* → *Single Document* → *With Reference to Sales Order*.
- b) If required, enter the *Shipping Point* **z0##**. Check that the *Selection Date* is at least the date of the *Material Availability Date* of your sales order. The number of the sales order should be filled in automatically.
- c) Press Enter.
- d) Choose the *Picking* tab page. Note down the storage location and the warehouse number.
- e) Save the outbound delivery. Write down the number of the outbound delivery.
- f) Choose *Back* to exit the transaction.

The Warehouse Management Monitor

The SAP EWM Warehouse Management Monitor is a central tool designed to inform warehouse managers about the current situation in the warehouse and demands placed on warehouse resources. This information enables them to take appropriate actions.



The warehouse management monitor also contains alert-monitoring capabilities. These highlight any actual and/or potential problems in the warehouse, and provide exception-handling tools to help correct any problem situations.

Based on the proper authorizations, it is also possible to execute functions directly in the monitor, for example:

- Create or confirm warehouse tasks and warehouse orders
- Change or block bins
- Trigger wave processing

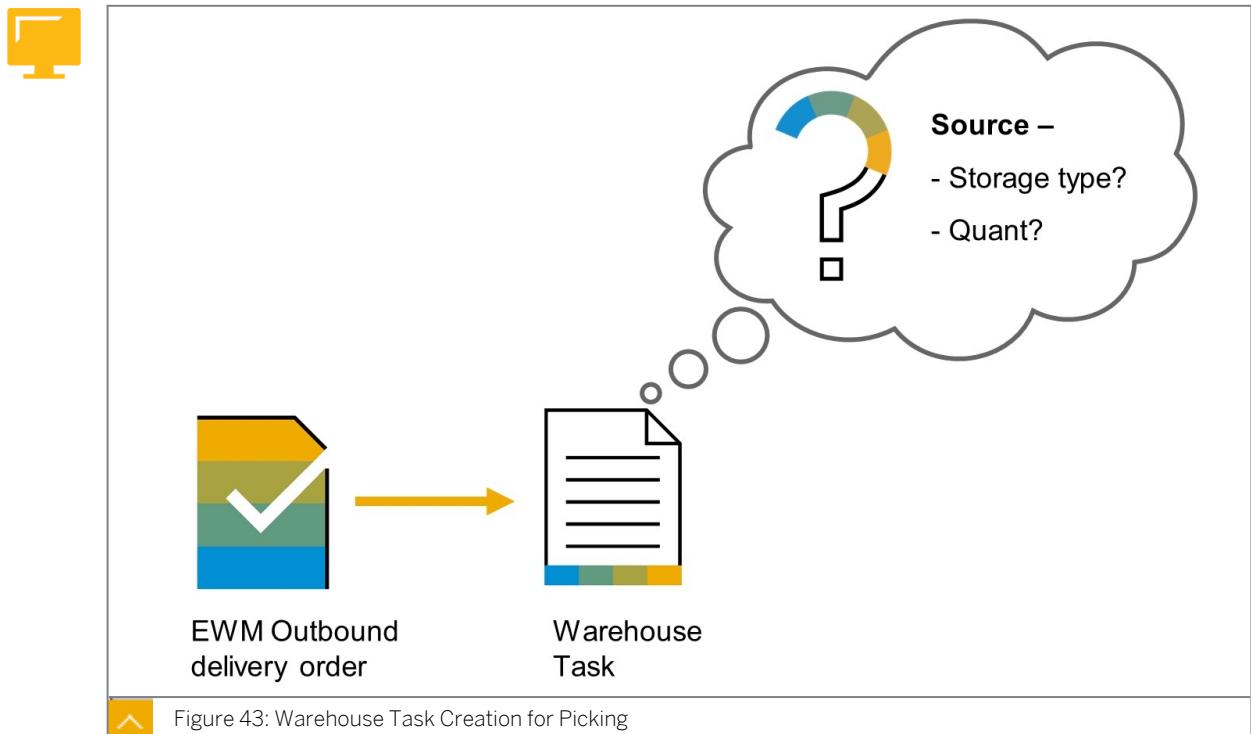
The tool is highly customizable and the information displayed can also be extended. For example, it is possible to create custom nodes and monitors.

Customers can use the standard SAP Warehouse Management Monitor or can create their own monitor in customizing. If you use the standard SAP monitor, you can tailor it to your needs by hiding nodes or creating new variant nodes based on the standard nodes. Creating variant nodes enables you to create your own nodes, which are based on standard nodes but with specific selection criteria or a specific layout.

By default, object information is displayed as a list view. The list view is using a SAP List Viewer (ALV) grid, and it offers all standard ALV functionality, including sorting, filtering and printing. You can toggle to *Form View* for a selected object. The form view provides a focused view of the object, and more-detailed information than the list view. The form view is displayed in an HTML viewer.

Warehouse Tasks for Outbound Deliveries

The physical movement of materials is controlled using warehouse tasks. In picking, warehouse tasks attempt to find the most appropriate quant(s) to satisfy what has been requested in the outbound delivery order.



Animation: Warehouse Task Creation for Picking

For more information on *Warehouse Task Creation for Picking*, please view the animation in the lesson *Picking Outbound Deliveries with EWM* in your online course.

A quant is a record of stock of a specific material in a warehouse storage bin. When you place material into an empty bin during SAP EWM putaway processing, the system generates a quant in that storage bin. When you remove the quantity from storage during EWM picking, the system automatically deletes the quant.

When you create a warehouse task with reference to an outbound delivery order, the system considers two things to find the right stock:

- A storage type search sequence:

This sequence contains the storage types in which the system should look for bins containing the required material. The system checks the first storage type and, if no stock can be found, checks the next storage type, and so on.

For picking, the storage type search sequence can also contain a storage type group. A group is used to consider quants from different storage types at the same time, and uses criteria from the stock removal rule for the quant determination.

- The stock removal rule (or picking strategy) can be assigned to a storage type, but can also be determined in general in conjunction with the storage type search sequence. This is especially fitting if you have rules such as FIFO (first in, first out), which looks for the oldest quant in the storage types in their defined sequence; or stringent FIFO, which uses a storage type group.

Unit 5 Exercise 12

Create a Warehouse Task and Confirm the Warehouse Order



Simulation: Create a Warehouse Task and Confirm the Warehouse Order

For more information on *Create a Warehouse Task and Confirm the Warehouse Order*, please view the simulation in the lesson *Picking Outbound Deliveries with EWM* in your online course.

1. Create a warehouse task for your outbound delivery for picking. Write down the warehouse task.
2. Confirm the warehouse task with the Warehouse Management Monitor.

Create a Warehouse Task and Confirm the Warehouse Order



Simulation: Create a Warehouse Task and Confirm the Warehouse Order

For more information on *Create a Warehouse Task and Confirm the Warehouse Order*, please view the simulation in the lesson *Picking Outbound Deliveries with EWM* in your online course.

1. Create a warehouse task for your outbound delivery for picking. Write down the warehouse task.
 - a) Choose *Logistics → SCM Extended Warehouse Management → Extended Warehouse Management → Monitoring → Warehouse Management Monitor*. When prompted, enter the following information in the dialog box:

Field	Value
Warehouse Number	1010
Monitor	SAP

- b) Choose the *Execute* button.
 - c) In the Warehouse Management Monitor, choose *Outbound → Documents → Outbound Delivery Order*.
 - d) In the dialog box, enter **C610-A##** in the *Ship-to* field and choose *Execute*.
- Result**
Your outbound delivery order should be visible now in the upper section of the screen.
- e) Mark the outbound delivery order and choose *Outbound Delivery Order Item*.
- Result**
The outbound delivery order item is visible in the lower section of the screen.
- f) Double-click on the outbound delivery order item.
 - g) In the detail screen *Maintain Outb. Deliv. Order*, navigate in the menu to *Outbound Delivery Order → Follow-on Functions → Warehouse Task*.
 - h) Choose the *Create + Save* button.
 - i) Go back to the Warehouse Management Monitor.

- j) Refresh the Warehouse Management Monitor and choose *Warehouse Task*. Write down the number.
2. Confirm the warehouse task with the Warehouse Management Monitor.
 - a) Mark the warehouse task in the lower section of the screen.
 - b) Choose *More Methods → Confirm WT in Background*.

Result

Your warehouse task should be confirmed.



LESSON SUMMARY

You should now be able to:

- Use EWM for picking
- Process EWM-relevant documents

Unit 5

Lesson 2

Posting Goods Issue



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Post a goods issue

Goods Issue

Once the materials are picked and are ready for goods issue, you can post the goods issue. The goods issue posting can be triggered manually from the outbound delivery order, but it can also be triggered automatically when the materials are in the staging area or when the truck containing the materials leaves the warehouse.

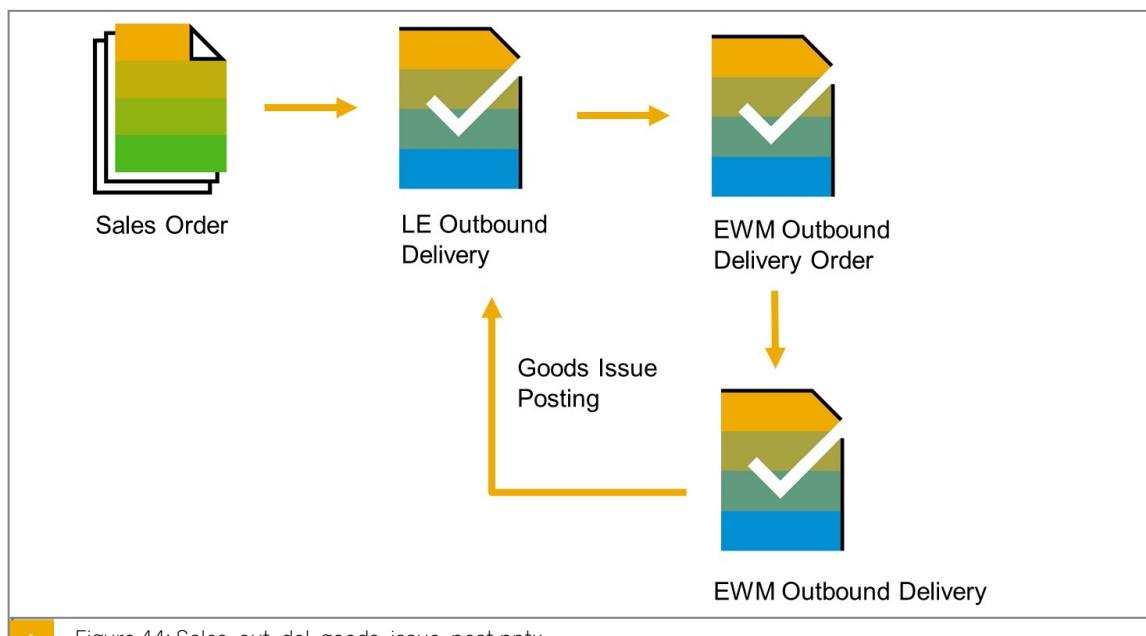


Figure 44: Sales_out_del_goods_issue_post.pptx



Animation: Goods Issue Posting

For more information on *Goods Issue Posting*, please view the animation in the lesson *Posting Goods Issue* in your online course.

For the goods issue, another SAP EWM document is created — the EWM outbound delivery. This document sends information about the goods issue posting back to the LE outbound delivery. From this, the inventory management document and the financial documents are created.

What is the reason for this additional document? When goods issue is posted against an LE outbound delivery, it must be for the full quantity of material in that delivery. It is not possible to post a partial goods issue. However, partial goods issue may be required because it is not possible to deliver the full requested quantity. For example, there may be less stock physically in the warehouse than is shown in the system, or there may be insufficient transport capacity. In scenarios such as these, a delivery split of the LE outbound delivery is required. This can be triggered through the EWM outbound delivery.

Unit 5 Exercise 13

Post a Goods Issue



Simulation: Post a Goods Issue

For more information on *Post a Goods Issue*, please view the simulation in the lesson *Posting Goods Issue* in your online course.

Business Example

You want to know how to post the goods issue for an outbound delivery order.

This exercise depends on the successful completion of the exercise Confirm a Warehouse Task Using the Warehouse Management Monitor.

1. Look up the outbound delivery order from the previous exercise in the Warehouse Management Monitor. Open the details and post goods issue. Note down the number of the outbound delivery.
2. Use a different GUI window to display the LE outbound delivery. What is the status for the goods movement?

Post a Goods Issue



Simulation: Post a Goods Issue

For more information on *Post a Goods Issue*, please view the simulation in the lesson *Posting Goods Issue* in your online course.

Business Example

You want to know how to post the goods issue for an outbound delivery order.

This exercise depends on the successful completion of the exercise Confirm a Warehouse Task Using the Warehouse Management Monitor.

1. Look up the outbound delivery order from the previous exercise in the Warehouse Management Monitor. Open the details and post goods issue. Note down the number of the outbound delivery.
 - a) Return to the GUI window with the *Warehouse Management Monitor*, or on the SAP Easy Access screen, choose *Logistics* → *SCM Extended Warehouse Management* → *Extended Warehouse Management* → *Monitoring* → *Warehouse Management Monitor*.
 - b) If necessary, choose *Outbound* → *Documents* → *Outbound Delivery Order*. Double-click *Outbound Delivery Order*. On the /SCWM/SAPLWIP_DELIVERY_OUT pop-up, scroll to the bottom of the screen. You can enter the *Sales Order* or the *ERP Document* (this is the Logistics Execution (LE) outbound delivery from the previous exercise). Choose *Execute*. The outbound delivery order is shown in the upper-right section.
 - c) Select the number of the outbound delivery order to open the details in a new GUI window.
 - d) Choose *Goods Issue + Save*.
 - e) Choose *Outbound Delivery*. This is the new document.
Note down the number of the outbound delivery.
 - f) Choose *Back* twice to return to the *Warehouse Management Monitor*.
2. Use a different GUI window to display the LE outbound delivery. What is the status for the goods movement?
 - a) On the SAP Easy Access screen, choose *Logistics* → *Logistics Execution* → *Outbound Process* → *Goods Issue for Outbound Delivery* → *Outbound Delivery* → *Display*.
 - b) If required, enter the number of the outbound delivery from the exercise Create a Sales Order and an Outbound Delivery. Press Enter.
 - c) Choose the *Goods Movement Data* tab. The goods issue posting is done if the *Goods Mvmnt Sts* is **c**. Note down the status.

- d) Choose *Back* twice to exit the transaction.



LESSON SUMMARY

You should now be able to:

- Post a goods issue

Creating Inbound Deliveries in EWM



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Create inbound deliveries in SAP EWM

Purchasing Process

The process of making purchases from external suppliers and from other plants within your own company is handled in SAP S/4HANA using purchasing documents, such as purchase requisitions and purchase orders. Employees can create requirements for externally procured materials in the form of purchase requisitions. Once approved by the relevant purchasing department, these requisitions then form the basis for the creation of purchase orders.

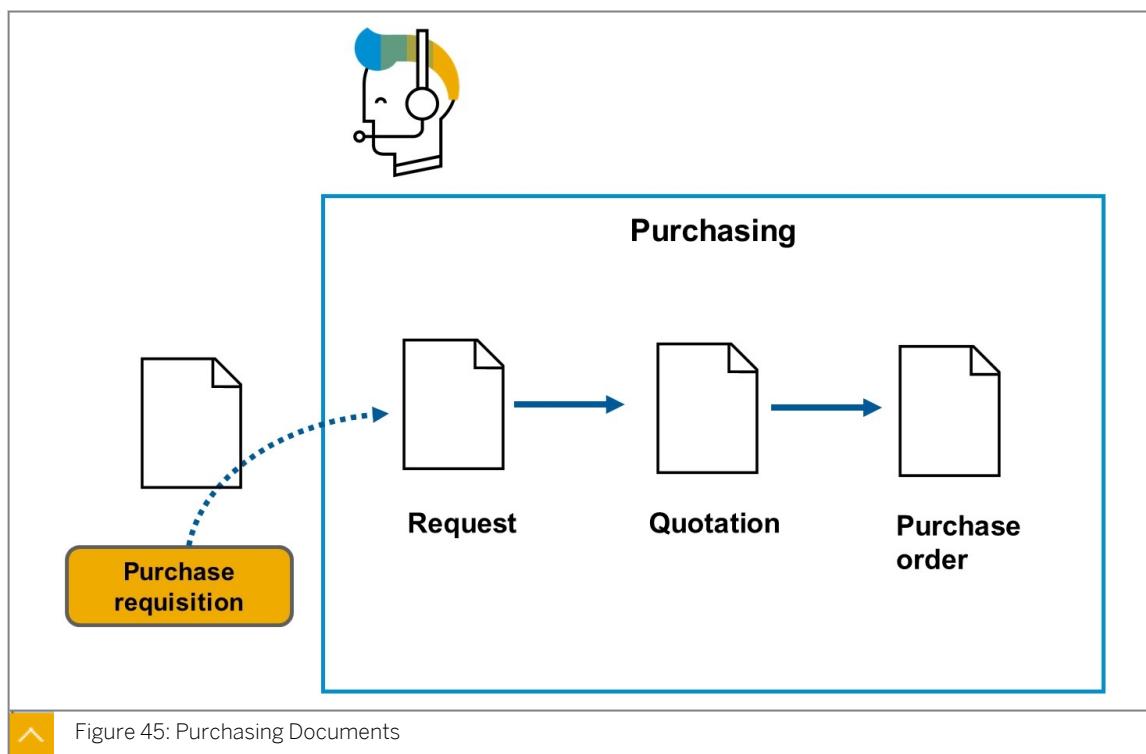


Figure 45: Purchasing Documents



Animation: Purchasing Documents

For more information on *Purchasing Documents*, please view the animation in the lesson *Creating Inbound Deliveries in EWM* in your online course.

For one-time transactions or for new contacts, purchasing can create a request for a quotation and then enter a corresponding quotation later. The system supports the buyer in comparing quotations from various suppliers.

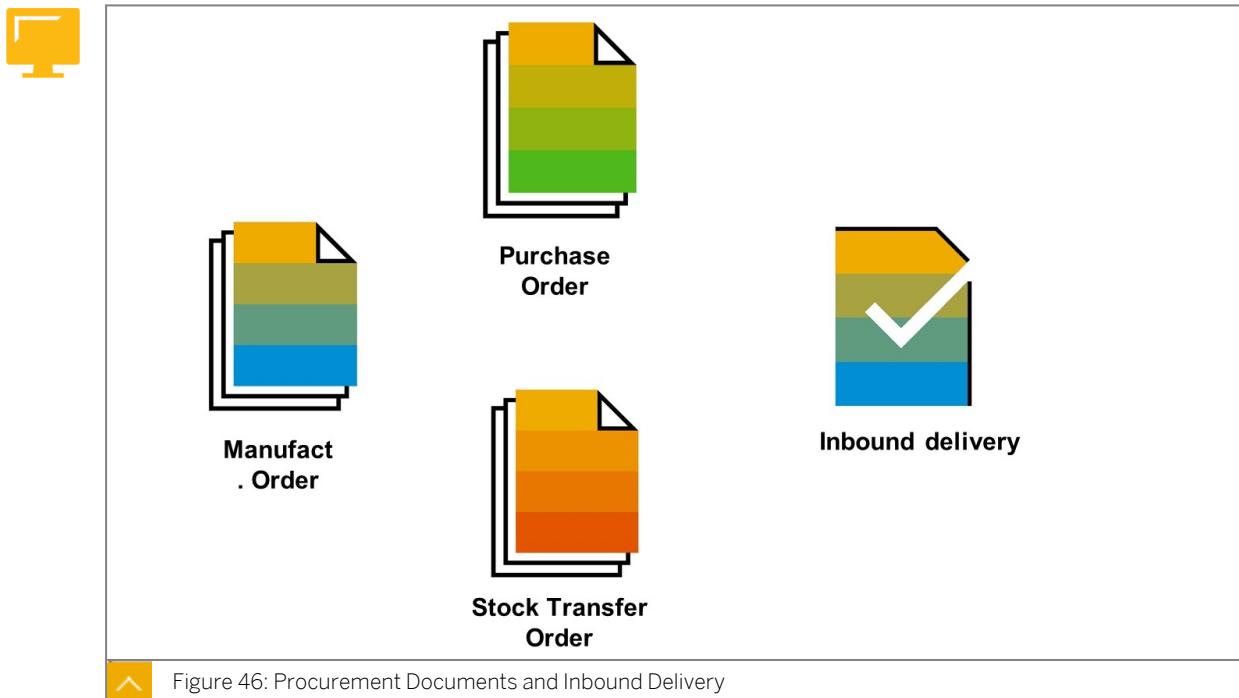
A purchase order can refer to a purchase requisition or a quotation, although a reference is not mandatory.

Materials procured from external suppliers have a separate Purchasing view in their master data. Suppliers are represented by a business partner master record that contains address data, accounting data, and default values for purchase order processing (for example, delivery conditions).

If the same material is procured regularly from a specific supplier or with fixed conditions, such as price, purchase quantities and delivery times, you can create a purchasing information record for the relevant combination of material and supplier. The system accesses this master data when purchasing documents are created and enters the data in the relevant fields.

Goods Receipt with SAP EWM

For a goods receipt in an SAP EWM managed warehouse, it is necessary to create an inbound delivery document referencing the purchase order or manufacturing order. There are several ways to create inbound deliveries, depending on the physical process or on the flow of information between supplier and receiver.



The inbound delivery is the basis for triggering the physical movements of the material in the warehouse and the posting of the goods receipt.

Purchase Order and Inbound Delivery

The process of making purchases from vendors and from other plants within your own company is handled in SAP S/4HANA using a purchase order.

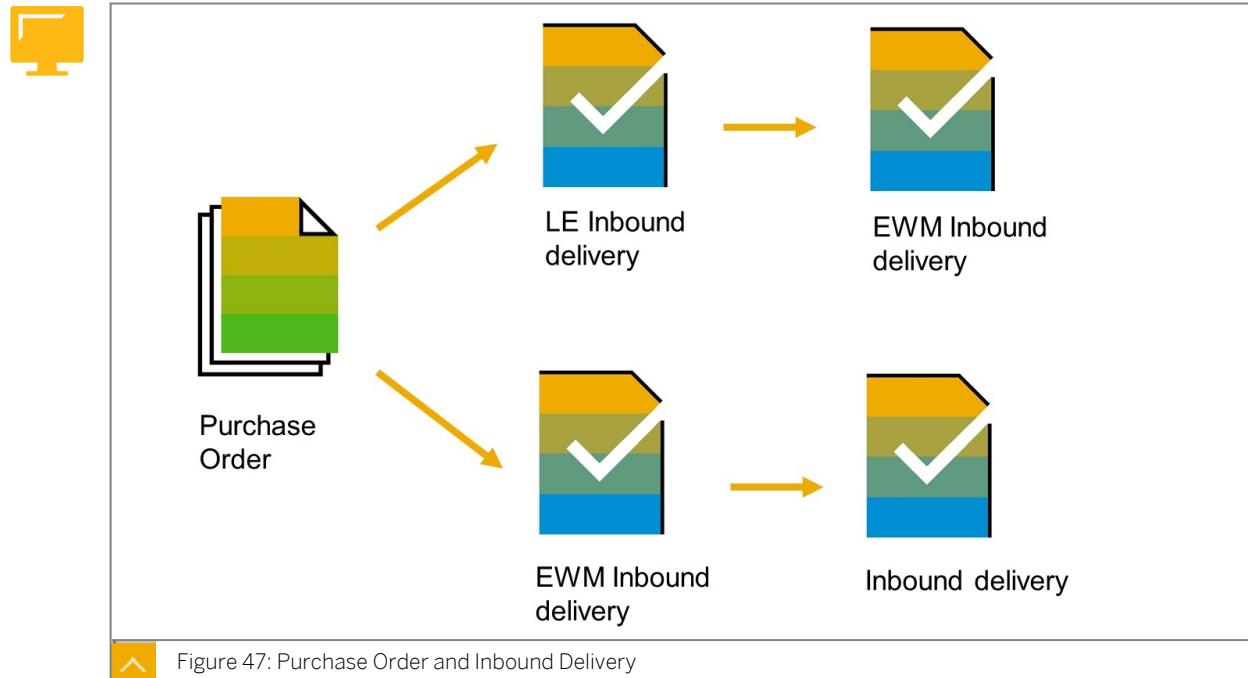


Figure 47: Purchase Order and Inbound Delivery

For items which are relevant for putaway in an SAP EWM managed warehouse, it is necessary to create an inbound delivery in SAP EWM. This document forms the basis for posting the goods receipt and creating the warehouse tasks for putaway. The Logistics Execution (LE) inbound delivery can be created automatically when you receive the shipping notification message from the vendor, or it can be created manually with reference to the purchase order. In both cases, a copy of the inbound delivery is created in SAP EWM. Alternatively the inbound delivery can be created directly in SAP EWM at the time of the physical receipt of the products. In that case a LE inbound delivery is created as well.

Confirmation Control Key

In order to create an inbound delivery for a purchase order, it is necessary to enter a confirmation control key in the purchase order.

A vendor confirmation is a notification from the vendor to the recipient regarding the status of a purchase order. Vendor confirmations enable the customer to plan more accurately because, during the period between the PO date and the planned delivery date, the customer receives increasingly precise, reliable and up-to-date information from the vendor regarding the expected delivery. The confirmation control key defines what types of confirmation are expected from a vendor and also defines the requirement for (and the possibility to create) an inbound delivery.

Create a Purchase Order and an Inbound Delivery



Simulation: Create a Purchase Order and an Inbound Delivery

For more information on *Create a Purchase Order and an Inbound Delivery*, please view the simulation in the lesson *Creating Inbound Deliveries in EWM* in your online course.

Unit 5 Exercise 14

Create a Purchase Order and an Inbound Delivery

Business Example

Your company requires some material that you order from an external supplier. As the receiving plant and storage location are managed using SAP EWM, an inbound delivery must be created with reference to the purchase order.

Create a purchase order and the inbound delivery.



Note:

In this exercise, when a value includes ##, replace the ## characters with the number that your instructor has assigned to you.

1. Create the purchase order using the standard GUI transaction. Note down the number of the purchase order.

Field	Value
Supplier	S610-A##
Purch. Org.	1010
Purch. Group	Z##
Company Code	1010
Material	P610-2##
PO Quantity	50
Net Price	Your choice
Plnt	1010
Stor. Location	101D

2. Create the inbound delivery for the purchase order. When you open the transaction, the values for the *Supplier* and the *Purchase order* should appear automatically. Note down the number of the inbound delivery.
3. Check the stock overview for your material P610-2##. Note down the actual stock and the on-order stock.
4. Look up the inbound delivery which has been created in SAP EWM. Use the **Warehouse Management Monitor** for the *Warehouse Number* 1010 and the *Monitor* SAP. Use the

Logistics Execution (LE) Delivery to search for the SAP EWM inbound delivery and note down its number.



Note:

We recommend leaving the warehouse management monitor open from this point, as you will look up several things from here. Choose *New GUI Window* to open a new mode and start new transactions from here.

Unit 5

Solution 14

Create a Purchase Order and an Inbound Delivery

Business Example

Your company requires some material that you order from an external supplier. As the receiving plant and storage location are managed using SAP EWM, an inbound delivery must be created with reference to the purchase order.

Create a purchase order and the inbound delivery.



Note:

In this exercise, when a value includes ##, replace the ## characters with the number that your instructor has assigned to you.

1. Create the purchase order using the standard GUI transaction. Note down the number of the purchase order.

Field	Value
Supplier	S610-A##
Purch. Org.	1010
Purch. Group	Z##
Company Code	1010
Material	P610-2##
PO Quantity	50
Net Price	Your choice
Plnt	1010
Stor. Location	101D

a) On the SAP Easy Access screen, choose *Logistics → Materials Management → Purchasing → Purchase Order → Create → Vendor/Supplying Plant Known*.

b) Enter the following details:

On header level:

Field	Value
Supplier	S610-A##

Field	Value
Purch. Org.	1010
Purch. Group	Z##
Company Code	1010

When you have entered these details, press Enter on your keyboard. Enter the following details on item level:

Field	Value
Material	P610-2##
PO Quantity	50
Net Price	Your choice or use the default value
Plnt	1010
Stor. Location	101D

- c) Display the *Confirmations* tab on item level. The *Conf. Control* key **0004 Inbound Delivery** is automatically entered.



Note:

If you see only the text **Inbound Delivery** and not the key **0004**, choose *Customize Local Layout → Options*. Choose *Interaction Design → Visualization 1*. In the *Controls* section, activate the flag for *Show keys within dropdown lists* and *Sort by keys within dropdown lists for most efficient keyboard input*. Choose *OK*. The display is not immediately changed, but when you select the dropdown for the *Conf. Control* field, you can see the keys.

- d) Choose Save.
- e) The number of the purchase order is shown in the status bar. Note down the number of the purchase order.
- f) Choose Back to exit the transaction.
2. Create the inbound delivery for the purchase order. When you open the transaction, the values for the *Supplier* and the *Purchase order* should appear automatically. Note down the number of the inbound delivery.
- a) On the SAP Easy Access screen, choose *Logistics → Logistics Execution → Inbound Process → Goods Receipt for Inbound Delivery → Inbound Delivery → Create → Single Documents*.
- b) The Vendor **S610-A##** and the Purchase order you just created should automatically appear.
- c) Press Enter on your keyboard or choose *Continue*.



Note:

In case of an error (**This function only possible for items with confirmation key. Not possible to create an inbound delivery**), you probably did not enter the *Storage Location* in your purchase order.

To correct this, choose *Logistics → Materials Management → Purchasing → Purchase Order → Change*. The last purchase order will automatically appear. Look for the *Storage location* field and enter **101D**. Choose *Save* and then *Back*.

- d) Choose *Save*.
 - e) The number of the inbound delivery is shown in the status bar. Note down the number of the inbound delivery.
 - f) Choose *Back* to exit the transaction.
3. Check the stock overview for your material **P610-2##**. Note down the actual stock and the on-order stock.
- a) On the SAP Easy Access screen, choose *Logistics → Materials Management → Inventory Management → Environment → Stock → Stock Overview*.
 - b) The *Material P610-2##* and the *Plant 1010* should appear automatically.
 - c) Choose *Execute*.
 - d) Note down the number of stock in **Unrestricted use** (blank means zero) and **On-Order Stock**.
 - e) Choose *Back* twice to exit the transaction.
4. Look up the inbound delivery which has been created in SAP EWM. Use the **Warehouse Management Monitor** for the *Warehouse Number 1010* and the *Monitor SAP*. Use the *Logistics Execution (LE) Delivery* to search for the SAP EWM inbound delivery and note down its number.



Note:

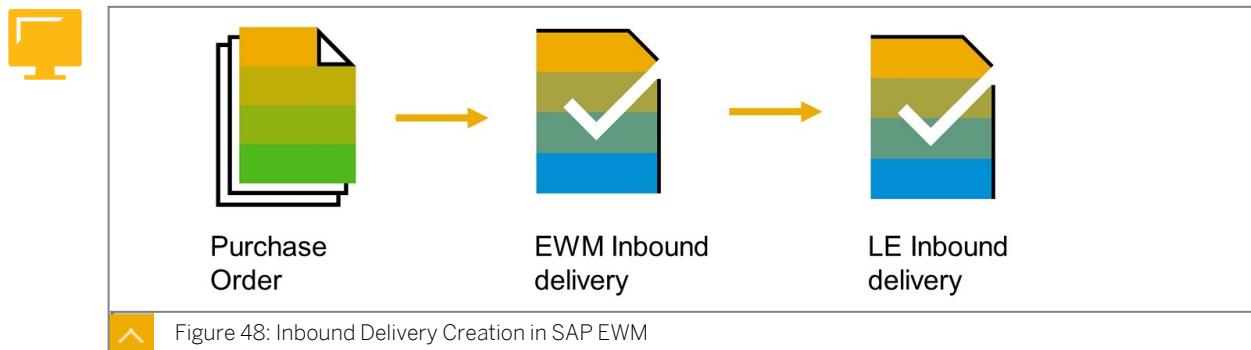
We recommend leaving the warehouse management monitor open from this point, as you will look up several things from here. Choose *New GUI Window* to open a new mode and start new transactions from here.

- a) On the SAP Easy Access screen, choose *Logistics → SCM Extended Warehouse Management → Extended Warehouse Management → Monitoring → Warehouse Management Monitor*.
- b) On the *Warehouse Management Monitor* pop-up, enter the *Warehouse Number 1010* and the *Monitor SAP*. Choose *Continue*.
- c) Choose *Inbound → Documents → Inbound Delivery*. Double-click *Inbound Delivery*.
- d) On the */SCWM/SAPLWIP_DELIVERY* pop-up, use the scroll bar to scroll down to the bottom of the screen.

- e) In the *Item Data* section, enter the Logistics Execution (LE) inbound delivery number in the *LE Delivery* field. Choose *Execute*.
- f) The SAP EWM inbound delivery is shown in the upper-right frame. Note down the number of the inbound delivery.

Creation of Inbound Deliveries in SAP EWM

Creation of inbound deliveries directly in SAP EWM is a simplification of warehouse processes. It is a more convenient option if, for example, the supplier does not provide the information needed to create LE inbound deliveries automatically, such as advanced shipping notifications. When goods physically arrive, the SAP EWM inbound delivery is required to manage put-away processing. In such cases, it makes sense to enter the inbound delivery directly into SAP EWM.



There are different possibilities available for the creation of the inbound delivery in SAP EWM. There is a traditional transaction available, as in the decentralized SAP EWM system, but also an app which offers a simple interface to create the delivery, post the goods receipt, and create the warehouse task.

Create and Process an Inbound Delivery in SAP EWM



Simulation: Create and Process an Inbound Delivery in SAP EWM

For more information on *Create and Process an Inbound Delivery in SAP EWM*, please view the simulation in the lesson *Creating Inbound Deliveries in EWM* in your online course.

Unit 5 Exercise 15

Create and Process an Inbound Delivery in SAP EWM

Business Example

Your company has locations where the warehouse does not require complex processes. For this task, you want to see how you can process inbound deliveries in the warehouse.



Note:

In this exercise, when a value includes ##, replace the ## characters with the number that your instructor has assigned to you.

1. Create the purchase order using the transaction, *Create Purchase Order Vendor / Supplying plant known*. Note down the number of the purchase order.

Field	Value
Supplier	S610-A##
Purch. Org.	1010
Purch. Group	Z##
Company Code	1010
Material	P610-2##
PO Quantity	10
Net Price	Your choice or leave default
Plant	1010
Stor. Location	101D

2. Use the GR Preparation for the creation of the Inbound Delivery Document. Enter the ASN **S4610-##-1**. Note down the number of the SAP EWM inbound delivery.
3. Post the goods receipt and create the warehouse task for the inbound delivery. Note down the number of the warehouse task.
4. Confirm the warehouse order and warehouse task.

Unit 5 Solution 15

Create and Process an Inbound Delivery in SAP EWM

Business Example

Your company has locations where the warehouse does not require complex processes. For this task, you want to see how you can process inbound deliveries in the warehouse.



Note:

In this exercise, when a value includes ##, replace the ## characters with the number that your instructor has assigned to you.

1. Create the purchase order using the transaction, *Create Purchase Order Vendor / Supplying plant known*. Note down the number of the purchase order.

Field	Value
Supplier	S610-A##
Purch. Org.	1010
Purch. Group	Z##
Company Code	1010
Material	P610-2##
PO Quantity	10
Net Price	Your choice or leave default
Plant	1010
Stor. Location	101D

a) Choose *Logistics → Materials Management → Purchasing → Purchase Order → Create → Vendor / Supplying Plant known* (transaction ME21N).

b) Enter the following details:

On header level, enter the following values:

Field	Value
Supplier	S610-A##
Purch. Org.	1010
Purch. Group	Z##

Field	Value
Company Code	1010

Press Enter after you have entered these details. Enter the following details on item level:

Field	Value
Material	P610-2##
PO Quantity	10
Net Price	Your choice or leave default
Plnt	1010
Stor. Location	101D

- c) Choose Save. Note down the number of the purchase order.
 - d) Choose Back to exit the transaction.
2. Use the GR Preparation for the creation of the Inbound Delivery Document. Enter the ASN **S4610-##-1**. Note down the number of the SAP EWM inbound delivery.
- a) Navigate to *Logistics* → *SCM Extended Warehouse Management* → *Extended Warehouse Management* → *Delivery Processing* → *Inbound Delivery* → *GR Preparation - External Procurement*.
 - b) Enter warehouse number **1010** (if requested) and select *Without TU*. Choose *Open Advanced Search* and enter your material number **P610-2##** in the *Product* field. Choose the *Advanced Search* button to execute the search.
- Result**
- The purchase order should be visible on the left-hand side.
- c) Select the *Copying Flag* check box (this field is located to the right of the *Purchase Order* and *PO Item* fields, but to see it, you may need to move the right-hand border further to the right). Choose the *Copy Flagged Item* button.
 - d) In the *GR Preparation: External Procurement (Warehouse No. 1010)* dialog box, enter **S4610-##-1** in the *ASN* field and choose *Continue (Enter)*.
 - e) Choose *Save and Process Further*. The number of the created inbound delivery document is displayed at the bottom of the screen (you may need to scroll down to see it).
3. Post the goods receipt and create the warehouse task for the inbound delivery. Note down the number of the warehouse task.
- a) Navigate to *SCM Extended Warehouse Management* → *Extended Warehouse Management* → *Monitoring* → *Warehouse Management Monitor*.
 - b) Choose *Inbound* → *Documents* → *Inbound Delivery* and double-click on the entry.
 - c) In the resulting dialog box, enter **S610-A##** in the *Ship-from* field and choose *Execute*.

Result

The inbound delivery is displayed in the upper part of the screen.

- d) Select your inbound delivery document and choose *Inb. Del. Item*.
 - e) Double-click on the inbound delivery item in the lower section.
 - f) In the *Maintain Inbound Delivery* screen, choose the *Goods Receipt* button.
 - g) Go back to the Warehouse Management Monitor.
4. Confirm the warehouse order and warehouse task.
- a) In the Warehouse Management Monitor, choose *Refresh*.
 - b) Select your inbound delivery document and choose *Inb. Del. Item*.
 - c) Double-click on the inbound delivery item in the lower section.
 - d) In the *Maintain Inbound Delivery* screen, navigate to *Inbound Delivery → Follow-On Functions → Warehouse Task*.
 - e) Choose the *Create and Save* icon. Go back twice to return to the Warehouse Management Monitor.
 - f) In the Warehouse Management Monitor, choose *Refresh* and then choose the *Warehouse Task* icon.

Result

The warehouse task is visible in the lower section of the screen.

- g) Now confirm the warehouse task by choosing the *More Methods* button and choosing *Confirm WT in Background*.



LESSON SUMMARY

You should now be able to:

- Create inbound deliveries in SAP EWM

Using Special Functions in Deliveries

LESSON OVERVIEW

This unit provides an overview of the additional functions that can be performed in combination with outbound deliveries. This lesson provides information about using conditions in the outbound delivery.

Business Example

You may need to record shipping costs, such as packing and postage costs, in the delivery document. For this reason, you require the following knowledge:

- How to use pricing in the outbound delivery

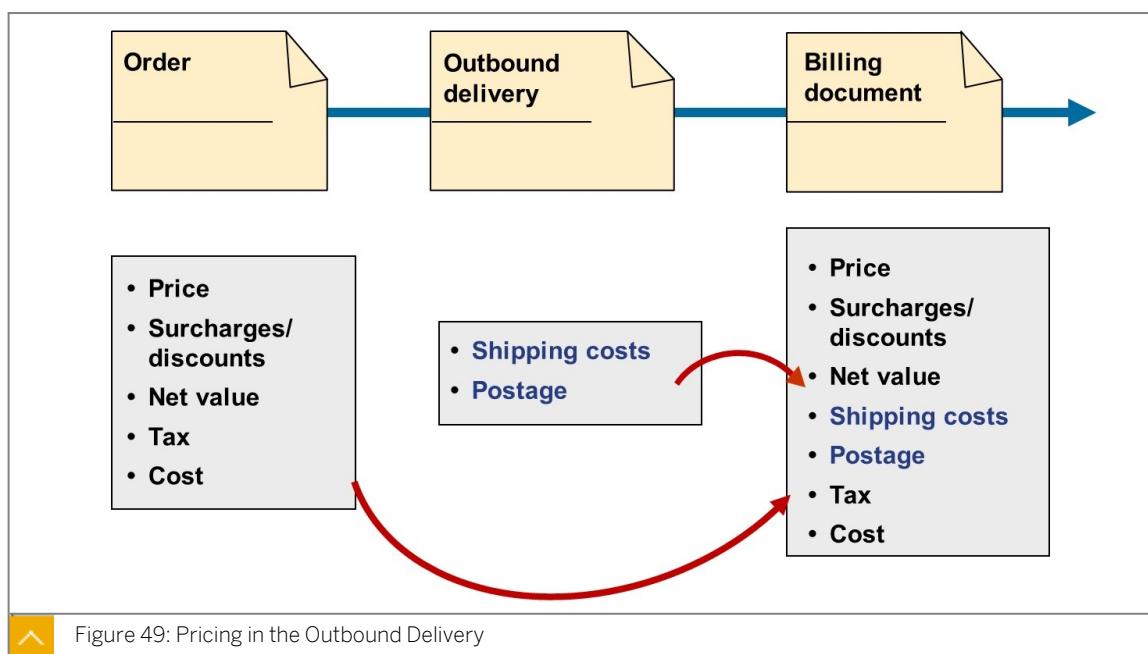


LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Use special functions in deliveries

Pricing





Animation: Pricing in the Outbound Delivery

For more information on *Pricing in the Outbound Delivery*, please view the animation in the lesson *Using Special Functions in Deliveries* in your online course.

The outbound delivery may contain shipping-related conditions, such as shipping or freight costs. You can enter the condition values manually or determine them using the SD pricing condition technique.

You can print the conditions on the delivery note and transfer them to the billing document, but you cannot transfer them from the preceding documents to the outbound delivery.

To implement the conditions, use the standard Customizing settings for pricing (condition type definition, maintaining the pricing procedure). Assign the pricing procedure to the delivery type.

How to Use Pricing Conditions in Deliveries



Simulation: How to Use Pricing Conditions in Deliveries

For more information on *How to Use Pricing Conditions in Deliveries*, please view the simulation in the lesson *Using Special Functions in Deliveries* in your online course.

Delivery Interface

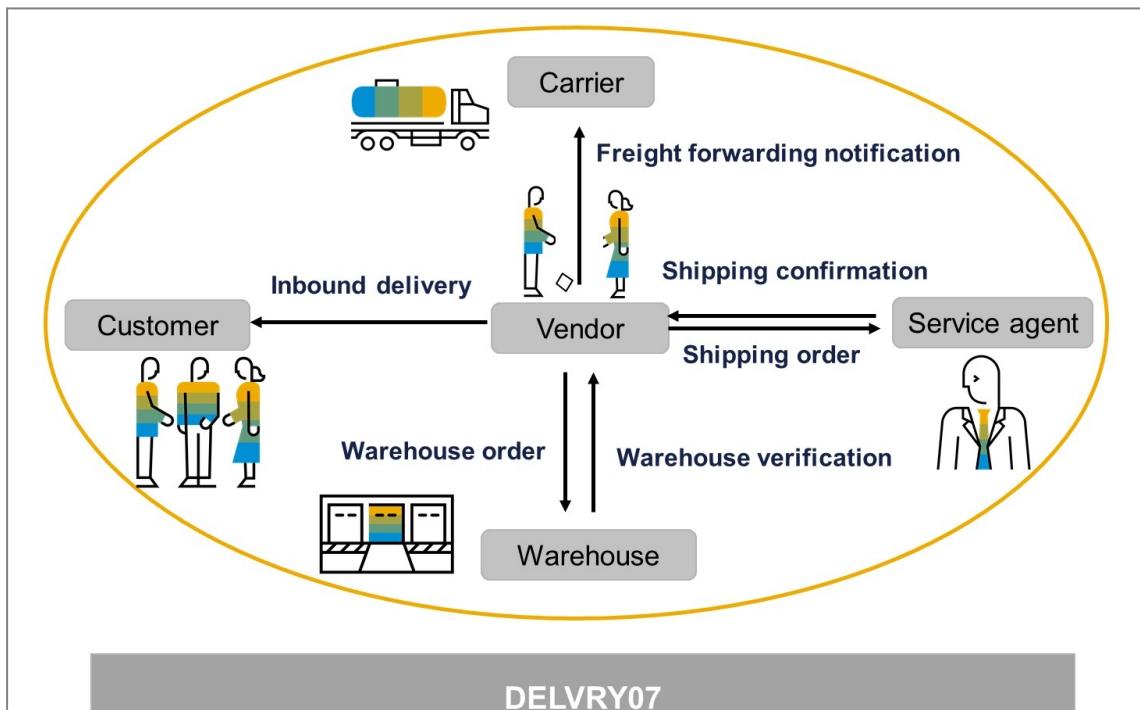


Figure 50: Delivery Interface Communication Scenarios

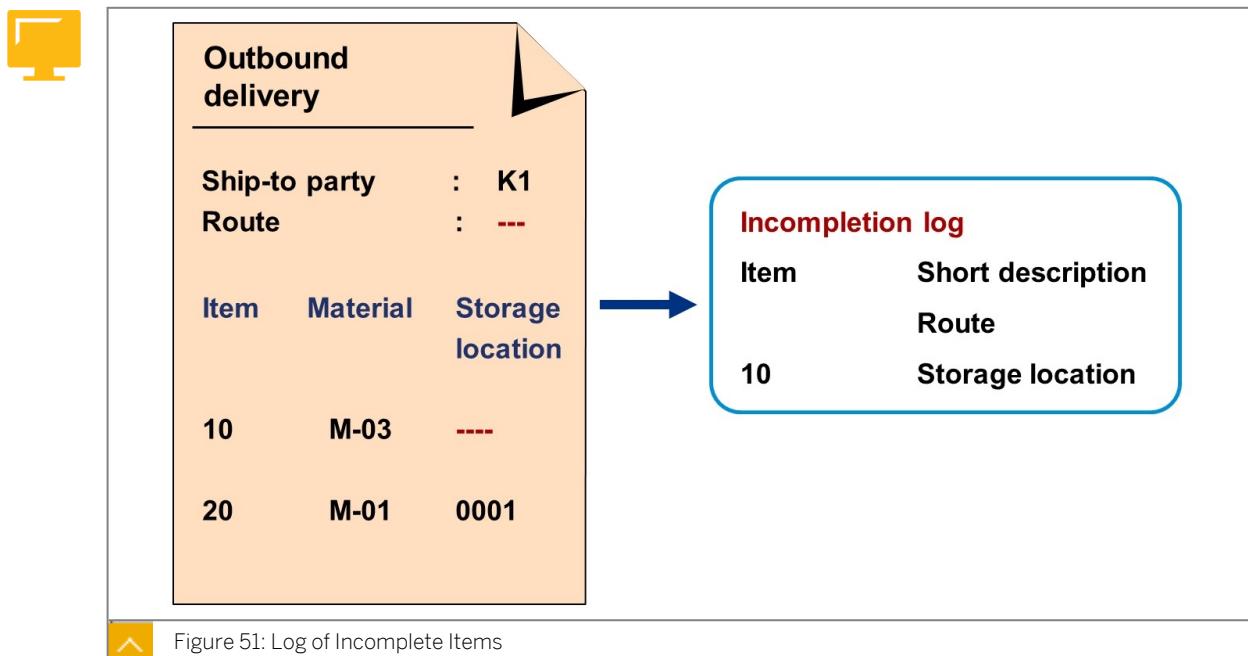
If business partners are involved in the shipping process, or if some functions are performed by non-SAP systems, you need to exchange information with these other parties or systems.

Normally, electronic data interchange (EDI) messages are used for external communication, and Application Link Enabling (ALE) messages are used for internal communication.

The delivery interface groups together all EDI and ALE messages that refer to the delivery. They are all based on IDoc DELVRY07. This is the data structure, consisting of segments, that contains the fields for the delivery and other fields relevant for shipping such as route and batch characteristics.

Output control of the delivery at header level triggers the population of the IDoc fields. The system provides appropriate message types for the communication scenarios represented by the IDoc in the standard SAP S/4HANA system.

Incompletion Control



Animation: Log of Incomplete Items

For more information on *Log of Incomplete Items*, please view the animation in the lesson *Using Special Functions in Deliveries* in your online course.

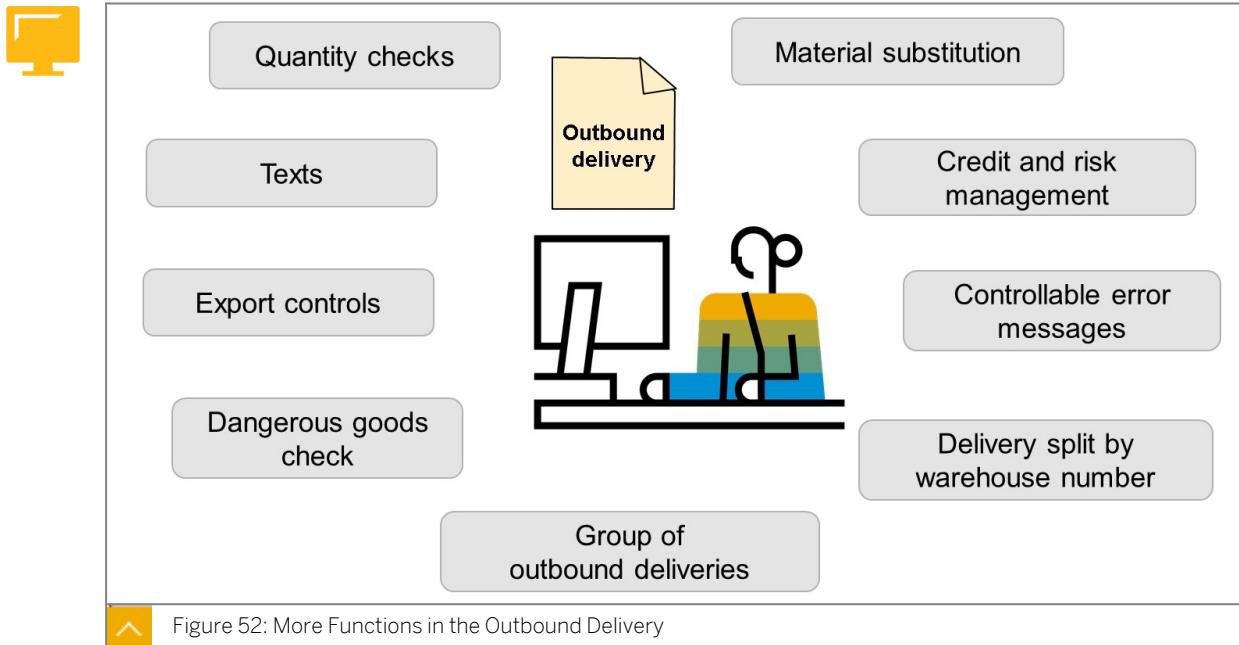
When you call up the log of incomplete items, the system checks if the data in the outbound delivery is complete. From the generated list, you can branch directly to the screen for maintaining the incomplete fields.

You can call the log of incomplete items from delivery processing or select incomplete delivery documents using a special report. This creates a worklist of documents that require processing.

In the outbound delivery, the system can check the completeness of a delivery at both header and item level. In Customizing, you can control which fields, if not already specified, cause an outbound delivery to be incomplete, and what effects these incomplete fields have on follow-on activities, such as picking, packing, goods issue, and billing (for example, packing may be not allowed if the item volume is not specified). The selection of the fields that cause a delivery to be incomplete depends on the delivery type and the delivery item category.

In addition, you can set partner functions and texts as "Required" by using the corresponding Customizing functions. If specifications for a required partner function are missing in the document or if a required text does not exist, a note is entered in the log of incomplete items.

Further Functions



When creating and processing deliveries, you can access numerous other functions that the system can perform either automatically or on request.



LESSON SUMMARY

You should now be able to:

- Use special functions in deliveries

Learning Assessment

1. For sales order items which need to be processed in an SAP EWM warehouse, an LE outbound delivery is created with reference to the sales order.

Determine whether this statement is true or false.

- True
 False

2. The goods issue posting cannot be triggered automatically when the materials are at the staging area or when the truck with the materials leaves the warehouse.

Determine whether this statement is true or false.

- True
 False

3. When no information is received from the vendor, it is possible to create the inbound delivery directly in SAP EWM.

Determine whether this statement is true or false.

- True
 False

4. Posting a goods issue requires the picking quantity to equal the delivery quantity.

Determine whether this statement is true or false.

- True
 False

5. It is possible to calculate freight or shipping costs in a sales document and transfer these to an outbound delivery.

Determine whether this statement is true or false.

- True
 False