

# **EWM130**

## **Production Integration with SAP EWM**

### **PARTICIPANT HANDBOOK INSTRUCTOR-LED TRAINING**

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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
- Project Manager
- Project Stakeholder
- Systems Architect



## Lesson 1

Integrating Manufacturing Processes

2

### UNIT OBJECTIVES

- Explain the different production integration models in EWM.

# Integrating Manufacturing Processes

## LESSON OVERVIEW

In this lesson, you learn about the different options of the integration of production supply in SAP EWM.



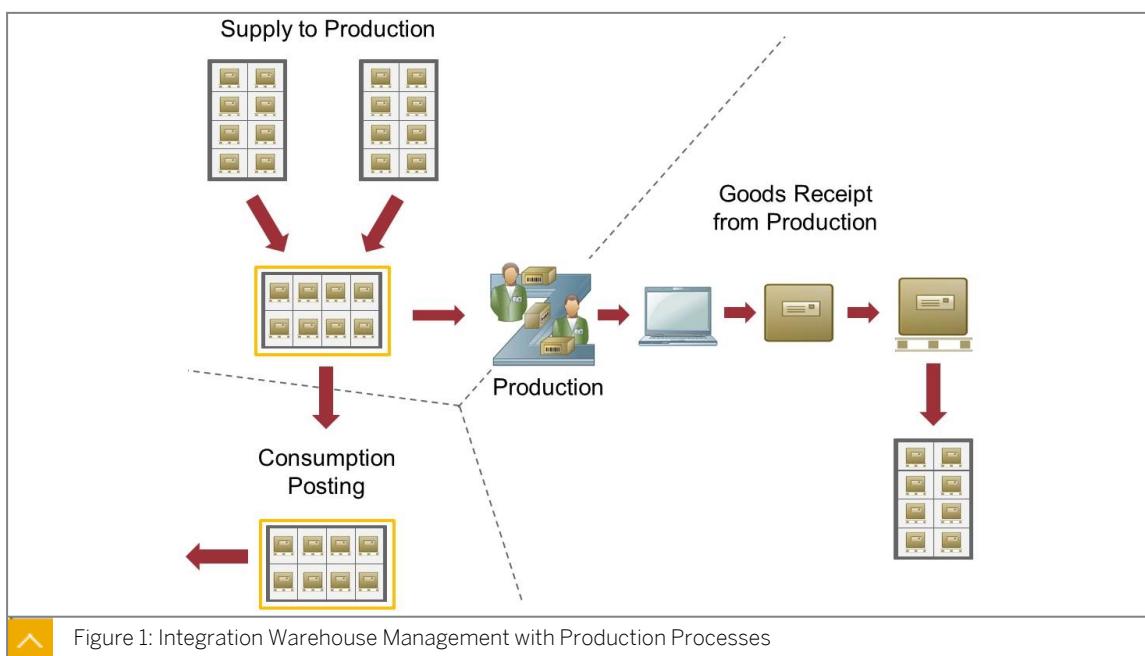
## LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Explain the different production integration models in EWM.

## Production Integration with SAP EWM

The goal of the integration of production and warehouse management is the staging of products in time, the proper posting of the consumption of the components from the production process, and the receipt of the final products in the warehouse.



## Solution Comparison

SAP EWM offers two ways to integrate production processes.

Since EWM 7.0, a delivery-based integration is available. This means that the ERP system creates deliveries for materials to be staged, and also for materials that are consumed, and sends these deliveries to EWM.

With EWM 9.2 the Advanced Production Integration was introduced. In this scenario, a production material request (PMR) is created in EWM when ERP sends a message containing the required information from production.



Table 1: Solution Comparison

The following table provides a comparison between the two possibilities, and their advantages and limitations:

	Delivery-Based Production Supply	Advanced Production Integration
Supported Processes	Production Orders Process Orders Kanban Repetitive Manufacturing	Production orders Process orders
Informing SAP EWM about requirements from production	You use the standard SAP ERP functionality to trigger staging. SAP ERP creates outbound deliveries and sends them to SAP EWM. Depending on the combination of storage locations in the SAP ERP control cycle, SAP EWM creates outbound delivery orders or posting changes.	You use the standard SAP ERP functionality to trigger staging. SAP ERP sends a message to SAP EWM. SAP EWM creates a PMR.
Quantities for Staging	The system uses the full quantity of a reservation item (pick parts) or multiple reservation items (release order parts) for staging.	The system creates a staging proposal based on the current stock on the PSA bin, the open warehouse tasks for this bin, and the current requirements for the product.  You can define how much of a product is to be staged at a time — for example, you always stage a full pallet.  You can also decide to stage a different quantity to the quantity proposed by the system.
Planning Staging	You create warehouse tasks for the outbound delivery orders and posting changes that SAP EWM has created from the SAP ERP messages.	You create the warehouse tasks directly from the <i>Staging for Production</i> screen.  You can also schedule regular creation of warehouse tasks for staging for production using the report <i>Schedule for Production</i> .

Overview	Not available	You can display an overview of the current stock on the production supply area bin, the open warehouse tasks for this bin, and the current requirements for the product.
Typical scenario	Mechanical Engineering	Consumer products or process industry

### Summary of Solution Comparison

The advantages of PMR-based production supply are as follows:

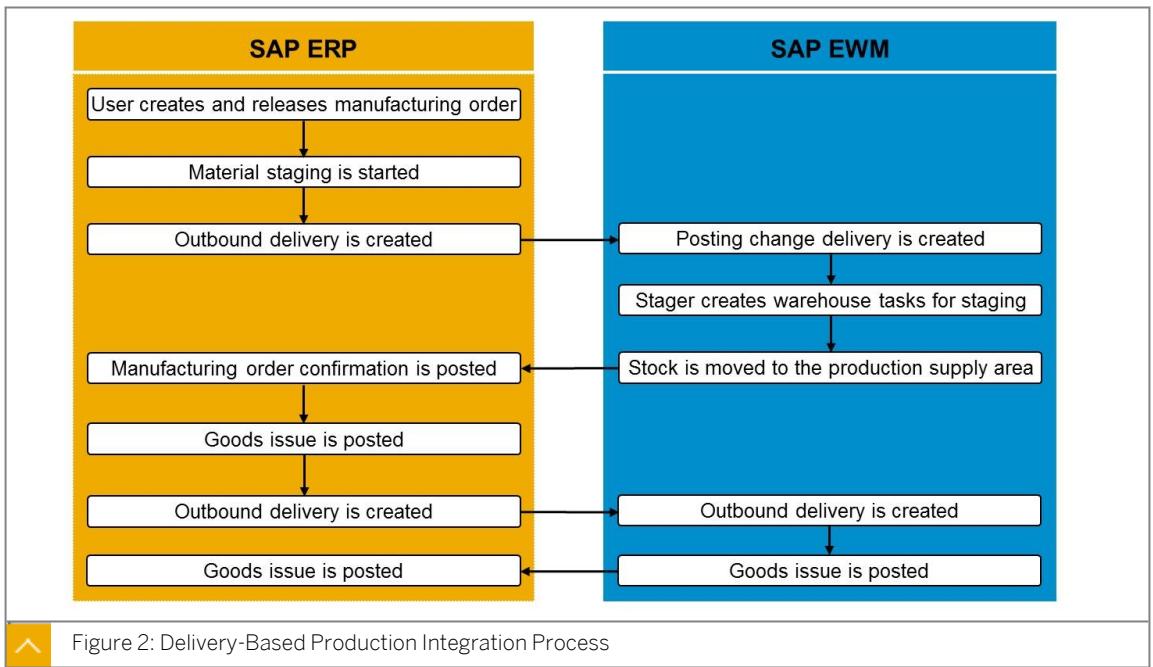
- Once the PMRs are created, you can work independently of SAP ERP.
- You can use the warehouse management capabilities to organize the staging for production.
- You can split a high quantity of a component into smaller quantities that fit into your PSA. This is useful when space in your PSA is restricted or when production runs manufacturing orders over longer periods.
- Your production users work in SAP EWM to post the goods issue of the components. However, if the same users also have to enter additional data, for example to me tickets, they have to work in both systems.
- You can post goods issue for more of a material than was planned in the PMR.
- PMR-based production supply performs a lean system communication by sending just goods movement messages to SAP ERP instead of creating several delivery documents. When the number of goods issues is high, the usage of system resources is much lower.

The advantages of delivery-based production supply are as follows:

- You can continue to work in SAP ERP.  
When you work with a typical pick parts scenario, you can put all or most parts of the bill of material together in a container before you bring it to the work center. The user at the work center enters all his or her production data and goods movements in SAP ERP.
- You can transport the materials from the warehouse to the production location in a shuttle scenario.
- You can use the shipping functionality.
- You can use Kanban functions.

### Manufacturing Integration Process

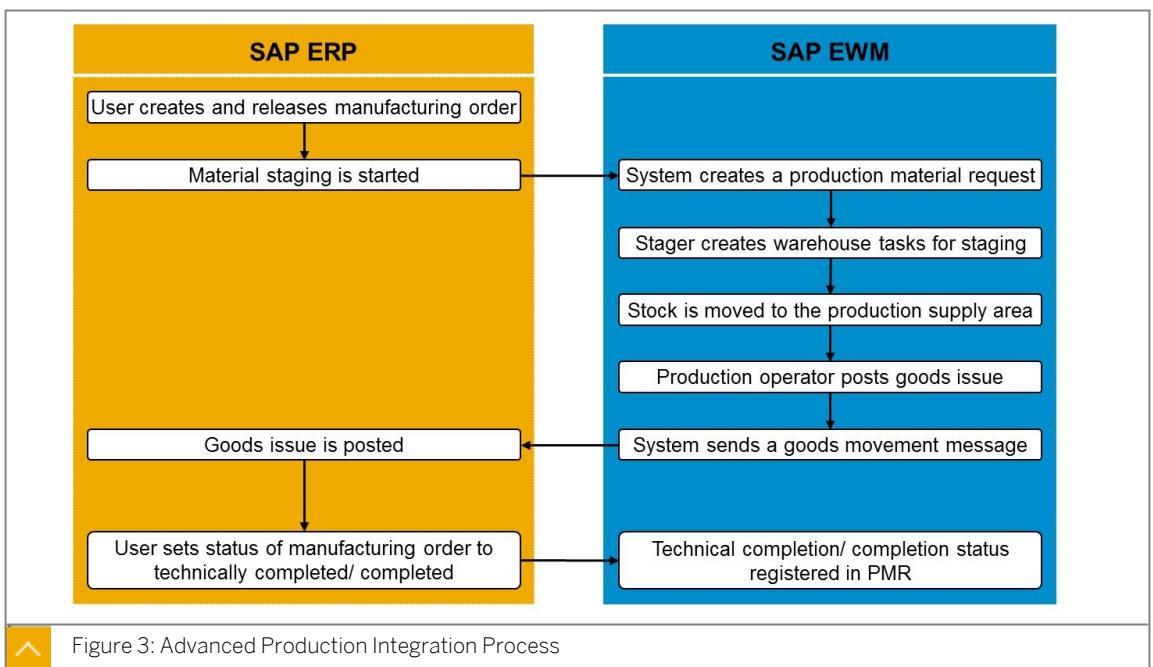
For the delivery-based production integration scenario more information flows between the ERP and the EWM system. Several deliveries can be created (for staging pick parts, staging release order parts, goods issue posting) and more steps are triggered from ERP.

**Note:**

The figure, Delivery-Based Production Integration Process, shows only one outbound delivery for staging and this is for the scenario with two storage locations and one warehouse number.

### Advanced Production Integration Process

With the advanced production integration, the ERP side has no delivery documents and all steps between the initial request for the material staging and the completion of the manufacturing order are controlled in EWM.





## LESSON SUMMARY

You should now be able to:

- Explain the different production integration models in EWM.

## Learning Assessment

1. Delivery based production integration supports which of the following processes?

*Choose the correct answers.*

- A Production Orders
- B Process Orders
- C Kanban
- D Repetitive Manufacturing

2. Advanced production integration is typically used in which of the following scenarios?

*Choose the correct answers.*

- A Mechanical Engineering
- B Consumer products
- C Process industry

## Learning Assessment - Answers

1. Delivery based production integration supports which of the following processes?

*Choose the correct answers.*

- A Production Orders
- B Process Orders
- C Kanban
- D Repetitive Manufacturing

2. Advanced production integration is typically used in which of the following scenarios?

*Choose the correct answers.*

- A Mechanical Engineering
- B Consumer products
- C Process industry

### Lesson 1

Defining Master Data

10

Exercise 1: Define and Assign a Storage Location for Production

15

### UNIT OBJECTIVES

- Define organizational structures
- Define master data for the production integration

## Defining Master Data

### LESSON OVERVIEW

In this lesson, you learn how to set up the master data.



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Define organizational structures
- Define master data for the production integration

### Organizational Structures for Production

There are different models for organizing stocks for production in SAP Extended Warehouse Management (EWM), as follows:

- Two SAP EWM-managed storage locations in one warehouse

The system manages the stock for the production separately from the other stocks. This increases the transparency at storage-bin level in the SAP EWM system, and at storage location level in the SAP ERP system. When staging the products, the SAP EWM system executes a posting change by changing the stock type. In the SAP ERP system, this is a stock transfer between the storage locations.

- One SAP EWM-managed storage location

The production stocks are only managed in SAP EWM, and are therefore transparent in the SAP EWM system only. When staging the products, the system does not execute a posting change.

- MM-IM Managed storage location

The product stocks are not managed in the SAP EWM system; they are managed in the SAP ERP system at MM-IM storage location level. Staging is an outbound delivery from an SAP EWM perspective, and, from an SAP ERP perspective, a posting change to a storage location outside of the SAP EWM system.

- Two SAP EWM-managed storage locations in two warehouses

The production stocks are managed in the EWM system in another warehouse number. The staging takes place in a two-step posting change, as follows:

- Outbound delivery from the sending EWM warehouse
- Inbound delivery to the receiving EWM warehouse

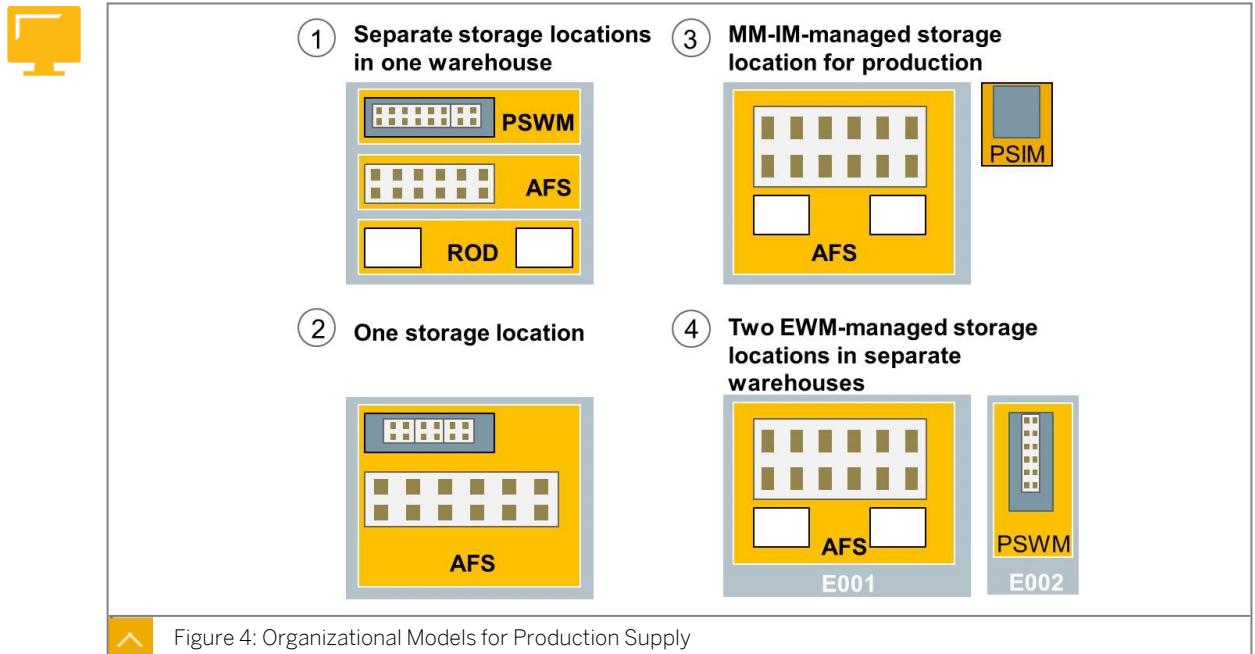


Figure 4: Organizational Models for Production Supply

The first two models are supported by the delivery-based integration and the advanced production integration. It is only possible to work with a storage location that is not SAP EWM managed, or that has its own EWM warehouse with delivery-based integration.

### Production Supply Area (PSA)

The production supply area (PSA) is an area on the shop floor where products are staged or withdrawn. To stage products for a production order, information about where to bring products must be available. For production orders in the SAP ERP system, the PSA contains this information.

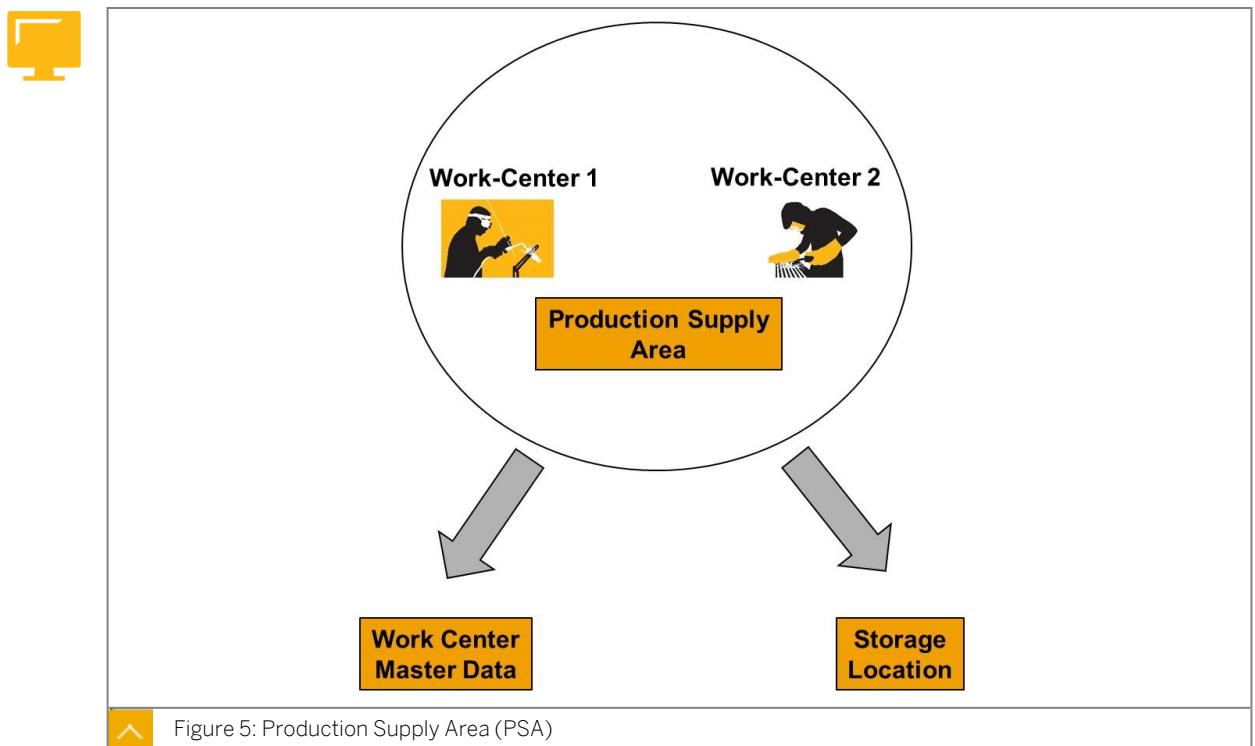


Figure 5: Production Supply Area (PSA)

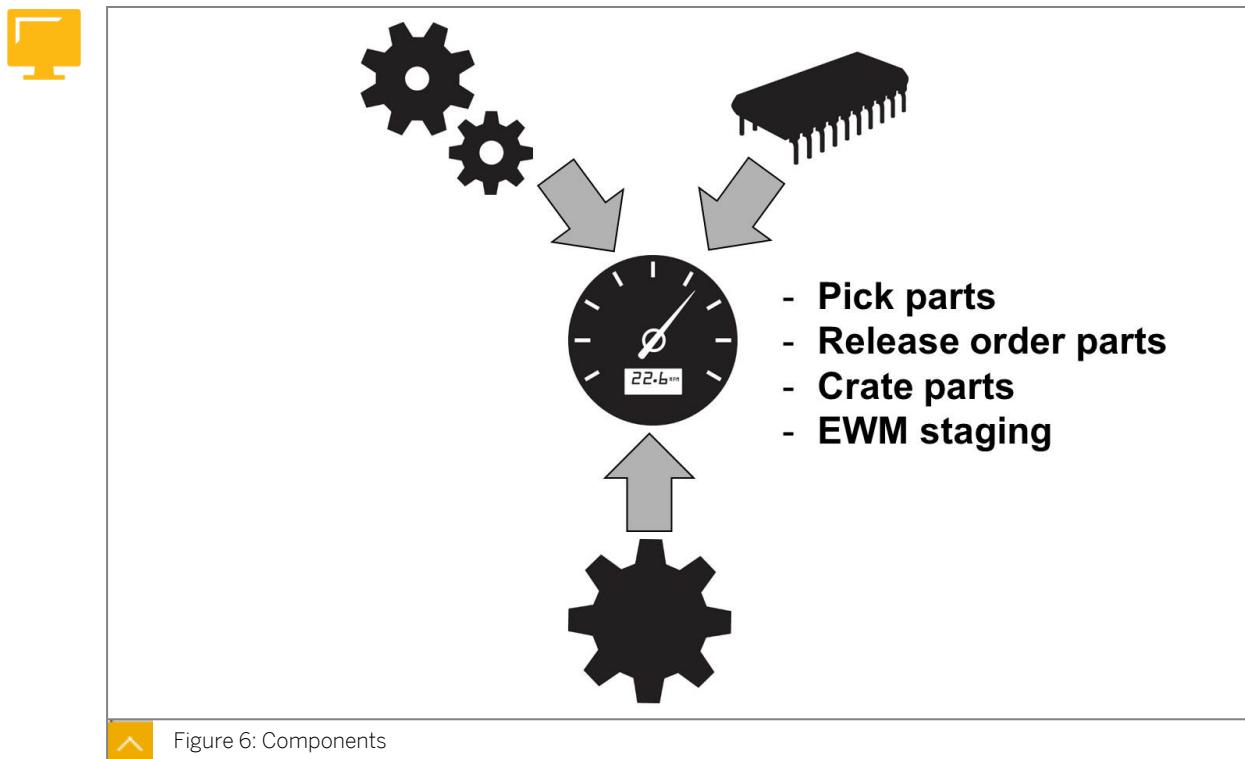
The PSA is always created in the ERP system. You can then create the PSA manually in the EWM system and do a mapping between these two; or you can replicate the PSA from the ERP to the EWM system, which takes care of the mapping in the same step. The name being used for the PSA in EWM during the replication is controlled by the BAdl /SCWM/ EX\_ERP\_PSA\_NAME. There is a sample BAdl implementation available, /SCWM/ CL\_DEF\_PSA\_NAME. This sample implementation can be used to generate the PSA name by concatenating the PSA's name in ERP, a '/' sign and the plant from the ERP system.

A PSA usually contains one or more storage bins where you can stage the products of a production order. For this reason, the SAP EWM system needs information about the PSAs to find out the correct storage bin for staging the products. The assignment of the bins to the PSA is done in EWM. One PSA can have multiple storage bins and one storage bin can be used by multiple PSAs.

You can assign a storage bin to a combination of PSA, party entitled to dispose, and product, or to a combination of PSA and party entitled to dispose.

### **Components and Control Cycles**

Usually, the production needs components in different ways. Certain components are required only rarely, only for specific production orders. Others are needed for more than one production order on most days, so it is picked only once, if possible, in the warehouse. For other components, a similar quantity is used every day. Using control cycles you define the way the different components are staged.



The different control cycles used for SAP EWM are as follows:

#### **Pick Parts**

Using pick parts, you trigger material staging from the warehouse to production based purely on the production order. You stage the quantity of the material requested in the production order with a direct reference to the production order. This is only relevant for delivery based production integration.

### Release Order Parts

This is for material that you request from the warehouse to production for several orders. The quantity is not predefined, you request the quantity of a release order part manually. This is only relevant for delivery based production integration.

### Crate Parts

This is material stored in crates or other standard containers. You request this from the warehouse for production, independent of existing production orders. Crate part staging for SAP EWM-managed supply warehouses is defined in the PSA in SAP EWM. Crate parts can be used for the advanced production integration and for the delivery-based production supply, but only for inside one warehouse.

### EWM Staging

This type of control cycle is specifically for the advanced production integration. You decide in EWM if you use “single-order staging” (which corresponds to pick parts), or “cross-order staging” (which is similar to release order parts).



## Unit 2

### Exercise 1

# Define and Assign a Storage Location for Production

#### Business Example

Your production requires material that is in storage in your warehouse. Once the material is staged for production, you want the material in a separate storage location, to have control over the stock.

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

1. The *Storage Location PW##* is not using your *Warehouse Number E##* yet. Activate the combination of *Plant* and *Storage Location SCPW / PW##* and *Warehouse Number E1##*. Then set up the *Availability Group 003* in EWM for the *Storage Location PW##* and the *Warehouse Number E1##*.

## Unit 2 Solution 1

# Define and Assign a Storage Location for Production

### Business Example

Your production requires material that is in storage in your warehouse. Once the material is staged for production, you want the material in a separate storage location, to have control over the stock.

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

1. The *Storage Location PW##* is not using your *Warehouse Number E##* yet. Activate the combination of *Plant* and *Storage Location SCPW / PW##* and *Warehouse Number E1##*. Then set up the *Availability Group 003* in EWM for the *Storage Location PW##* and the *Warehouse Number E1##*.
  - a) In Customizing for ERP, choose *Enterprise Structure → Assignment → Logistics Execution → Assign warehouse number to plant/storage location*.
  - b) Choose *New Entries*.
  - c) Create a new entry with the following details:

Field	Value
Plnt	SPCW
SLoc	PW##
WhN	E##

- d) Save your new entry.
- e) Exit the function.
- f) In Customizing for EWM, choose *SCM Extended Warehouse Management → Extended Warehouse Management → Interfaces → ERP Integration → Goods Movements → Map Storage Locations from ERP System to EWM*.
- g) Choose *New Entries*.
- h) Create a new entry with the following details:

Field	Value
Plnt	SPCW
SLoc	PW##
Logical system	T90CLNT090

Field	Value
Warehouse Number	E1##
AGr	003

- i) Save your new entry.
- j) Exit the function.



## LESSON SUMMARY

You should now be able to:

- Define organizational structures
- Define master data for the production integration

# Learning Assessment

1. A production integration scenario with two warehouse numbers, one for the supply and one for the consumption, is supported by which of the following?

*Choose the correct answers.*

- A Delivery-based production integration
- B Advanced production integration

2. A production supply area is required in SAP ERP and in SAP EWM. What possibilities do you have to create the PSA?

*Choose the correct answers.*

- A A PSA is manually created in SAP ERP and then replicated into SAP EWM with automatic mapping
- B A PSA is manually created in SAP ERP, manually created in SAP EWM and a manual mapping is required
- C A PSA is manually created in SAP EWM and then replicated to SAP ERP

3. Control cycles are required to control which of the following processes?

*Choose the correct answer.*

- A How a material is staged
- B What costs are to be calculated
- C Which warehouse process type is used for picking

# Learning Assessment - Answers

1. A production integration scenario with two warehouse numbers, one for the supply and one for the consumption, is supported by which of the following?

*Choose the correct answers.*

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2. A production supply area is required in SAP ERP and in SAP EWM. What possibilities do you have to create the PSA?

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3. Control cycles are required to control which of the following processes?

*Choose the correct answer.*

- A How a material is staged
- B What costs are to be calculated
- C Which warehouse process type is used for picking

# UNIT 3

# Delivery Based Production Supply

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Exercise 2: Set Up the Staging for Production	25

## Lesson 2

Staging Products for Delivery Based Production Supply	32
Exercise 3: Execute the Staging for Production	35

## Lesson 3

Posting Consumption for Delivery Based Production Supply	41
Exercise 4: Post Consumption for a Delivery Based Production Supply	43

## UNIT OBJECTIVES

- Define Master Data for the delivery based production supply.
- Stage products for production with the delivery based production integration
- Post consumption with the delivery based production integration

## Setting Up Master Data for Delivery Based Production Supply

### LESSON OVERVIEW

In this lesson, you learn how to set up the master data for the delivery based production supply.



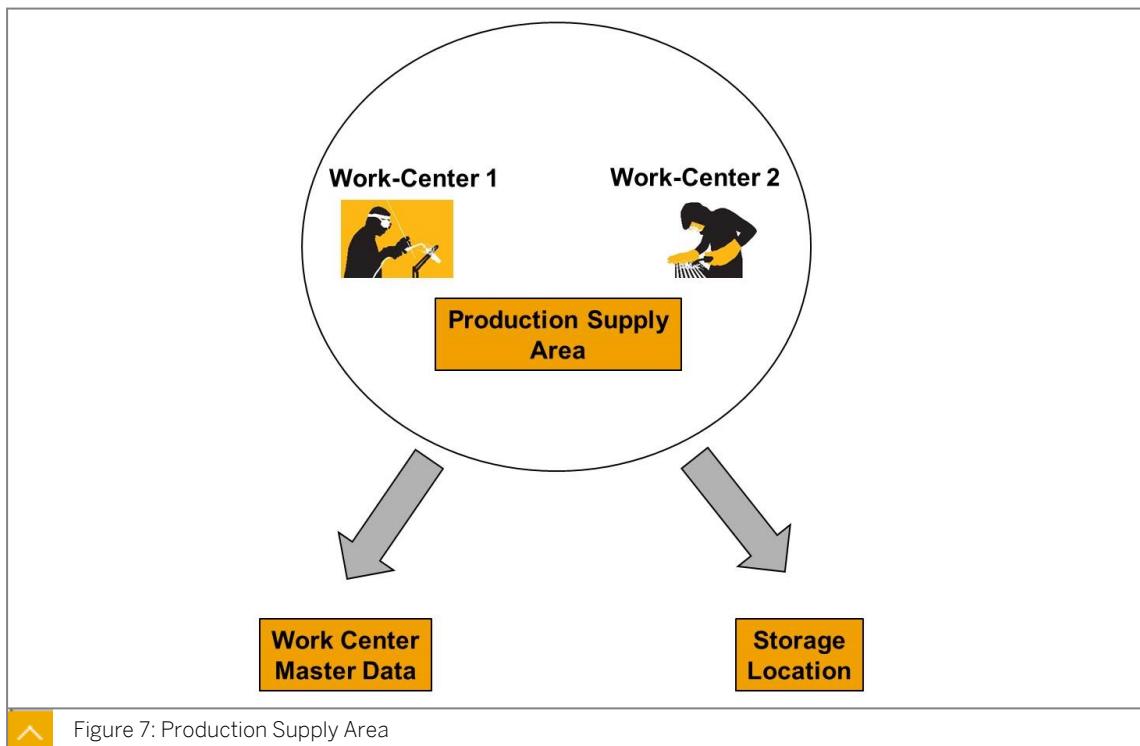
### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Define Master Data for the delivery based production supply.

### Production Supply Area (Delivery Based Production Integration)

The production supply area is an area on the shop floor where products are staged or withdrawn. To stage products for a production order, a warehouse must know where it has to take the products. For production orders in the SAP ERP system, the Production Supply Area (PSA) contains this information.

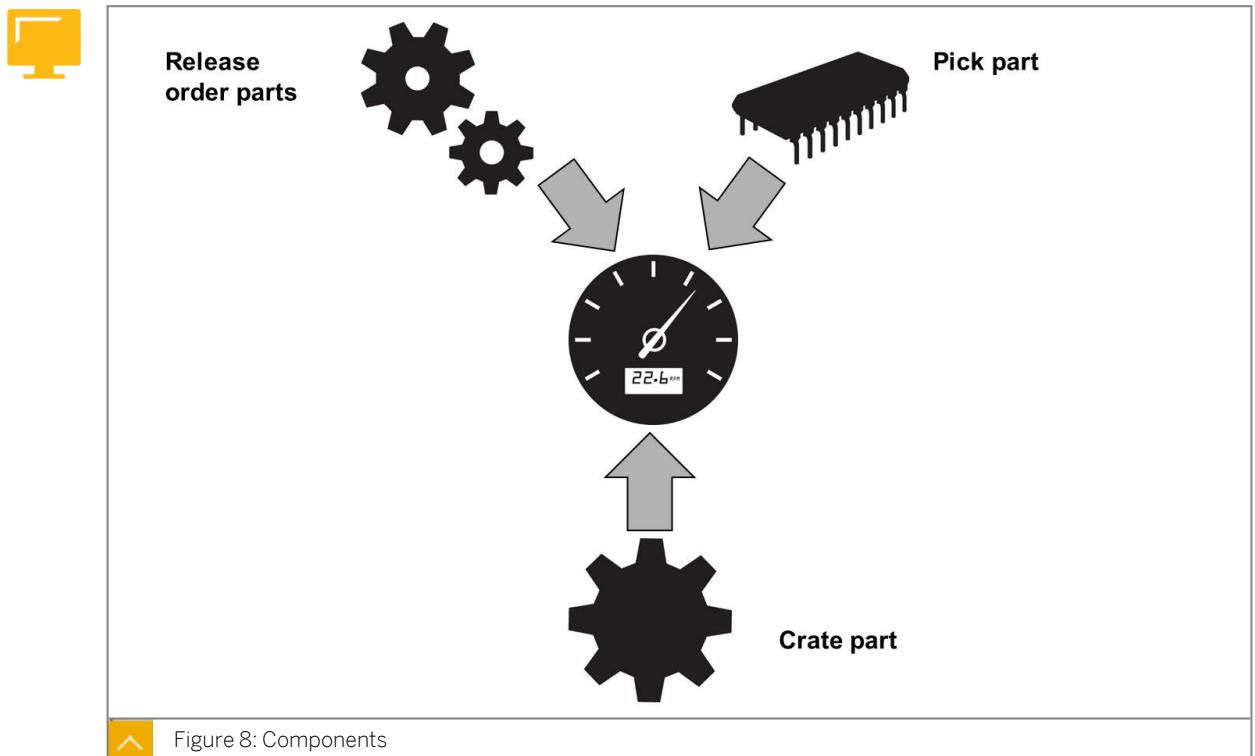


The PSA also contains the information about the storage location from where the material is taken during the production process. This is important for the delivery-based production integration, where this storage location can be different storage location than the one

supplying the material, it can even be connected to a different warehouse. So through this the SAP ERP system knows what type of delivery is required.

### Control Cycles for Delivery-Based Production Integration

In the delivery-based production supply, you have to distinguish whether you want to stage the components as pick parts, release order parts, or crate parts. For pick parts and release order parts, you have to maintain the proper control cycles in SAP ERP. For crate parts, the most important setting is in SAP EWM. The control cycle in SAP ERP can say that it is for crate parts, and never really be used in this way, or it can say "manual staging". A control cycle is still required for such parts.





## Unit 3 Exercise 2

# Set Up the Staging for Production

### Business Example

Your production requires material that is in storage in your warehouse. You need to maintain the system so that the different materials are staged when they are required. But you might stage materials differently, depending on the way they are packed and how often they are needed.

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

### Set up the Staging for Separate Storage Location

Set up the staging for a separate storage location in your warehouse. Materials need to be staged differently, so you need to create various control cycles.

1. Create a new production supply area **PSA-PP##**. The assigned *Storage Location* is **PW##**.
2. Assign the PSA **PSA-PP##** to your work center **STAG-##** in ERP.
3. Create new **control cycles** for the *Production Supply Area* **PSA-PP##**. The following materials will be staged in the following ways:
  - T-EW41-## is a *crate part*.



#### Note:

As the control of the crate part is more on the EWM side, we select in the control cycle **manual staging** for this product.

- T-EW42-## and T-EW43-## are *pick parts*.
- T-EW46-## and T-EW47-## are *release order parts*.

The source storage location for all materials is **AF##**

4. Create the **bill of material** for production for **T-EW40-##**. You require one of each of the following components: **T-EW41-##**, **T-EW42-##**, **T-EW43-##**, **T-EW46-##**, and **T-EW47-##**.
5. Manually create the new production supply area in EWM with the following details:



Supply Area	<b>PSA-PP-##</b>
PSA Description	<b>PSA for PP-##</b>

6. Map the EWM PSA to the ERP PSA.
7. Create the following PSA - Bin assignment for the material T-EW41-## (the crate part):



<i>Ent. to Dispose</i>	<b>SPCW</b>
<i>PSA</i>	<b>PSA-PP##</b>
<i>Product</i>	<b>T-EW41-##</b>
<i>Storage Bin</i>	<b>1000-PSA01</b>
<i>Staging Method</i>	<b>1 Crate Part Replenishment</b>
<i>Qty Calc. Type</i>	<b>2 Quantity-Based Calculation</b>
<i>Replmt Qty</i>	<b>100</b>
<i>Min. Prod. Qty in PSA</i>	<b>20</b>
<i>Unit</i>	<b>PC</b>

For the other materials, only one bin assignment is required:



<i>Ent. to Dispose</i>	<b>SPCW</b>
<i>PSA</i>	<b>PSA-PP##</b>
<i>Storage Bin</i>	<b>1000-PSA02</b>
<i>Staging Method</i>	<b>Not Relevant for Staging</b>
<i>Qty Calc. Type</i>	<b>No Quantity Calculation</b>

# Unit 3

## Solution 2

## Set Up the Staging for Production

### Business Example

Your production requires material that is in storage in your warehouse. You need to maintain the system so that the different materials are staged when they are required. But you might stage materials differently, depending on the way they are packed and how often they are needed.

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

### Set up the Staging for Separate Storage Location

Set up the staging for a separate storage location in your warehouse. Materials need to be staged differently, so you need to create various control cycles.

1. Create a new production supply area **PSA-PP##**. The assigned Storage Location is **PW##**.

a) On the ERP Index screen, choose *Logistics* → *Logistics Execution* → *Master Data* → *Warehouse* → *Production Supply* → *Production Supply Area* → *Create / Change*.

b) If necessary, enter *Plant* **SPCW** and choose *Continue*.

c) Choose *New Entries*.

d) Create a new entry with the following details:

<b>Plant</b>	<b>SPCW</b>
<b>Supply Area</b>	<b>PSA-PP##</b>
<b>Description</b>	<b>Production Supply Area ##</b>
<b>Stor. Location</b>	<b>PW##</b>

e) Save your new entry.

f) Exit the function.

2. Assign the PSA **PSA-PP##** to your work center **STAG-##** in ERP.

a) On the ERP Index screen, choose *Logistics* → *Production* → *Master Data* → *Work Center* → *Change*.

b) If necessary, enter the *Plant* **SPCW** and the *Work center* **STAG-##**.

c) Press Enter.

d) Enter the *Supply Area* **PSA-PP##**.

e) Save your changes.

f) Exit the function.

3. Create new **control cycles** for the *Production Supply Area PSA-PP##*. The following materials will be staged in the following ways:

- T-EW41-## is a *crate part*.



Note:

As the control of the crate part is more on the EWM side, we select in the control cycle **manual staging** for this product.

- T-EW42-## and T-EW43-## are *pick parts*.
- T-EW46-## and T-EW47-## are *release order parts*.

The source storage location for all materials is **AF##**

- On the ERP Index screen, choose *Logistics → Logistics Execution → Master Data → Warehouse → Production Supply → Control Cycle Production Supply → Create*.
- Enter the *Material T-EW41-##*, the *Plant SPCW*, and the *Supply Area PSA-PP##*, then press Enter.
- Enter the following details:



<i>Staging Ind.</i>	<b>4</b>
<i>Stor. Location</i>	<b>AF##</b>

- Create four more control cycles with the following details:



<i>Material</i>	<b>T-EW42-##</b>
<i>Plant</i>	<b>SPCW</b>
<i>Prodn Supply Area</i>	<b>PSA-PP##</b>
<i>Staging Ind.</i>	<b>1</b>
<i>Stor. Location</i>	<b>AF##</b>



<i>Material</i>	<b>T-EW43-##</b>
<i>Plant</i>	<b>SPCW</b>
<i>Prodn Supply Area</i>	<b>PSA-PP##</b>
<i>Staging Ind.</i>	<b>1</b>
<i>Stor. Location</i>	<b>AF##</b>



<i>Material</i>	<b>T-EW46-##</b>
<i>Plant</i>	<b>SPCW</b>
<i>Prodn Supply Area</i>	<b>PSA-PP##</b>

<i>Staging Ind.</i>	<b>3</b>
<i>Stor. Location</i>	<b>AF##</b>



<i>Material</i>	<b>T-EW47-##</b>
<i>Plant</i>	<b>SPCW</b>
<i>Prodn Supply Area</i>	<b>PSA-PP##</b>
<i>Staging Ind.</i>	<b>3</b>
<i>Stor. Location</i>	<b>AF##</b>

e) Exit the function.

4. Create the **bill of material** for production for **T-EW40-##**. You require one of each of the following components: **T-EW41-##**, **T-EW42-##**, **T-EW43-##**, **T-EW46-##**, and **T-EW47-##**.

- a) On the *ERP Index* screen, choose *Logistics* → *Production* → *Master Data* → *Bills of Material* → *Material BOM* → *Create*.
- b) Enter the *Material* **T-EW40-##**, *Plant* **SPCW**, and *BOM Usage* **1** (Production). Press *Enter*.
- c) Enter the *components* (**T-EW41-##**, **T-EW42-##**, **T-EW43-##**, **T-EW46-##**, **T-EW47-##**), and **1** for *Quantity* (resp. 1 m for the last component) each.
- d) Save your new BOM.
- e) Exit the function.

5. Manually create the new production supply area in EWM with the following details:



<i>Supply Area</i>	<b>PSA-PP-##</b>
<i>PSA Description</i>	<b>PSA for PP-##</b>

- a) On the *EWM Index* screen, choose *Extended Warehouse Management* → *Master Data* → *Production Supply Area (PSA)* → *Define PSA*.
- b) Select *New Entries*.
- c) Enter *Supply Area* **PSA-PP##**, *PSA Description* **PSA for PP-##**.
- d) Save your new entry.
- e) Exit the function.

6. Map the EWM PSA to the ERP PSA.

- a) On the *EWM Index* screen, choose *Extended Warehouse Management* → *Interface* → *ERP Integration* → *Map Production Supply Area (PSA)*.
- b) Select *New Entries*.
- c) Enter the following data:



Field	Value
PSA in ERP	PSA-PP##
Logical System	T90CLNT090
Plant	SPCW
Warehouse No.	E1##
Supply Area	PSA-PP##

7. Create the following PSA - Bin assignment for the material T-EW41-## (the crate part):



Ent. to Dispose	SPCW
PSA	PSA-PP##
Product	T-EW41-##
Storage Bin	1000-PSA01
Staging Method	1 Crate Part Replenishment
Qty Calc. Type	2 Quantity-Based Calculation
Replmt Qty	100
Min. Prod. Qty in PSA	20
Unit	PC

For the other materials, only one bin assignment is required:



Ent. to Dispose	SPCW
PSA	PSA-PP##
Storage Bin	1000-PSA02
Staging Method	Not Relevant for Staging
Qty Calc. Type	No Quantity Calculation

- On the EWM Index screen, choose *Extended Warehouse Management* → *Master Data* → *Production Supply Area (PSA)* → *Assign Bin to PSA/Product/Entitled in Warehouse Number*.
- Choose *New Entries*.
- Create the new entries as described in the tables.
- Save your new entries.
- Exit the function.



## LESSON SUMMARY

You should now be able to:

- Define Master Data for the delivery based production supply.

## Staging Products for Delivery Based Production Supply

### LESSON OVERVIEW

In this lesson, you learn how to stage products with the delivery based production integration.



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Stage products for production with the delivery based production integration

### Staging for Delivery-Based Production Supply

Depending on your organizational model, you will have different documents for the staging process.

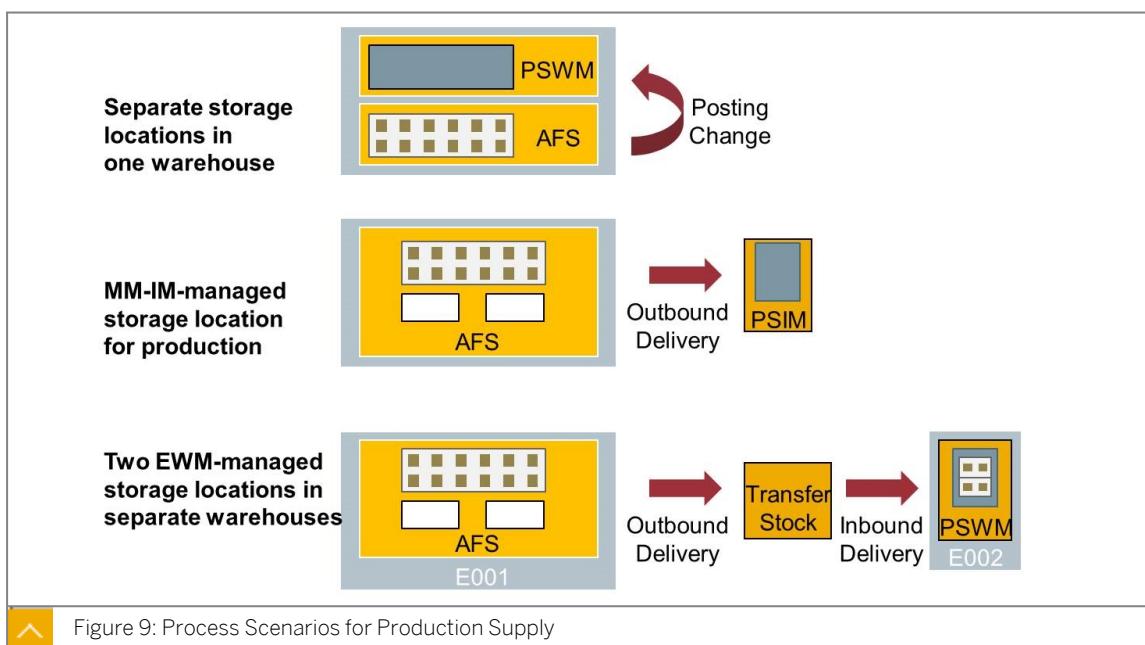


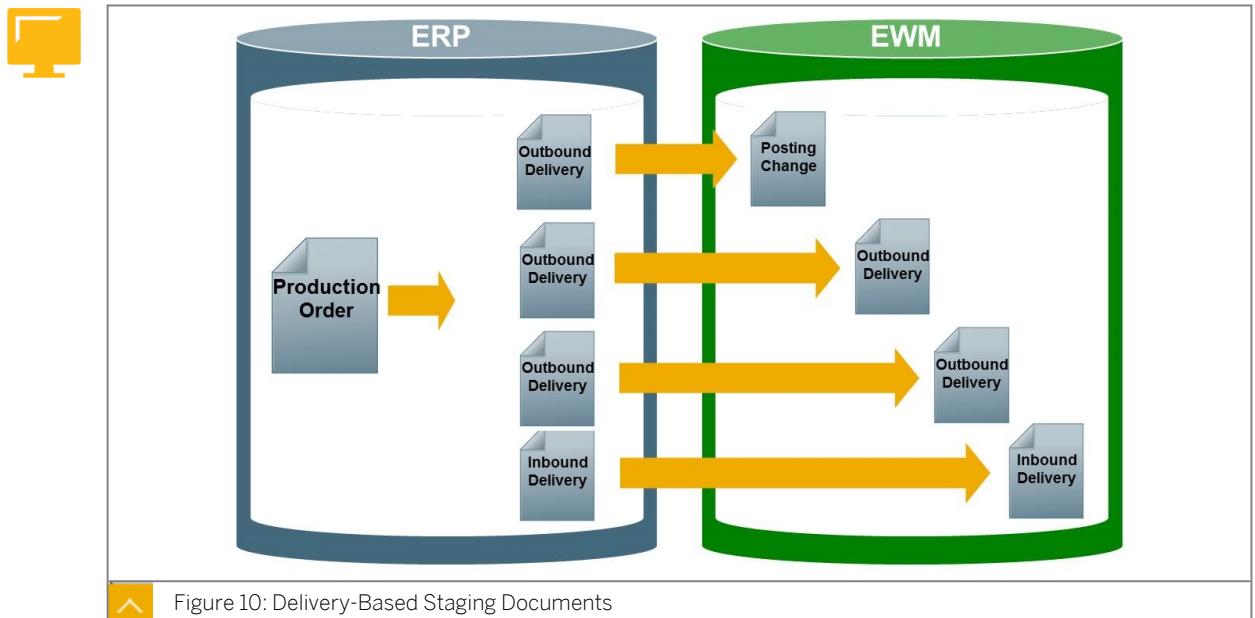
Figure 9: Process Scenarios for Production Supply

When the destination storage location is an inventory-managed (MM-IM) storage location only, you have an outbound delivery from the supplying storage location or SAP EWM warehouse. In processes with a two-step stock transfer using two SAP EWM-managed storage locations and two warehouse numbers, there is an outbound delivery from the supplying storage location or warehouse for the first part and an inbound delivery for the second part.

The system uses a posting change delivery in the case of using two separate SAP EWM-managed storage locations in one warehouse or one single SAP EWM-managed storage location.

The ERP system does not know such a kind of delivery, so technically the delivery in ERP is always an outbound or an inbound delivery. In a warehouse internal movement, it is an outbound delivery document type.

### Delivery-Based Staging Documents



#### Note:

When there is one single storage location in one warehouse number, technically, we only have a stock transfer from bin to bin. There is no posting change. A stock transfer warehouse request cannot be created from the ERP system, only a posting change. That is why if the material stays in one warehouse, a posting change warehouse request is created in SAP EWM.



## Unit 3

### Exercise 3

# Execute the Staging for Production

#### Business Example

Your production requires material that is in storage in your warehouse.

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

#### Set up the Staging for Separate Storage Location

After a production order is released and staging is triggered, you pick the required components in the warehouse and bring them to the bins for the production supply area.

1. Control the settings for the crate part replenishment for storage type 1000. You want to use the warehouse process type **3100** and the warehouse task will be created immediately.
2. Schedule the replenishment for the crate part and confirm the warehouse task in the warehouse management monitor.
3. Create a production order for 5 pieces of T-EW40-##.

Production order: \_\_\_\_\_

4. Confirm in the warehouse management monitor that a delivery (resp. a posting change) for the *pick parts* has been created. Note the EWM document number and the ERP delivery number. Create the warehouse task and confirm the warehouse task.

Posting change: \_\_\_\_\_

ERP document: \_\_\_\_\_

5. Request the **staging** of the *release order parts*.
6. Confirm in the warehouse management monitor that a delivery (resp. a second posting change) for the *release order parts* has been created. Note the EWM document number and the ERP delivery number. Create the warehouse task and confirm the warehouse task.

Posting change: \_\_\_\_\_

ERP document: \_\_\_\_\_

7. In the warehouse management monitor, verify the stock in the storage type 1000.

Product	Quantity
T-EW41-##	
T-EW42-##	
T-EW43-##	
T-EW46-##	
T-EW47-##	

# Unit 3

## Solution 3

# Execute the Staging for Production

### Business Example

Your production requires material that is in storage in your warehouse.

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

### Set up the Staging for Separate Storage Location

After a production order is released and staging is triggered, you pick the required components in the warehouse and bring them to the bins for the production supply area.

1. Control the settings for the crate part replenishment for storage type 1000. You want to use the warehouse process type **3100** and the warehouse task will be created immediately.
  - a) In Customizing for EWM, choose *SCM Extended Warehouse Management → Extended Warehouse Management → Internal Warehouse Processes → Replenishment Control → Activate Replenishment Strategies in Storage Types*.
  - b) Choose *Position* and enter your warehouse number **E1##** and the storage type **1000**.
  - c) Select the line and choose *Details*.
  - d) Check for the *Whse Proc. Type* **3100** and verify that the *WT Immed* checkbox is selected.
  - e) Save your changes.
  - f) Exit the function.
2. Schedule the replenishment for the crate part and confirm the warehouse task in the warehouse management monitor.
  - a) On the EWM Index screen, choose *Extended Warehouse Management → Work Scheduling → Schedule Replenishment*.
  - b) Select the Replenishment Strategy *Crate Part Replenishment* and verify that the *Warehouse Number* **E1##** is entered. Choose *Execute* .
  - c) One planned replenishment item appears for the product **T-EW41-##**. Select the line and choose *Perform Replenishment* .
  - d) Exit the function.
  - e) On the EWM Index screen, choose *Extended Warehouse Management → Monitoring → Warehouse Management Monitor*.
  - f) Choose *Documents → Warehouse Order*. In the dialog box, enter the *Hdr Whse Process Tpe* **3100** and choose *Execute* .

One warehouse order appears.

g) Select the warehouse order and choose *More methods* → *Confirm WO in Background*.

3. Create a production order for 5 pieces of T-EW40-##.

Production order: \_\_\_\_\_

a) On the ERP *Index* screen, choose *Logistics* → *Production* → *Shop Floor Control* → *Order* → *Create* → *With Material*.

b) Enter the *Material* **T-EW40-##** and the *Production Plant* **SPCW**. Press Enter.

c) Enter a *Total Qty* of **5** pieces and press Enter.

d) Choose *Release Order* and save your entry.

e) Note the production order number.

f) Exit the function.

4. Confirm in the warehouse management monitor that a delivery (resp. a posting change) for the *pick parts* has been created. Note the EWM document number and the ERP delivery number. Create the warehouse task and confirm the warehouse task.

Posting change: \_\_\_\_\_

ERP document: \_\_\_\_\_

a) On the EWM *Index* screen, choose *Extended Warehouse Management* → *Monitoring* → *Warehouse Management Monitor*.

b) Choose *Documents* → *Posting Changes*. Leave the dialog box blank and choose *Execute* .

Note the number of the *Document*.

c) Click the document number.

The *Maintain Posting Change* screen appears.

d) Select the *Reference Documents* tab.

e) Note the *ERP Document* number.

f) In the top left corner, choose *Posting Change* → *Follow-On Functions* → *Warehouse Task*.

g) Choose *Select All* to select both items. Then choose the *Create + Save Warehouse Task* button .

h) Choose *Warehouse Task* → *Confirm*.

i) Make sure that the warehouse order is selected and choose the *Confirm + Save* button.

j) Exit the function to return to the warehouse management monitor.

5. Request the **staging** of the *release order parts*.

a) On the ERP *Index* screen, choose *Logistics* → *Production* → *Shop Floor Control* → *Goods Movements* → *Material Staging* → *Pull List*.

- b) Deselect the checkbox for *SLoc Level* and select the checkbox for *EWM Rel. Parts*. Verify that the *Plant SPCW* is entered. In the *Selection Horizon for Reqmts* field, enter the **actual date + 6 days**.
- c) Select the *Production/Process Orders* tab and enter your *Prodn Supply Area PSA-PP##*.
- d) Choose *Execute* .
- There should be two items displayed, the materials T-EW46-## and T-EW47-##.
- e) Select both lines and choose *Replenish. Proposals* .
- f) Choose *Replenishment Elements* .
- The lower part of the screen should now show two *Replen. Elements*.
- g) Select both lines in the lower part of the screen and choose *Stage*  Save your entry.
- h) Exit the function.
6. Confirm in the warehouse management monitor that a delivery (resp. a second posting change) for the *release order parts* has been created. Note the EWM document number and the ERP delivery number. Create the warehouse task and confirm the warehouse task.
- Posting change: \_\_\_\_\_
- ERP document: \_\_\_\_\_
- a) On the EWM Index screen, choose *Extended Warehouse Management* → *Monitoring* → *Warehouse Management Monitor*.
- b) Choose *Documents* → *Posting Changes*.
- c) Leave the pop-up blank and choose *Execute*.
- The first has the *Warehouse Activity Status Completed*, which is for the pick parts.
- The second has the *Warehouse Activity Status Not Started*, which is for the release order parts.
- d) Click the second document number.
- The *Maintain Posting Change* screen opens.
- e) Select the *Reference Documents* tab.
- Note the *ERP Document* number.
- f) Choose *Posting Change* → *Follow-On Functions* → *Warehouse Task*.
- g) Choose *Select All*  Then choose the *Create + Save Warehouse Task*  button.
- h) Choose *Warehouse Task* → *Confirm*.
- i) Verify that the warehouse order is selected and choose the *Confirm + Save* button.
- j) Exit the function to return to the *Warehouse Management Monitor*.
7. In the warehouse management monitor, verify the stock in the storage type 1000.

Product	Quantity
T-EW41-##	

T-EW42-##	
T-EW43-##	
T-EW46-##	
T-EW47-##	

- a) In the *Warehouse Management Monitor*, choose *Stock and Bin* → *Storage Bin* → *Physical Stock*.
- b) In the pop-up, enter *Storage Type* **1000** and choose *Execute* .
- c) Note the quantities of the products in the table.



### LESSON SUMMARY

You should now be able to:

- Stage products for production with the delivery based production integration

## Posting Consumption for Delivery Based Production Supply

### LESSON OVERVIEW

In this lesson, you learn how to post consumption for a production order in SAP ERP.



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Post consumption with the delivery based production integration

### Consumption Posting Delivery for Production Supply

You trigger the consumption of the components from SAP ERP. One way is to trigger a goods issue posting with reference to the production order. With the confirmation of the production order it is possible in the SAP ERP system to generate a consumption posting for backflushing. In both cases, an outbound delivery is then created and replicated to SAP EWM. The delivery is not relevant for picking in SAP EWM and, with the correct settings, the system posts goods issue immediately on creating this delivery.

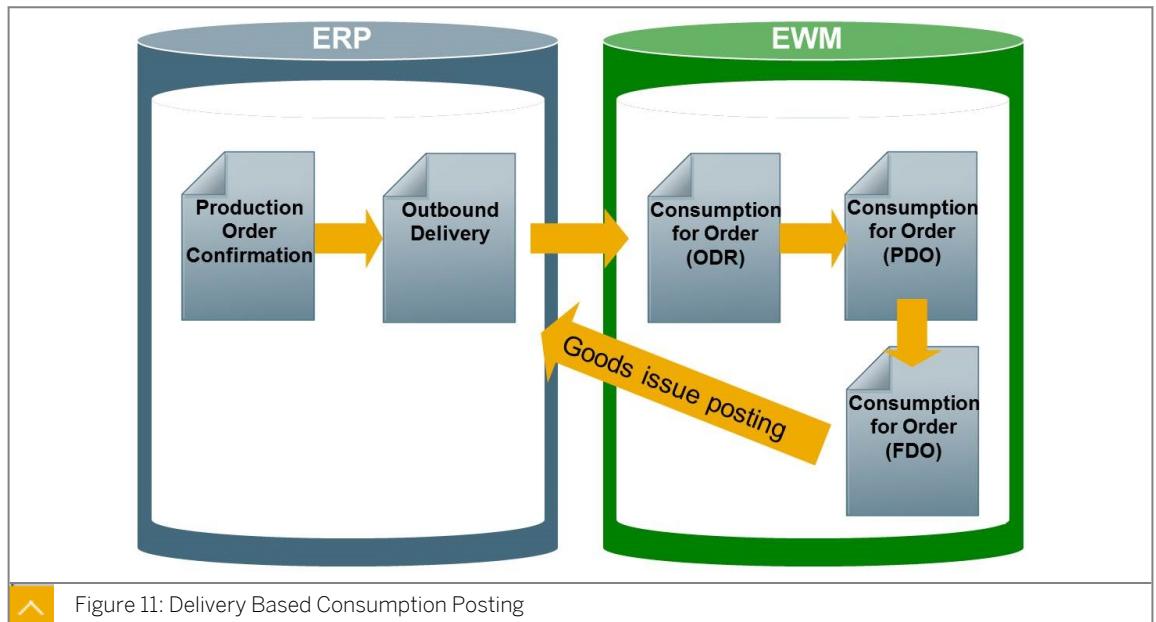


Figure 11: Delivery Based Consumption Posting



## Unit 3 Exercise 4

# Post Consumption for a Delivery Based Production Supply

### Business Example

During the production process, the components are consumed, so it is necessary to trigger a consumption posting.

Either at the end or during different stages of the production process a confirmation of the production is entered and the consumption of the components is posted.

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

1. Enter the confirmation of the production order. Verify that the goods issue for the components is to be posted.
2. In the Warehouse Management Monitor, verify that the stock on storage type **1000** has been reduced accordingly.

Only stock of the *crate part* **T-EW41-##** should remain.

3. Look for the outbound delivery order in the Warehouse Management Monitor.

The document type is **OPC - Consumption for Order**.

Consumption for order: \_\_\_\_\_

ERP document: \_\_\_\_\_

## Unit 3 Solution 4

# Post Consumption for a Delivery Based Production Supply

### Business Example

During the production process, the components are consumed, so it is necessary to trigger a consumption posting.

Either at the end or during different stages of the production process a confirmation of the production is entered and the consumption of the components is posted.

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

1. Enter the confirmation of the production order. Verify that the goods issue for the components is to be posted.
  - a) On the ERP *Index* screen, choose *Logistics* → *Production* → *Shop Floor Control* → *Confirmation* → *Enter* → *For Order*.
  - b) Enter your production order and press *Enter*.
  - c) Choose the *Goods Movements* button and verify that all 5 components are listed.
  - d) Save your confirmation.
  - e) Exit the function.
2. In the Warehouse Management Monitor, verify that the stock on storage type **1000** has been reduced accordingly.  
Only stock of the *crate part* **T-EW41-##** should remain.
  - a) On the EWM *Index* screen, choose *Extended Warehouse Management* → *Monitoring* → *Warehouse Management Monitor*.
  - b) If you kept the Warehouse Management Monitor open, choose  *Refresh*.
  - c) Choose *Stock and Bin* → *Storage Bin* → *Physical Stock*.
  - d) In the dialog box, enter the *Storage Type* **1000** and choose  *Execute*.
3. Look for the outbound delivery order in the Warehouse Management Monitor.  
The document type is **OPC - Consumption for Order**.  
Consumption for order: \_\_\_\_\_  
ERP document: \_\_\_\_\_
  - a) On the EWM *Index* screen, choose *Extended Warehouse Management* → *Monitoring* → *Warehouse Management Monitor*.
  - b) Choose *Outbound* → *Documents* → *Outbound Delivery Order*.

- c) Leave the dialog box blank and choose  Execute.
- d) Look for the last created document. Verify that the document type is *Consumption for Order*. Note the document number.
- e) Click the document number.  
The *Maintain Outb. Deliv. Order* screen appears.
- f) Select the *Reference Documents* tab.
- g) Note the *ERP Document* number.



### LESSON SUMMARY

You should now be able to:

- Post consumption with the delivery based production integration

## Learning Assessment

1. Which of the following can staging quantity for create parts be?

*Choose the correct answers.*

- A Quantity based
- B Packaging specification based

2. For the delivery based production integration with one warehouse the delivery document in SAP ERP is always which of the following?

*Choose the correct answer.*

- A An outbound delivery
- B An inbound delivery
- C A posting change

3. For the consumption posting with the delivery based production integration you start the posting process in which of the following?

*Choose the correct answer.*

- A SAP ERP
- B SAP EWM

# Learning Assessment - Answers

1. Which of the following can staging quantity for create parts be?

*Choose the correct answers.*

- A Quantity based
- B Packaging specification based

2. For the delivery based production integration with one warehouse the delivery document in SAP ERP is always which of the following?

*Choose the correct answer.*

- A An outbound delivery
- B An inbound delivery
- C A posting change

3. For the consumption posting with the delivery based production integration you start the posting process in which of the following?

*Choose the correct answer.*

- A SAP ERP
- B SAP EWM

## UNIT 4

# Advanced Production Integration

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### UNIT OBJECTIVES

- Set up the master data for the advanced production integration.
- Stage products with the advanced production integration
- Consume products with the advanced production integration

# Setting Up Master Data for Advanced Production Integration

## LESSON OVERVIEW

In this lesson, you learn how to set up master data for the advanced production integration.



## LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Set up the master data for the advanced production integration.

### Production Supply Area (Advanced Production Integration)

The production supply area is an area on the shop floor where products are staged or withdrawn. To stage products for a production order, a warehouse must know where it has to take the products. For production orders in the ERP system, the PSA contains this information.

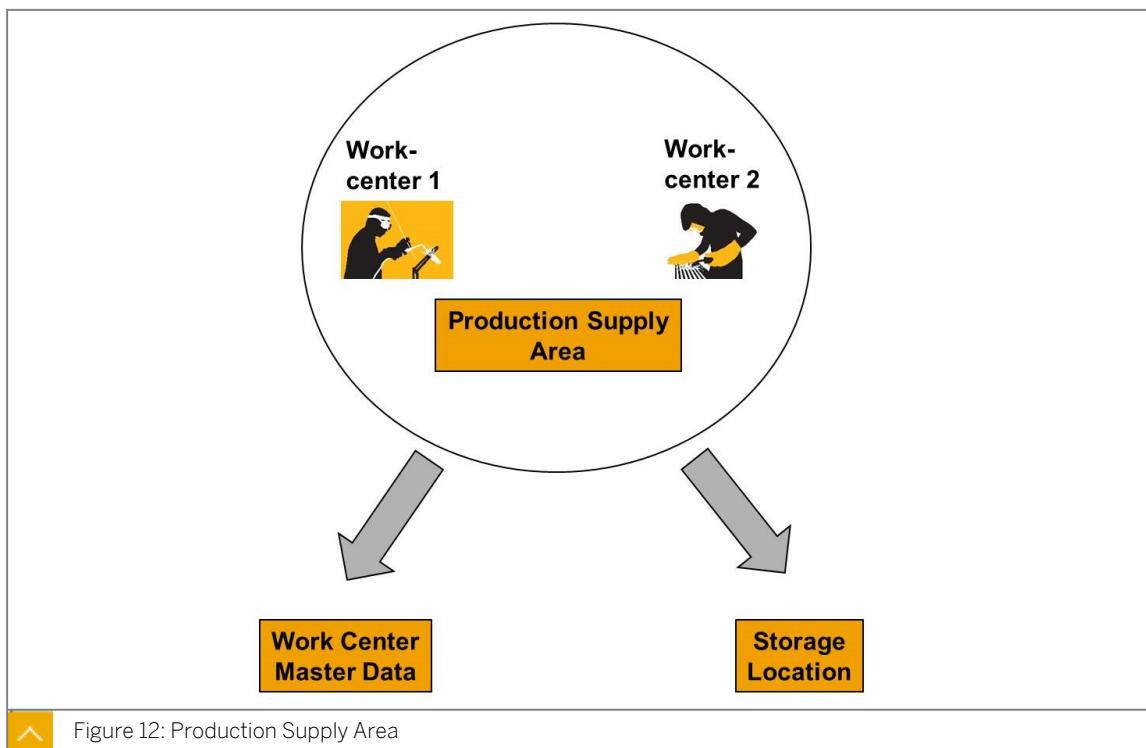


Figure 12: Production Supply Area

In the advanced production integration, the PSA will always contain a storage location, which is connected to the same warehouse as the storage location supplying the material, or it is the same storage location. A “shuttle” scenario, meaning that the PSA storage location is not connected to the warehouse or is connected to another warehouse than the supplying storage location, is not supported.

## Control Cycles for Advanced Production Integration

For the advanced production integration, all control cycles in ERP look the same, the staging indicator is 5 – EWM Staging. The detailed settings are done in EWM.



In the assignment of bins to a product staging area, you can distinguish whether a product is staged for an individual manufacturing order (single-order staging) or for several combined (cross-order staging). Crate parts can be staged for a production material request.

As with crate parts, it is required to have settings for the quantities that are to be staged. The system receives the demand for supply from the production material request, but the quantity is defined in the bin assignment. This enables the controller executing the staging process to stage partial quantities of the products at intervals as they are required. This is controlled by the BAdI /SCWM/EX\_MFG\_STAGE\_INFO, so that it can be influenced by customers with their own BAdI implementation.



## Unit 4

### Exercise 5

# Set Up Master Data for Advanced Production Integration

### Business Example

You implement the advanced production integration for your cookie production line. It is necessary to set up master data.

For the production process you require production supply areas and control cycles.

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

### Create New Production Supply Areas

1. Create new production supply areas using the data from the following table:

Supply Area	Description	Stor. Location
PSAPI01-##	1 – Prepare Dough	AF##
PSAPI02-##	2 – Baking	AF##
PSAPI03-##	3 – Finished Baked Goods	AF##

2. Replicate the PSAs to EWM.
3. For the determination of the PSA in the production process you can assign the PSA to different production related objects. In our example you assign the PSAs to your resources RES0x-## in the ERP system. Create the following assignments:

Resource	PSA
RES01-##	PSAPI01-##
RES02-##	PSAPI02-##
RES03-##	PSAPI03-##

4. Change the master recipe. Add the process steps and assign the products from the bill of materials to the steps. Use the *Production Versions* for the change.

Operation., Phase	Resource	Description
0010	RES01-##	Mix Dough
0020	RES02-##	Bake Dough
0030	RES03-##	Coating

Material	Operation
T-MFG-BUTTER-##	0010
T-MFG-EGG-##	0010
T-MFG-SUGAR-##	0010
T-MFG-VANILLA-##	0010
T-MFG-FLOUR-##	0010
T-MFG-MILK-##	0010
T-MFG-BAKPOW-##	0010
T-MFG-CHOC-##	0010
T-MFG-PAPCUP-##	0020
T-MFG-CHOC-##	0030
T-MFG-BY-##	0030

5. Create the control cycles. All products are staged in EWM.

Material	Plant	PSA	Staging Ind.	Source Stor. Location
-	SPCW	PSAPI01-##	5	AF##
-	SPCW	PSAPI02-##	5	AF##
-	SPCW	PSAPI03-##	5	AF##



Note:

Ensure that the *Material* field is empty when you create the control cycle.

### Create Bin Assignments in SAP EWM

In SAP EWM you define which bin is used for staging products for a specific production supply area.

1. Create the following bin assignments for your warehouse E1## and the party entitles to dispose SPCW:

Entitled to Dispose	SPCW	SPCW	SPCW	SPCW	SPCW
Supply Area	PSAPI01-##/SPCW	PSAPI01-##/SPCW	PSAPI01-##/SPCW	PSAPI01-##/SPCW	PSAPI01-##/SPCW
Product Group					PSA_DE-PENDENT
Product		T-MFG-VA-NILLA-##	T-MFG-MILK-##	T-MFG-BAK-POW-##	
Storage Bin	1050-PSA-001-1	1050-PSA-001-2	1050-PSA-SILO-1	1050-PSA-001-3	1050-PSA-001-4

Staging Method	2 Cross-Order Staging	2 Cross-Order Staging	Not Relevant for Staging	2 Cross-Order Staging	2 Cross-Order Staging
Quantity Calculation Type	2 Quantity Based Calculation	2 Quantity Based Calculation	No Quantity Calculation	2 Quantity Based Calculation	2 Quantity Based Calculation
Replenishment Quantity	2	1		2	2
Minimum Product Quantity on PSA	1	1		2	1
Unit	PAL	BAG		BAG	PAL
Staging Warehouse Process Type	P320	P320		P320	P320
Clear PSA Warehouse Process Type	P325	P325		P325	P325

Entitled to Dispose	SPCW	SPCW
Supply Area	PSAI02-##/SPCW	PSAI03-##/SPCW
Product Group		PSA_DEPENDENT
Product		
Storage Bin	1050-PSA-002-1	1050-PSA-003-1
Staging Method	2 Cross-Order Staging	3 Single Order Staging
Quantity Calculation Type	2 Quantity Based Calculation	2 Quantity Based Calculation
Replenishment Quantity	2	1
Minimum Product	1	1
Quantity on PSA		
Unit	PAL	PAL
Staging Warehouse Process Type	P320	P320
Clear PSA Warehouse Process Type	P325	P325

2. For the product T-MFG-CHOC-##, the Product Group **PSA\_Dependent** is used for the bin determination for the PSA. Maintain the *Product Group Type PS* and the *Product Group PSA\_Dependent* in this product.

## Unit 4 Solution 5

# Set Up Master Data for Advanced Production Integration

### Business Example

You implement the advanced production integration for your cookie production line. It is necessary to set up master data.

For the production process you require production supply areas and control cycles.

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

### Create New Production Supply Areas

1. Create new production supply areas using the data from the following table:

Supply Area	Description	Stor. Location
PSAPI01-##	1 – Prepare Dough	AF##
PSAPI02-##	2 – Baking	AF##
PSAPI03-##	3 – Finished Baked Goods	AF##

- a) On the ERP Index screen, choose *Logistics* → *Logistics Execution* → *Master Data* → *Warehouse* → *Production Supply* → *Production Supply Area* → *Create/Change*.
- b) If necessary, enter *Plant SPCW*. Choose *New Entries* and create the entries as per the table in the step.

2. Replicate the PSAs to EWM.

- a) On the EWM Index screen, choose *Extended Warehouse Management* → *Interfaces* → *ERP Integration* → *Replicate Production Supply Area (PSA)*.
- b) Enter the following data:

Field	Entry
Warehouse Number	E1##
Party Entitled to Dispose	SPCW
Plant	SPCW
Logical System	T90CLNT090
Storage Location	AF##

Field	Entry
Only EWM Stor. Loc. checkbox	Selected

- c) Choose *Execute*.
- d) Select the found PSAs and choose *Replicate*.
- e) Exit the function.
3. For the determination of the PSA in the production process you can assign the PSA to different production related objects. In our example you assign the PSAs to your resources RES0x-## in the ERP system. Create the following assignments:
- | Resource | PSA        |
|----------|------------|
| RES01-## | PSAPI01-## |
| RES02-## | PSAPI02-## |
| RES03-## | PSAPI03-## |
- a) On the ERP Index screen, choose *Logistics → Production — Process → Master Data → Resources → Resource → Change*.
- b) If necessary, enter the *Plant SPCW* and the *Work Center RES01-##*.
- c) Press Enter.
- d) Enter the *Supply Area PSAPI01-##*. Save your changes and repeat this step for the next two work centers.
4. Change the master recipe. Add the process steps and assign the products from the bill of materials to the steps. Use the *Production Versions* for the change.

Operation., Phase	Resource	Description
0010	RES01-##	Mix Dough
0020	RES02-##	Bake Dough
0030	RES03-##	Coating

Material	Operation
T-MFG-BUTTER-##	0010
T-MFG-EGG-##	0010
T-MFG-SUGAR-##	0010
T-MFG-VANILLA-##	0010
T-MFG-FLOUR-##	0010
T-MFG-MILK-##	0010
T-MFG-BAKPOW-##	0010
T-MFG-CHOC-##	0010

Material	Operation
T-MFG-PAPCUP-##	0020
T-MFG-CHOC-##	0030
T-MFG-BY-##	0030

- a) On the ERP Index screen, choose *Logistics → Production — Process → Master Data → Production Versions*.
  - b) If necessary, enter the *Plant SPCW* and the *Material T-MFG-Muffin-##*.
  - c) Make sure that all fields, except the *Key Date* field, are empty. Press Enter.
  - d) Choose the *Operations* tab. Enter the resources and descriptions from table 1 and press Enter.
  - e) Choose the *Materials* tab.
  - f) Select the materials as in the table for the operation 0010 and choose *Create Assignment*.
  - g) In the *New Assignment* dialog box, choose *Oper./act.list*. Verify that the operation 0010 is selected and choose *Enter*.
  - h) Select the product T-MFG-PAPCUP-## and assign the operation 0020.
  - i) Select the last two products and assign the operation 0030.
  - j) Save your changes.
  - k) Choose *Back* to exit the transaction.
5. Create the control cycles. All products are staged in EWM.

Material	Plant	PSA	Staging Ind.	Source Stor. Location
-	SPCW	PSAPI01-##	5	AF##
-	SPCW	PSAPI02-##	5	AF##
-	SPCW	PSAPI03-##	5	AF##

**Note:**

Ensure that the *Material* field is empty when you create the control cycle.

- a) On the ERP Index screen, choose *Logistics → Logistics Execution → Master Data → Warehouse → Production Supply → Control Cycle Production Supply → Create*.
- b) Enter the *Plant SPCW* and the *Supply Area PSAPI##-01*. Ensure the *Material* field is empty. Press Enter.
- c) Enter the *Staging Ind. 5* and the *Stor. location AF##*. Save your new control cycle.
- d) Repeat the process for the other PSAs.

### Create Bin Assignments in SAP EWM

In SAP EWM you define which bin is used for staging products for a specific production supply area.

1. Create the following bin assignments for your warehouse E1## and the party entitles to dispose SPCW:

Entitled to Dispose	SPCW	SPCW	SPCW	SPCW	SPCW
Supply Area	PSAPI01-##/SPCW	PSAPI01-##/SPCW	PSAPI01-##/SPCW	PSAPI01-##/SPCW	PSAPI01-##/SPCW
Product Group					PSA_DEPENDENT
Product		T-MFG-VA-NILLA-##	T-MFG-MILK-##	T-MFG-BAK-POW-##	
Storage Bin	1050-PSA-001-1	1050-PSA-001-2	1050-PSA-SILO-1	1050-PSA-001-3	1050-PSA-001-4
Staging Method	2 Cross-Order Staging	2 Cross-Order Staging	Not Relevant for Staging	2 Cross-Order Staging	2 Cross-Order Staging
Quantity Calculation Type	2 Quantity Based Calculation	2 Quantity Based Calculation	No Quantity Calculation	2 Quantity Based Calculation	2 Quantity Based Calculation
Replenishment Quantity	2	1		2	2
Minimum Product Quantity on PSA	1	1		2	1
Unit	PAL	BAG		BAG	PAL
Staging Warehouse Process Type	P320	P320		P320	P320
Clear PSA Warehouse Process Type	P325	P325		P325	P325

Entitled to Dispose	SPCW	SPCW
Supply Area	PSAI02-##/SPCW	PSAI03-##/SPCW
Product Group		PSA_DEPENDENT
Product		
Storage Bin	1050-PSA-002-1	1050-PSA-003-1

Staging Method	2 Cross-Order Staging	3 Single Order Staging
Quantity Calculation Type	2 Quantity Based Calculation	2 Quantity Based Calculation
Replenishment Quantity	2	1
Minimum Product	1	1
Quantity on PSA		
Unit	PAL	PAL
Staging Warehouse Process Type	P320	P320
Clear PSA Warehouse Process Type	P325	P325

- a) On the EWM Index screen, choose *Extended Warehouse Management → Master Data → Production Supply Area (PSA) → Assign Bin to PSA/Product/Entitled in Warehouse Number.*
- b) Choose *New Entries*.
- c) Create the new entries as described in the tables.
- d) Save your new entries.
- e) To exit the function, choose *Back* twice.
2. For the product T-MFG-CHOC-##, the Product Group **PSA\_Dependent** is used for the bin determination for the PSA. Maintain the *Product Group Type PS* and the *Product Group PSA\_Dependent* in this product.
- a) On the ERP Index screen, choose *Extended Warehouse Management → Master Data → Product → Maintain Product*.
- b) Enter the product **T-MFG-CHOC-##**, choose *View Global Data*, and choose *Change*.
- c) Choose the *Properties 2* tab.
- d) Enter the *Product Group Type PS* and the *Product Group PSA\_Dependent*.
- e) Save your changes.
- f) To exit the function, choose *Back* twice.



## LESSON SUMMARY

You should now be able to:

- Set up the master data for the advanced production integration.

## Staging Products for Advanced Production Integration

### LESSON OVERVIEW

In this lesson, you learn how to stage materials based on a production material request.



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Stage products with the advanced production integration

### Staging Products

When using the advanced production integration, for each manufacturing order in ERP, the system creates a Production Material Request (PMR) directly in EWM, without any additional document in ERP. SAP ERP sends a message containing the required information from production when the manufacturing order is released and WM material staging is triggered. The WM material staging can be triggered automatically, or in the production order transaction, either by choosing *Function → WM Material Staging → Execute*, or by choosing the *WM Material Staging* button. If the manufacturing order is changed in ERP, the system updates the PMR for changes that are relevant for EWM, such as a changed quantity for staging.

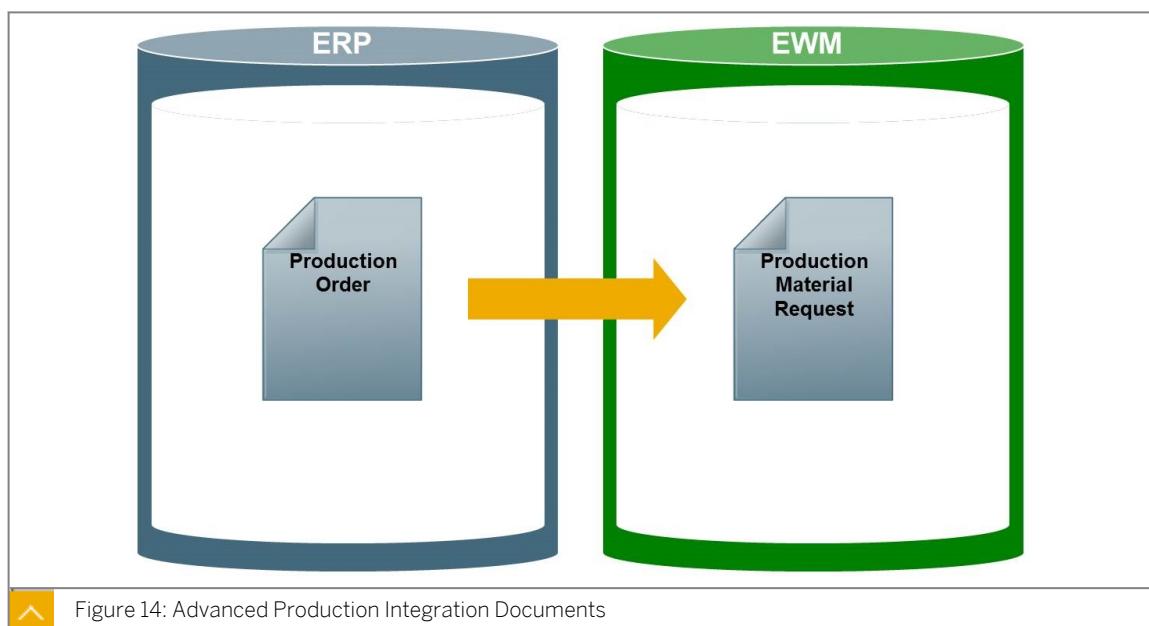
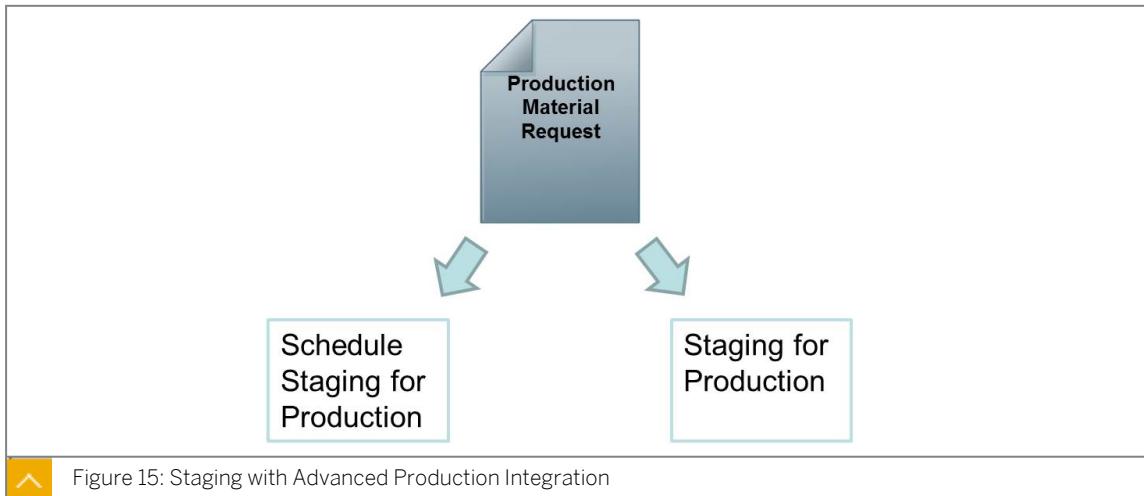


Figure 14: Advanced Production Integration Documents

### Staging with Advanced Production Integration

This PMR contains the **receiving product**, and all the components from the manufacturing order in their required quantity.

The staging process itself can be triggered manually with the transaction *Staging for Production*, and automatically or manually with the transaction *Schedule Staging for Production* (/SCWM/STAGE). *Schedule Staging for Production* should be used for scheduling the staging run in the background, using a variant that contains the input parameters, such as warehouse, production staging area, and staging method. It is necessary to specify a time beyond which the system does not collect open staging requirements.



If the user decides which PMRs and which materials are to be staged, the Web Dynpro UI in the transaction *Staging for Production* enables the user to react on the stock situation in the PSA to stage slower or faster when the production is delayed or ahead of time. This ensures that there is enough material when needed, but also that, if space in your production supply area (PSA) is limited, space is not blocked unnecessarily by products that are not required until later.

### **Staging Single Order versus Cross Order Items**

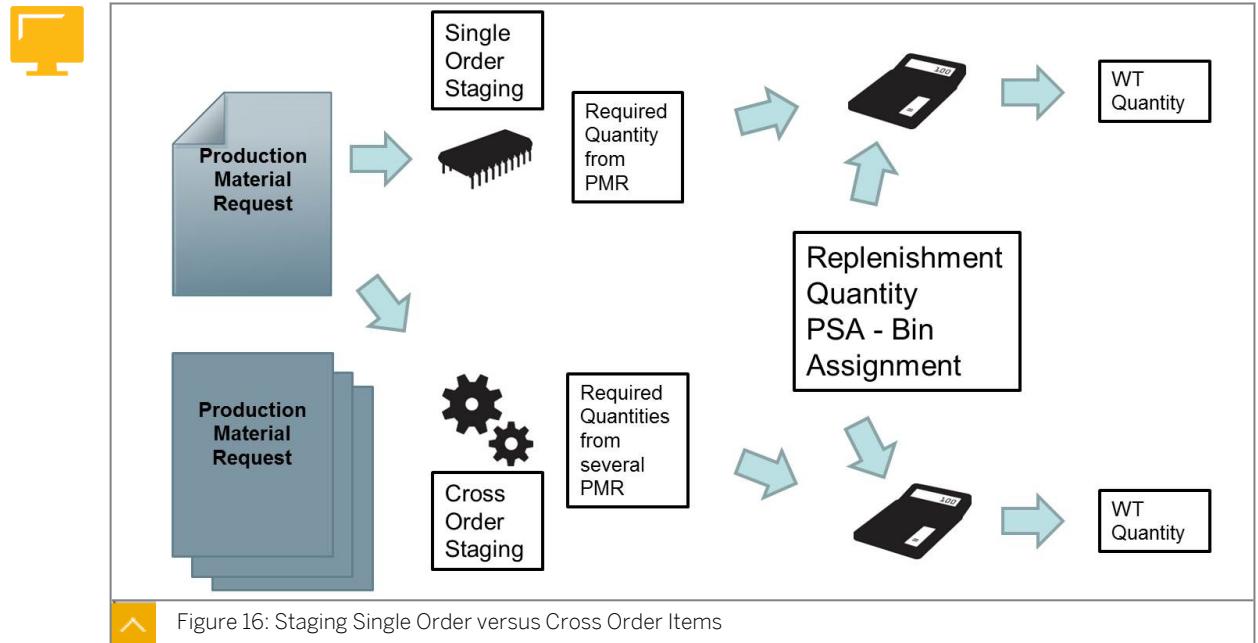
Depending on the bin assignment settings, components are staged differently as follows:

#### **Single Order Staging**

The system creates a warehouse task to move the product to the PSA for each production material request (PMR) item. Each warehouse task has a reference to a single PMR. After the warehouse task is confirmed, the stock on the PSA has a reference to the PMR item, so the stock is reserved for the reference PMR item. Only this PMR can be used to consume the stock. You can manually release the reference to the PMR item for the stock.

#### **Cross-Order Staging**

The system cumulates products from more than one PMR and creates a warehouse task to move them to the PSA together. The warehouse tasks have no reference to the PMR item. After the warehouse task is confirmed, the stock has no reference to a PMR item. Each PMR that has an item with the product can be used to consume the stock. This is a flexible method, which allows you to stage products whether the product is required for one PMR in particular, or by several PMRs.



In the bin assignment a minimum quantity for the product on the PSA is maintained. If the quantity on the PSA, plus the quantity of any open warehouse tasks, is lower than the minimum quantity, the system creates a warehouse task to move the replenishment quantity of the product to the PSA.



## Unit 4 Exercise 6

# Execute Staging with Advanced Production Integration

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

1. Create a process order for 1 PAL of sweet muffins, product T-MFG-MUFFIN-##, with the following details:

Field	Entry
Production Plant	SPCW
Process Order Type	PIO1

Process Order: \_\_\_\_\_

2. Search in the Warehouse Management Monitor for the created production material request. Use the number of the process order as search criteria. Note the number of the production material request and the required quantity for the components T-MFG-BUTTER-##, T-MFG-EGG-##, and T-MFG-VANILLA-## in the base unit.

Production Material Request :\_\_\_\_\_

Product	Quantity	Unit
T-MFG-BUTTER-##		
T-MFG-EGG-##		
T-MFG-VANILLA-##		

3. Stage the components for the PSA PSAP01-##. Note the proposed staging quantities for the components T-MFG-BUTTER-##, T-MFG-EGG-##, and T-MFG-VANILLA-##. Create the warehouse tasks.

Product	Quantity	Unit
T-MFG-BUTTER-##		
T-MFG-EGG-##		
T-MFG-VANILLA-##		

4. Confirm the warehouse orders in the Warehouse Management Monitor.
5. Verify the stock in the storage type 1050. You must find the stock of the components you have staged in the previous step, plus T-MFG-MILK-##, which is not staged, because it is kept in a tank directly in this storage area.

Note the following products and quantities:

Product (number or de-scription)	Quantity	Unit

## Unit 4 Solution 6

# Execute Staging with Advanced Production Integration

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

1. Create a process order for 1 PAL of sweet muffins, product T-MFG-MUFFIN-##, with the following details:

Field	Entry
Production Plant	SPCW
Process Order Type	PIO1

Process Order: \_\_\_\_\_

- a) On the ERP Index screen, choose *Logistics → Production – Process → Process Order → Process Order → Create → With Material*.
- b) Enter the Material Number **T-MFG-MUFFIN-##**, the Production Plant **SPCW**, and the Process Order Type **PIO1**.
- c) Choose *Continue*.
- d) Verify that the unit for the *Total Quantity* is **PAL**. Enter 1 for the quantity and press *Enter*.  
You will see a message that **All checked materials in order are available**.
- e) Choose *Release* and choose *Execute WM Material Staging*.
- f) Save your process order. Note the number of the process order.
- g) To exit the transaction, choose *Back*.

2. Search in the Warehouse Management Monitor for the created production material request. Use the number of the process order as search criteria. Note the number of the production material request and the required quantity for the components T-MFG-BUTTER-##, T-MFG-EGG-##, and T-MFG-VANILLA-## in the base unit.

Production Material Request : \_\_\_\_\_

Product	Quantity	Unit
T-MFG-BUTTER-##		
T-MFG-EGG-##		
T-MFG-VANILLA-##		

- a) If necessary, open the Warehouse Management Monitor. To do this, on the EWM Index screen, choose *Extended Warehouse Management* → *Monitoring* → *Warehouse Management Monitor*. If required, enter the *Warehouse Number* **E1##** and the *Monitor SAP*.
  - b) Choose *Outbound* → *Documents* → *Production Material Request*.
  - c) In the selection dialog box, enter the number of the process order in the *Manufacturing Order* field and choose *Execute*. Note the number of the PMR.
  - d) Choose *Mat.Req.Items*.
  - e) Note the quantity and the units for the components T-MFG-BUTTER-##, T-MFG-EGG-##, T-MFG-VANILLA-##.
  - f) Do not exit the Warehouse Management Monitor.
3. Stage the components for the PSA PSAP01-##. Note the proposed staging quantities for the components T-MFG-BUTTER-##, T-MFG-EGG-##, and T-MFG-VANILLA-##. Create the warehouse tasks.

Product	Quantity	Unit
T-MFG-BUTTER-##		
T-MFG-EGG-##		
T-MFG-VANILLA-##		
  - a) On the EWM Index screen, choose *Extended Warehouse Management* → *Work Scheduling* → *Staging for Production* → *Staging for Production*.
  - b) If required, enter the *Warehouse Number* **E1##** in the *Maintain Default Values* dialog box, and choose *OK*.  
The first line of the search criteria shows the entry *Production Supply Area*. Use the F4 (entry help) in the value field and select the PSA **PSAPI01-##/SPCW**.
  - c) Choose *Search*.
  - d) Note the proposed staging quantities and units for the components T-MFG-BUTTER-##, T-MFG-EGG-##, and T-MFG-VANILLA-##.
  - e) Choose *All Products* and choose *Create Warehouse Task and Save*.  
You will see the message **xx warehouse tasks were created**.
  - f) Close the *Staging for Production — Warehouse E1##* tab and, if the *Confirm Navigation* dialog box appears, choose *Discard Changes*.
4. Confirm the warehouse orders in the Warehouse Management Monitor.
    - a) Choose the tab *Staging for Production — Warehouse E1##*, or in the EWM Index screen choose *Extended Warehouse Management* → *Monitoring* → *Warehouse Management Monitor*.
    - b) Choose *Documents* → *Warehouse Order*.
    - c) Deselect all checkboxes except for *Open WOs* and choose *Execute*.

- d) Select all warehouse orders in the upper right frame and choose *More Methods → Confirm WO in Background*.
  - e) To close the *Confirmation* dialog box, choose *Continue*.
  - f) Do not exit the Warehouse Management Monitor.
5. Verify the stock in the storage type 1050. You must find the stock of the components you have staged in the previous step, plus T-MFG-MILK-##, which is not staged, because it is kept in a tank directly in this storage area.

Note the following products and quantities:

Product (number or description)	Quantity	Unit

- a) Choose the *Staging for Production — Warehouse E1##* tab, or on the *EWM Index* screen, choose *Extended Warehouse Management → Monitoring → Warehouse Management Monitor*.
- b) Choose *Stock and Bin → Storage Bin → Physical Stock*.
- c) In the selection dialog box, enter the *Storage Type 1050* and choose *Execute*.
- d) Note the products, quantities, and units in the table.



### LESSON SUMMARY

You should now be able to:

- Stage products with the advanced production integration

## Consuming Products with Advanced Production Integration

### LESSON OVERVIEW

In this lesson, you learn how to post the consumption of components for a manufacturing order with the advanced production integration and how to clear a PSA if the material is not needed anymore.



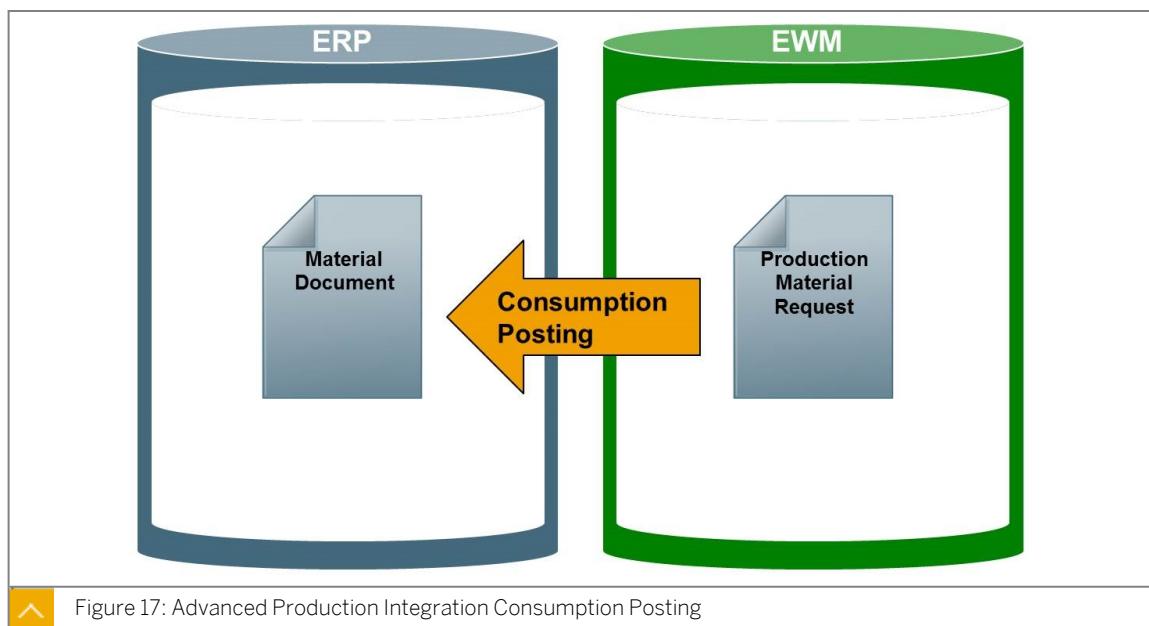
### LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Consume products with the advanced production integration

### Product Consumption with a Production Material Request

For components that have not been marked for backflush, the consumption posting is triggered through the production material request (PMR). Consumption can be posted in a desktop transaction or using RF; a reversal of the consumption posting is also possible. You can post consumption for the entire quantity of the product at once, or you can post consumption for partial quantities of the product at intervals. You also can post consumption for a greater quantity of a product than was planned in the PMR. For consumption of partial quantities, you can post the consumption based on the quantity that has been consumed or the quantity that remains.



## Batches in Staging and Consumption

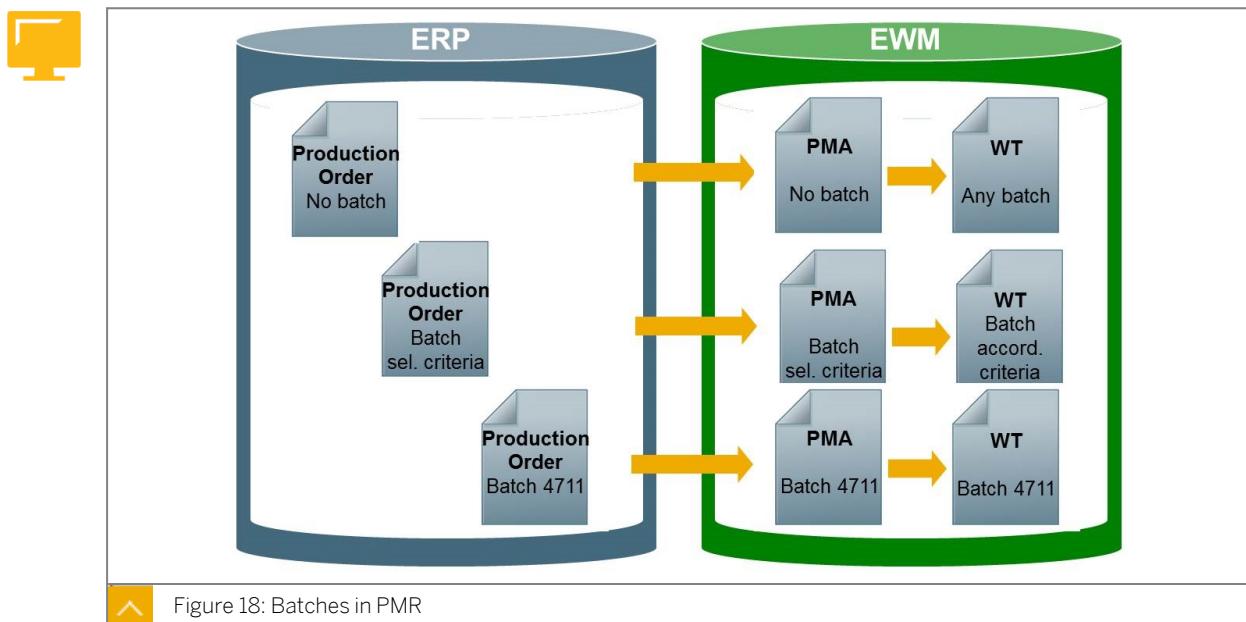
When you work with a batch managed product and PMRs, you have the following options for handling the batch:

- You do not enter any batch information in the manufacturing order.
- You enter batch selection criteria in the manufacturing order in SAP ERP.
- You enter the batch number in the manufacturing order in SAP ERP, either manually or through batch determination in SAP ERP.

SAP EWM uses the batch or the batch selection criteria to ensure that you use a batch that fulfills the requirements transferred from SAP ERP.

If a batch is already in the manufacturing order, you can display the batch data in SAP EWM, but you cannot change it.

For PMRs that contain batches or batch selection criteria, the system uses the staging method single-order staging only, to ensure that each manufacturing order gets a batch that fits to its requirements.



When creating a warehouse task for the PMR that contains batch information, SAP EWM takes into account only the batches that are allowed for the PMR item in the source stock determination, as follows:

- If the PMR item does not contain any batch information, the system uses any batch.
- If the PMR item contains batch selection criteria, the system uses stock from batches that fit the batch selection criteria only.
- If the PMR item contains the batch number, the system only uses stock from this batch.

## Unit 4

### Exercise 7

# Post Consumption with a Production Material Request

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

1. Post the consumption for the products staged for the PSA **PSAPI01-##** with the desktop transaction. Use the manufacturing order and the operation **0010** for the selection. The following products and quantities will be posted:

Product	Quantity	Unit
T-MFG-SUGAR-##	100	KG
T-MFG-VANILLA-##	300	G
T-MFG-BAKPOW-##	480	G
T-MFG-MILK-##	130	L
T-MFG-BUTTER-##	120	KG
T-MFG-EGG-##	2000	PC
T-MFG-FLOUR-##	300	KG
T-MFG-CHOC-##	40	KG

From the component T-MFG-MILK-##, some was spilled, so the consumption will be more than 100%.



#### Note:

For some of the materials, two handling units are staged, but the required quantity is taken from only one of them. Select one of the HUs.

2. Stage the component for the PSA **PSAPI02-##**. The system proposes to stage 2 PAL, but as you know that the required quantity in the moment is not that high, you change the staging quantity to 1 PAL.
3. Confirm the warehouse order in the Warehouse Management Monitor. A complete pallet of the material is moved. Note the number of the pallet so that you can use this information later for the consumption posting.  
Handling Unit: \_\_\_\_\_
4. Post the consumption for the product staged for the PSA **PSAPI02-##** with a mobile device. Use the manufacturing order and the handling unit from the previous step for the selection. The following products and quantities are posted:

Product	Quantity	Unit
T-MFG-PAPCUP-##	1000	PC

5. Stage the component for the PSA PSAPI03-##.
6. Confirm the warehouse order in the Warehouse Management Monitor.
7. Post the consumption for the product staged for the PSA **PSAPI03-##** with the desktop transaction. Use the manufacturing order and the operation 0030 for the selection. The following products and quantities will be posted:

Product	Quantity	Unit
T-MFG-CHOC-##	20	KG

## Unit 4 Solution 7

# Post Consumption with a Production Material Request

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

1. Post the consumption for the products staged for the PSA **PSAPI01-##** with the desktop transaction. Use the manufacturing order and the operation **0010** for the selection. The following products and quantities will be posted:

Product	Quantity	Unit
T-MFG-SUGAR-##	100	KG
T-MFG-VANILLA-##	300	G
T-MFG-BAKPOW-##	480	G
T-MFG-MILK-##	130	L
T-MFG-BUTTER-##	120	KG
T-MFG-EGG-##	2000	PC
T-MFG-FLOUR-##	300	KG
T-MFG-CHOC-##	40	KG

From the component T-MFG-MILK-##, some was spilled, so the consumption will be more than 100%.



### Note:

For some of the materials, two handling units are staged, but the required quantity is taken from only one of them. Select one of the HUs.

- a) On the EWM Index screen, choose *Extended Warehouse Management → Execution → Consumption by Production*.
- b) If necessary, enter the *Warehouse Number* **E1##** in the *Maintain Default Values* dialog box and choose **OK**.
- c) Enter the manufacturing order from the previous exercise.
- d) Use the *Search* icon in the *Operation or Activity* field. Select the operation **0010**.
- e) Choose *Consumption*.
- f) Select the first material from the table.

- g) Enter the *Quantity to Consume* as outlined in the table.
  - h) Choose *Post Consumption*.
  - i) Repeat these steps for the other materials.
  - j) After all materials have been entered, choose *Back*.
  - k) Do not close the tab (so that you can post consumptions for the next steps later on).
2. Stage the component for the PSA **PSAPI02-##**. The system proposes to stage 2 PAL, but as you know that the required quantity in the moment is not that high, you change the staging quantity to 1 PAL.
  - a) On the EWM Index screen, choose *Extended Warehouse Management* → *Work Scheduling* → *Staging for Production* → *Staging for Production*.  
The first line of the search criteria shows the entry *Production Supply Area*.
  - b) Use the F4 (entry help) in the value field and select the PSA **PSAPI02-##/SPCW**.
  - c) Choose *Search*.
  - d) Enter a *Staging Quantity 1*.
  - e) Choose the line with the product and choose *Create Warehouse Task and Save*.  
You will see a message **Warehouse task xxx created**.
  - f) Do not close the tab, so that you can stage the last material later.
3. Confirm the warehouse order in the Warehouse Management Monitor. A complete pallet of the material is moved. Note the number of the pallet so that you can use this information later for the consumption posting.  
Handling Unit: \_\_\_\_\_
  - a) Choose the *Warehouse Management Monitor* – *Warehouse Number E1##* tab, or on the EWM Index screen, choose *Extended Warehouse Management* → *Monitoring* → *Warehouse Management Monitor*.
  - b) Choose *Documents* → *Warehouse Order*. Deselect all checkboxes except for *Open WOs* and choose *Execute*.
  - c) Select the warehouse order in the upper right frame and choose *Warehouse Task*.
  - d) Scroll to the right in the lower right frame until you find the column *Source HU*. Note the HU number.
  - e) Select the warehouse orders in the upper right frame and choose *More Methods* → *Confirm WO in Background*.
  - f) To close the confirmation dialog box, choose *Continue*.
  - g) Do not exit the Warehouse Management Monitor.
4. Post the consumption for the product staged for the PSA **PSAPI02-##** with a mobile device. Use the manufacturing order and the handling unit from the previous step for the selection. The following products and quantities are posted:

Product	Quantity	Unit
T-MFG-PAPCUP-##	1000	PC

- a) On the EWM Index screen, choose *Extended Warehouse Management* → *Execution* → *Log on to RF Environment*.
  - b) Enter the *Warehouse Number* **E1##**, the *Resource* **GR##**, and press Enter twice to open the main RF menu.
  - c) Choose *04 Outbound Processes* → *05 Consumption* → *01 Consumption by Manufacturing Order*.
  - d) Enter the manufacturing order from the previous exercise, and press Enter.
  - e) Enter the HU number from the previous step, and press Enter.
  - f) In the *ConsQ* field, enter the quantity from the table.
  - g) Choose *F3 ConsQ*.
  - h) Press Enter.
  - i) Press F7 twice. Press F1 twice to log off. Close the tab.
5. Stage the component for the PSA PSAPI03-##.
- a) Choose the *Staging for Production – Warehouse E1##* tab, or, on the EWM Index screen, choose *Extended Warehouse Management* → *Work Scheduling* → *Staging for Production* → *Staging for Production*.  
The first line of the search criteria shows the entry *Production Supply Area*.
  - b) If there is any entry, delete this entry. Use F4 (entry help) in the value field and select the PSA **PSAPI03-##/SPCW**.
  - c) Choose *Search*.
  - d) Select the line with the product.
  - e) Choose *Create Warehouse Task and Save*.  
You should see a message **Warehouse Task xxx created**.
  - f) Choose the *Staging for Production – Warehouse E1##* tab.
  - g) If a *Confirm Navigation* dialog box appears, choose *Discard Changes*.
6. Confirm the warehouse order in the Warehouse Management Monitor.
- a) Choose the *Warehouse Management Monitor – Warehouse Number E1##* tab, or on the EWM Index screen, choose *Extended Warehouse Management* → *Monitoring* → *Warehouse Management Monitor*.
  - b) Choose *Documents* → *Warehouse Order*. Deselect all of the checkboxes except for *Open WOs*, and choose *Execute*.
  - c) Select any warehouse orders in the upper right frame and choose *More Methods* → *Confirm WO in Background*.
  - d) To close the confirmation dialog box, choose *Continue*.
  - e) Do not exit the Warehouse Management Monitor.

7. Post the consumption for the product staged for the PSA **PSAPI03-##** with the desktop transaction. Use the manufacturing order and the operation 0030 for the selection. The following products and quantities will be posted:

Product	Quantity	Unit
T-MFG-CHOC-##	20	KG

- a) Choose the *Consumption by Production – Warehouse E1##* tab, or, on the EWM Index screen, choose *Extended Warehouse Management → Execution → Consumption by Production → Consumption by Production*.
- b) Enter the manufacturing order from the previous exercise.
- c) Use the *Search* icon in the *Operation or Activity* field and select the *Operation 0030*.
- d) Choose *Consumption*.
- e) Select the material from the table.
- f) Enter the *Quantity to Consume* as detailed in the table.
- g) Choose *Post Consumption*.
- h) Choose *Back*.
- i) Close the tab.



## LESSON SUMMARY

You should now be able to:

- Consume products with the advanced production integration



## Learning Assessment

- When staging is triggered from SAP ERP with the advanced production integration which of the following occurs?

*Choose the correct answer.*

- A An outbound delivery is created in ERP and copied to SAP EWM as posting change.
- B An outbound delivery and an inbound delivery is created in SAP ERP.
- C A production material request is created in SAP EWM.

- With the advanced production integration the consumed quantity is entered in the production confirmation in SAP ERP.

*Determine whether this statement is true or false.*

- True
- False

- With the advanced production integration it is possible to determine a batch in the production order and to pick this batch.

*Determine whether this statement is true or false.*

- True
- False

# Learning Assessment - Answers

- When staging is triggered from SAP ERP with the advanced production integration which of the following occurs?

*Choose the correct answer.*

- A An outbound delivery is created in ERP and copied to SAP EWM as posting change.
- B An outbound delivery and an inbound delivery is created in SAP ERP.
- C A production material request is created in SAP EWM.

- With the advanced production integration the consumed quantity is entered in the production confirmation in SAP ERP.

*Determine whether this statement is true or false.*

- True
- False

- With the advanced production integration it is possible to determine a batch in the production order and to pick this batch.

*Determine whether this statement is true or false.*

- True
- False

## Lesson 1

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## UNIT OBJECTIVES

- Execute a goods receipt
- Clear the bins in the production supply area

## Receiving Goods from Production

### LESSON OVERVIEW

In this lesson, you learn how the goods receipt for material produced with a manufacturing order can be posted when using SAP EWM and how to clear a PSA if the material is not needed anymore for production.



### LESSON OBJECTIVES

After completing this lesson, you will be able to:

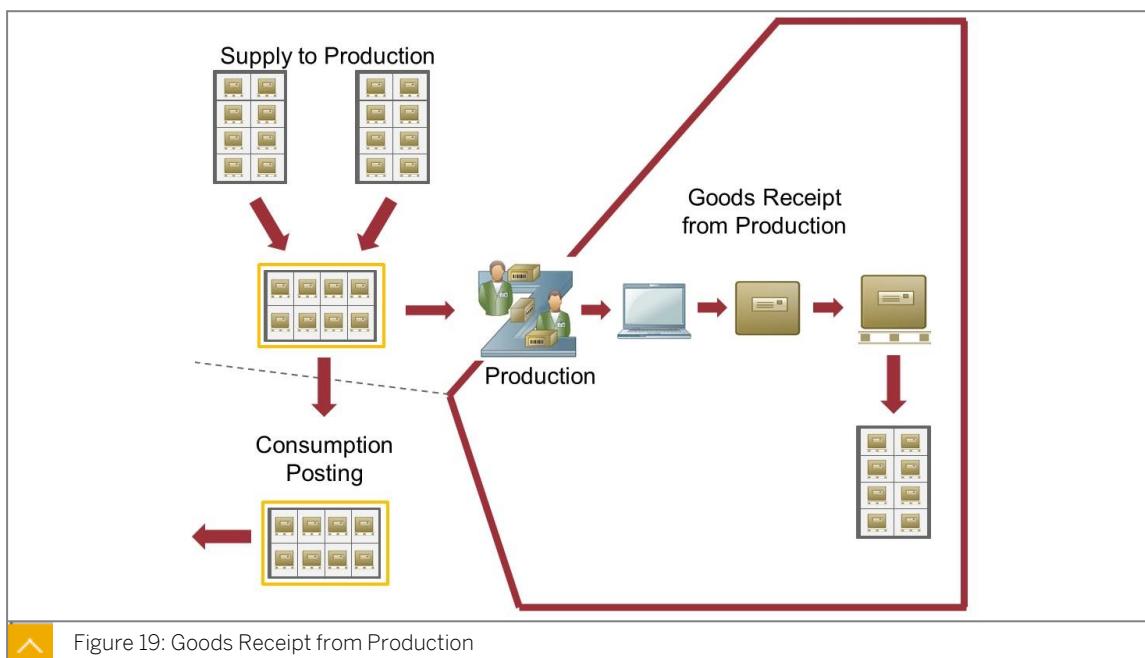
- Execute a goods receipt

### Goods Receipt from Production

The goods receipt for the materials produced through a manufacturing order can be triggered either by SAP ERP or by SAP EWM.

Both processes can be used in parallel. To avoid duplicate inbound deliveries being generated for a production order, you can set the indicator *GR From EWM Only* in SAP ERP. This allows only the generation of an Expected Goods Receipts from SAP ERP or SAP EWM, and you can only post the goods receipt in SAP EWM.

Technically you actually always post the goods receipt in EWM first; the question is where the initial document, for which the GR is posted, is created.



### Goods Receipt for Manufacturing Order in ERP

For posting a goods receipt from production, you can use a separate inventory management posting transaction. You can also trigger the posting at the same time as the goods issue posting of the components with the production order confirmation. For SAP EWM, this means that an inbound delivery has to be created, which is replicated to SAP EWM, and contains the information about the material and quantity being produced.

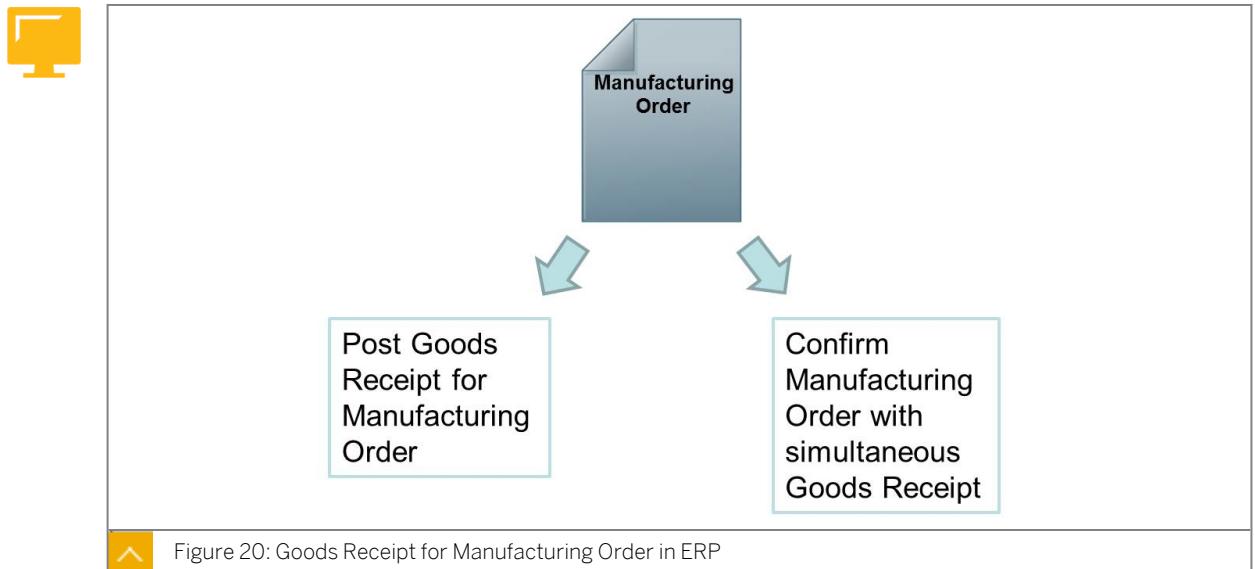


Figure 20: Goods Receipt for Manufacturing Order in ERP

This inbound delivery is then processed in SAP EWM. Either the GR is posted as first step, which is then replicated to SAP ERP, and then the physical putaway is done, or the putaway warehouse task is created as first step and with the confirmation of the WT the GR is automatically posted and replicated to SAP ERP.

### Goods Receipt from ERP

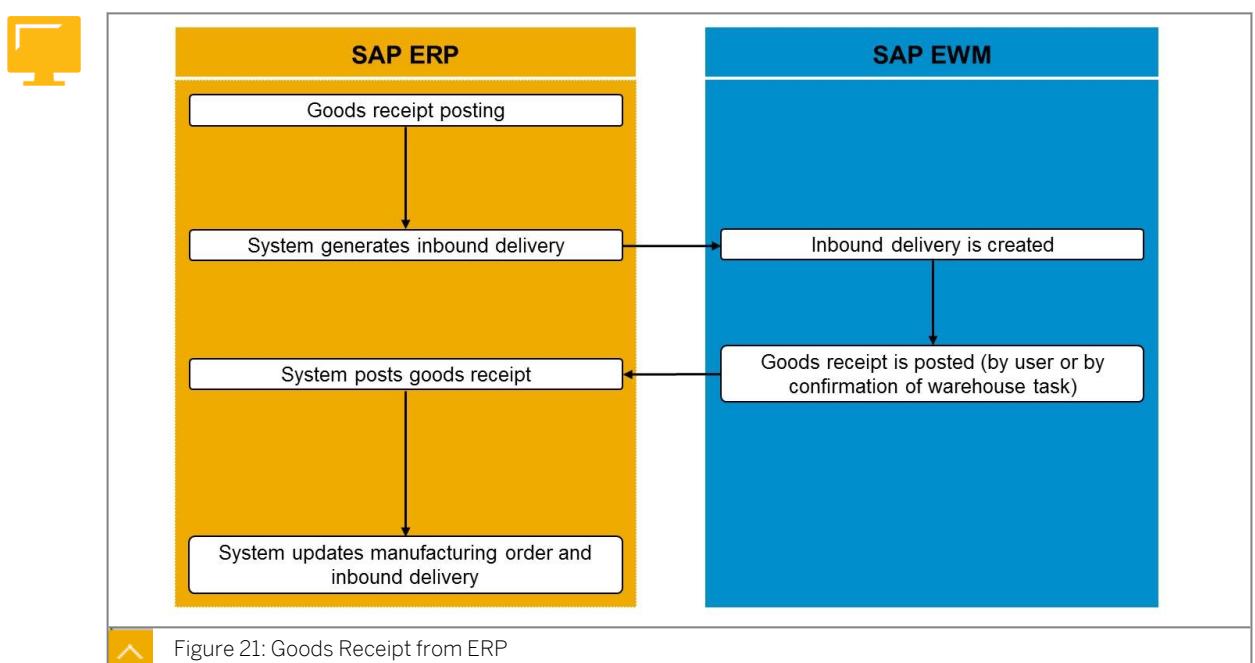


Figure 21: Goods Receipt from ERP

On the ERP side it is necessary to set up the determination of a delivery type and a vendor. As the delivery is an inbound delivery, a vendor is required for it. The determination of this information is done with settings used in several other SAP ERP scenarios, it is not SAP EWM specific.

The delivery is then mapped in SAP EWM as any other delivery type transferred from SAP ERP. In the standard SAP EWM uses document type Inbound Delivery from Production (IDPD) to differentiate that an SAP EWM inbound delivery from production takes place.

## Unit 5 Exercise 8

# Post a Goods Receipt in ERP

### Business Example

At the end of the production process the product is received at the warehouse. You post the goods receipt.

Trigger the creation of an inbound delivery in ERP through a goods receipt posting. Post the GR in EWM and check if the stock has been adjusted.

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

1. Set up the determination of the delivery type DIG and the vendor SPCW for the reference movement type 101 and the Movement Indicator F for your warehouse number E## in ERP.
2. Post the goods receipt for the production order you have created in the exercise for the delivery based staging process. The movement type is 101.

Delivery Number: \_\_\_\_\_

3. Verify the stock situation of the material T-EW40-## in ERP. The stock should be 0.

Actual stock: \_\_\_\_\_

4. Use the Warehouse Management Monitor to look up the inbound delivery, which has been created in EWM. Use the ERP inbound delivery number for the search.

EWM Inbound Delivery: \_\_\_\_\_

5. Post the goods receipt for the manufacturing order with the transaction for the Physical Goods Receipt. Use the manufacturing order for the selection.

6. Verify the stock situation of the material T-EW40-## in ERP. You should now have stock.

Actual stock: \_\_\_\_\_

# Unit 5

## Solution 8

### Post a Goods Receipt in ERP

#### Business Example

At the end of the production process the product is received at the warehouse. You post the goods receipt.

Trigger the creation of an inbound delivery in ERP through a goods receipt posting. Post the GR in EWM and check if the stock has been adjusted.

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

1. Set up the determination of the delivery type DIG and the vendor SPCW for the reference movement type 101 and the Movement Indicator F for your warehouse number E## in ERP.
  - a) In Customizing for ERP choose *Logistics Execution → Decentralized WMS Integration → Central Processing → Application → Define Interface to Inventory Management and Delivery-Relevant Data*.
  - b) Choose *Delivery-Relevant Parameters for Reference Movement Type*.
  - c) Create a new entry with the following details:

Field	Entry
WhN	E##
Reference Mvmt Type	101
Movement Indicator	F (Goods movement for production order)
Delivery Type	DIG
Vendor	SPCW

- d) Save your new entry.
  - e) To exit the table, choose Back.
2. Post the goods receipt for the production order you have created in the exercise for the delivery based staging process. The movement type is 101.  
Delivery Number: \_\_\_\_\_
    - a) On the ERP Index screen, choose *Production → Shop Floor Control → Goods Movements → Goods Receipt*.
    - b) Enter the **Movement Type 101**, your production order as *Order* and, if necessary, the *Plant SPCW*.

- c) Press Enter.
  - d) Save your goods receipt.
  - e) Note the number of the delivery.
  - f) To exit the transaction, choose *Back*.
3. Verify the stock situation of the material T-EW40-## in ERP. The stock should be 0.
- Actual stock: \_\_\_\_\_
- a) On the ERP *Index* screen, choose *Logistics* → *Materials Management* → *Inventory Management* → *Environment* → *Stock* → *Stock Overview*.
  - b) In the *Stock Overview: Company Code/Plant/Storage Location/Batch* screen, enter the *Material* **T-EW40-##** and, if necessary, the *Plant* **SPCW**.
  - c) Choose *Execute*.  
If no plant and storage location details are shown, the stock is 0.
  - d) Note the stock quantity.
  - e) Do not exit the transaction.
4. Use the Warehouse Management Monitor to look up the inbound delivery, which has been created in EWM. Use the ERP inbound delivery number for the search.
- EWM Inbound Delivery: \_\_\_\_\_
- a) If necessary, choose *Extended Warehouse Management* → *Monitoring* → *Warehouse Management Monitor*. If required, enter the *Warehouse Number* **E1##** and the *Monitor SAP*, and choose *Execute*.
  - b) In the *Warehouse Management Monitor*, choose *Inbound* → *Documents* → *Inbound Delivery*.
  - c) Do not enter any selection criteria in the selection dialog box and choose *Execute*.
  - d) Note the number of the found document.
5. Post the goods receipt for the manufacturing order with the transaction for the Physical Goods Receipt. Use the manufacturing order for the selection.
- a) On the EWM *Index* screen, choose *Extended Warehouse Management* → *Delivery Processing* → *Inbound Delivery* → *Physical Goods Receipt*.
  - b) Open the search drop down for the *Find* field and choose *Manufacturing Order*.
  - c) Enter the production order you have created in the exercise for the delivery-based staging process in the search field and choose *Execute Search*.
  - d) Select *to Change mode*.
  - e) Select the checkbox for *GR Posting*, or select the checkbox in the column *Post GR*.
  - f) Choose *Post Goods Receipt*.
  - g) To exit the transaction, choose *Back*.
6. Verify the stock situation of the material T-EW40-## in ERP. You should now have stock.
- Actual stock: \_\_\_\_\_

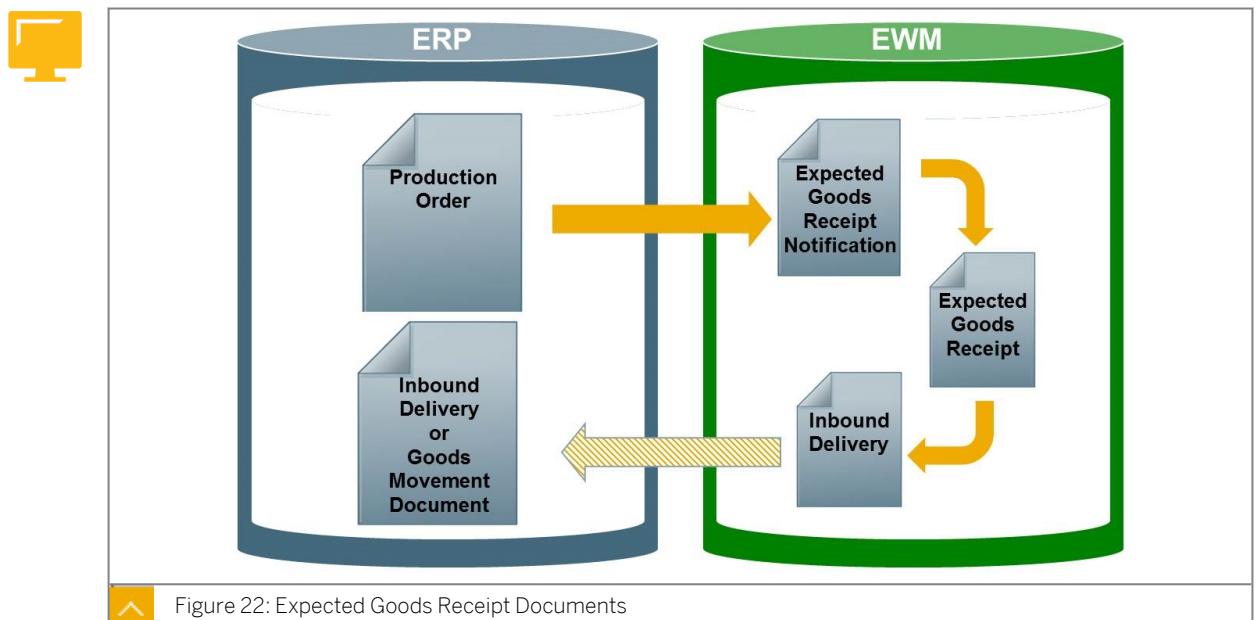
- a) Choose the Stock Overview: *Basic List in ERP* tab, or if necessary, on the *ERP Index* screen, choose *Logistics* → *Materials Management* → *Inventory Management* → *Environment* → *Stock* → *Stock Overview*.
- b) Choose *Refresh*.
- c) Note the stock quantity.
- d) To exit the transaction, choose *Back* twice.

## Goods Receipt Posting Triggered by SAP EWM

Starting the goods receipt from EWM means that you work with an Expected Goods Receipt Document in EWM, which is created through a report which runs either in SAP ERP or in SAP EWM.

The expected goods receipt document contains data of an open purchase order or open manufacturing order. It represents a template that enables you to copy data from a purchase order or production order when creating a delivery in SAP EWM manually. The report creates the Notification of Expected Goods Receipt, and through a PPF action the Expected Goods Receipt is created.

This expected goods receipt is then used to create an inbound delivery directly in EWM. Further processing of this inbound delivery is then as with any other inbound delivery, you can post goods receipt, or create a warehouse task for putaway.



Depending on your settings this inbound delivery will create an inbound delivery in ERP or not. SAP delivers two standard delivery types for this process as follows:

- **INBI** (Inbound Delivery GR Production): this document type is set up to send a message to ERP and to create an inbound delivery there as well. On the ERP side the goods receipt posting is visible through the goods movement status in this delivery and the goods receipt posting document can be found in the document flow.
- **INBM** (Inbound Delivery GR Manufacturing): no inbound delivery is created in ERP and the goods receipt posting in EWM directly creates an inventory management posting in ERP. This document type was introduced with the Advanced Production Integration.



### Note:

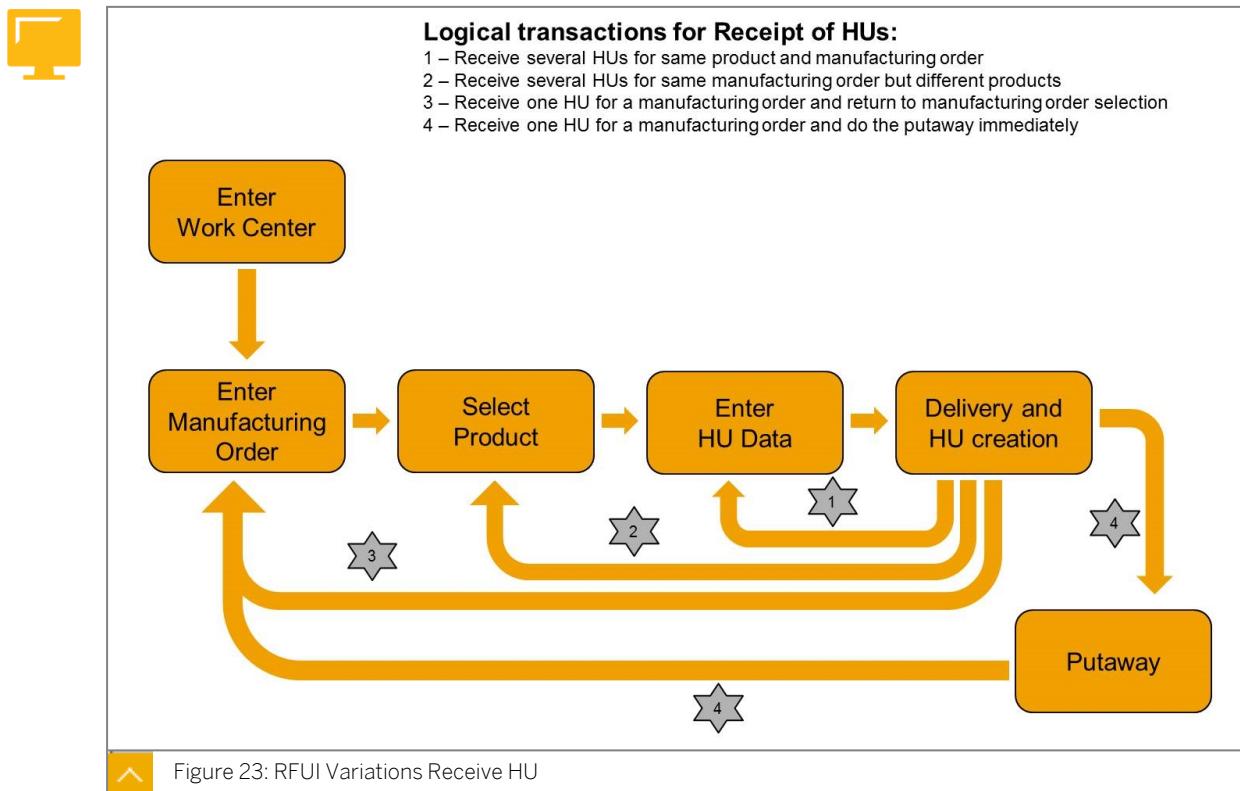
This behavior is controlled by the field *Communication to ERP*, which is part of the process profile in the document type. When the selection is *via goods movement interface*, then no delivery is created in ERP.

When the communication to ERP is via the goods movement interface, no Handling Unit information is sent back. If it is required, the BAdI /SCWM/EX\_ERP\_GOODSMVT\_EXT can be implemented.

### Receipt of HU from Production

The receipt of HUs from production via RF is the possibility to automate the goods receipt process at the end of a production line. Before receiving the HUs from production, the line operator has to logon to a work center on his RF device. The system takes the storage bin assigned to that work center as goods movement bin for the inbound deliveries that are created for each received HU.

The use of a work center in EWM offers a higher flexibility for the goods movement bin and the work center can be used for the printer determination (for HU labels). You also assign a proposal for a packaging material to the work center; this way no packaging specification is necessary.



An expected goods receipt document is required for the receipt of HUs from production.

### Correction of Receipt from Production

You can reverse a full HU or a partial quantity of an HU in the RF transactions or in the Warehouse Management Monitor screen Production Overview.

The prerequisites are as follows:

- The HU contains one single stock item and the HU is not nested.
- The HU still has a reference to the inbound delivery; the final putaway is not confirmed yet.
- The HU was received from production (the delivery has a reference to a manufacturing order).

- No VAS is attached to the stock.

### Completion of Open Inbound Deliveries

The report /SCWM/R\_MFG\_PDI\_COMPLETE can be used report to complete open inbound deliveries once you do not expect to receive any more products for a manufacturing order. For example, if a physical HU received from production loses its label, and you create a new HU to receive it, the original HU is still open in the system but the physical HU has been received. With the report, you can reverse the actions that have already been performed on the original inbound delivery and set the delivery quantity to zero.

The prerequisites are as follows:

- The open inbound deliveries have an existing manufacturing order reference.
- Any putaway warehouse tasks for the inbound delivery have not been confirmed.



## Unit 5

### Exercise 9

# Create an Expected Goods Receipt Document

### Business Example

The Expected Goods Receipt process offers an advanced planning of the goods receipt in the warehouse. You examine the process and the documents for it, to decide whether you will implement this process.

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

1. Verify the stock situation of the material T-MFG-MUFFIN-## in ERP. The stock should be 0.  
Actual Stock : \_\_\_\_\_
2. Run the report in SAP EWM to create an expected goods receipt document. Use the process order from the advanced production integration staging exercise for the selection. For the time period selection, enter the interval from yesterday until tomorrow. Select the checkbox to include *By-Products*.  
EGR document: \_\_\_\_\_
3. Verify that an expected goods receipt document was created and that it includes two products, T-MFG-MUFFIN-## and T-MFG-BY-##. Use the process order from the advanced production integration staging exercise for selection.  
Inbound delivery : \_\_\_\_\_
4. In SAP EWM, create an inbound delivery based on the expected goods receipt. You receive one pallet of the material T-MFG-MUFFIN-##. The material is batch managed, so you enter the batch MUF##, the Country of Origin DE and today's date as the Production Date.  
Inbound delivery : \_\_\_\_\_
5. Display the created inbound delivery in the Warehouse Management Monitor. Verify directly in the search result that no ERP document exists. Use the hotspot to display the details of the inbound delivery and post the goods receipt.
6. Verify the stock situation of the material T-MFG-MUFFIN-## in ERP. You should now have stock.  
Actual stock: \_\_\_\_\_

### Receive the HU for the By-product Directly with RF

1. Verify the stock situation of the material T-MFG-BY-## in ERP. The stock should be 0.  
Actual stock : \_\_\_\_\_
2. Change the Storage type 9050 in your warehouse number so that a work center can be assigned to it.
3. Create a work center with the following details:

Field	Entry
Warehouse No.	E1##
Work Center	WPP1
Description	WC Production Receipt 1
Storage Type	9050
Rearrange WPT	3040
Work Center Layout	VPMX

4. Create a bin for the work center with the following details:

Field	Entry
Storage Bin	WPP1
Storage Type	9050

5. Assign to the work center WPP1 the bin WPP1 and the packaging material PKE-090.

6. Set up a condition record for the PPF action /SCWM/PDI\_02\_GR\_POST. This will create the automatic goods receipt posting for receiving HUs at the work center. Create the following entry for the application DPP, and maintenance group DLVIMFG:

Field	Entry
Condition Type	ODMG
Action Definition	/SCWM/PDI_02_GR_POST
Doc. Type	INBM
Goods Mvg Bin	WPP1
ChgMod	I
WhN	E1##

7. Log on to the work center in RF and receive the HU. The HU has the external number 70000##.

8. In the Warehouse Management Monitor, verify that a new inbound delivery was created in EWM and verify the bin of the stock of the material T-MFG-BY-##.

Document No.: \_\_\_\_\_

Storage Bin: \_\_\_\_\_

9. Verify the stock situation of the material T-MFG-MUFFIN-## in ERP. You should now have stock.

Actual stock: \_\_\_\_\_

## Unit 5 Solution 9

# Create an Expected Goods Receipt Document

### Business Example

The Expected Goods Receipt process offers an advanced planning of the goods receipt in the warehouse. You examine the process and the documents for it, to decide whether you will implement this process.

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

1. Verify the stock situation of the material T-MFG-MUFFIN-## in ERP. The stock should be 0.

Actual Stock : \_\_\_\_\_

- a) On the ERP *Index* screen, choose *Logistics* → *Materials Management* → *Inventory Management* → *Environment* → *Stock* → *Stock Overview*.
- b) On the *Stock Overview: Company Code/Plant/Storage Location/Batch* screen, enter the *Material* **T-MFG-MUFFIN-##** and, if necessary, the *Plant* **SPCW**.
- c) Choose *Execute*.  
If no plant and storage location details are shown, the stock is 0.
- d) Note the stock quantity.
- e) Do not exit the transaction.

2. Run the report in SAP EWM to create an expected goods receipt document. Use the process order from the advanced production integration staging exercise for the selection. For the time period selection, enter the interval from yesterday until tomorrow. Select the checkbox to include *By-Products*.

- a) On the EWM *Index* screen, choose *Extended Warehouse Management* → *Delivery Processing* → *Inbound Delivery* → *Expected Goods Receipt* → *Generate or Delete Expected Goods Receipt*.
- b) Verify that the entry for the ERP Warehouse Number shows E##.
- c) In the *Special Selection Parameters*, select the *Manufacturing Order* checkbox. Enter the number of the process order from the advanced production integration staging exercise in the search field. Select the *Include By-Products* checkbox.
- d) In the *Selection Period* section, select the *Free Interval* checkbox. Enter yesterday's date as start date and tomorrow's date as end date for the *Period*.
- e) In the *Technical Settings* section, select the *Delete and Create Program Mode*.
- f) Choose *Execute*.



Note:

The log will not show whether a document was created or not (you will see this in the next step).

- g) To exit the transaction, choose *Back*.
3. Verify that an expected goods receipt document was created and that it includes two products, T-MFG-MUFFIN-## and T-MFG-BY-##. Use the process order from the advanced production integration staging exercise for selection.
- EGR document: \_\_\_\_\_
- a) On the EWM Index screen, choose *Extended Warehouse Management → Delivery Processing → Inbound Delivery → Expected Goods Receipt → Maintain Expected Goods Receipt*.
  - b) In the dropdown menu for the *Find* field, choose *Manufacturing Order*. Enter the number of the process order from the advanced production integration staging exercise in the search field. Choose *Execute*
  - c) Check that the found document includes two items, for the products T-MFG-MUFFIN-## and T-MFG-BY-##. If not, or if no document is found, repeat the previous task, and use an extended selection period.
  - d) Note the number of the EGR document.
  - e) To exit the transaction, choose *Back*.
4. In SAP EWM, create an inbound delivery based on the expected goods receipt. You receive one pallet of the material T-MFG-MUFFIN-##. The material is batch managed, so you enter the batch MUF##, the Country of Origin DE and today's date as the Production Date.
- Inbound delivery : \_\_\_\_\_
- a) On the EWM Index screen, choose *Extended Warehouse Management → Delivery Processing → Inbound Delivery → GR Preparation — Production*.
  - b) In the *Default Values* dialog box, enter the *Warehouse Number* **E1##** and choose *Continue*.
  - c) Verify that the *Find* field is set to **Manufacturing Order**; if not, select this entry. Enter the number of the process order from the advanced production integration staging exercise in the search field and choose *Execute*.
  - d) In the left frame where the products from the expected goods receipt document are shown, select the *Copying Flag* for the product T-MFG-MUFFIN-##.



Note:

You have to change the size of the left frame or scroll to see the product.

- e) Choose *Copy flagged item*.
- f) In the *GR Preparation: Production (Warehouse Number E1##)* dialog box, choose *Continue*.

- g) Choose *Switch to Form View* in the right frame.
- h) Enter the *Batch MUF##*, the *Count. Of Orig. DE*, and today's date as the *ProdDat*. Press *Enter*.
- The system automatically calculates the expiration date.
- i) Choose *Save and Process Further*.
- j) Note the document number.
- The document number is the inbound delivery, which is created in EWM.
- k) To exit the transaction, choose *Back*.
5. Display the created inbound delivery in the Warehouse Management Monitor. Verify directly in the search result that no ERP document exists. Use the hotspot to display the details of the inbound delivery and post the goods receipt.
- Choose the *Warehouse Management Monitor – Warehouse Number E1##* tab, or on the EWM Index screen, choose *Extended Warehouse Management → Monitoring → Warehouse Management Monitor*. If required, enter the *Warehouse Number E1##* and the *Monitor SAP*, and choose *Execute*.
  - In the Warehouse Management Monitor, choose *Inbound → Documents → Inbound Delivery*.
  - Scroll down on the *Selection* dialog box, and select the checkbox for *Display Reference Documents*. Choose *Execute*.
  - Look in the upper right frame for your document.  
If the *ERP Doc.* column is empty, no ERP inbound delivery was created.
  - Use the hotspot of the document number to open the details in a new tab.
  - Choose *Goods Receipt + Save*.
  - Choose *Back* to close the tab again.
6. Verify the stock situation of the material T-MFG-MUFFIN-## in ERP. You should now have stock.
- Actual stock: \_\_\_\_\_
- Choose the *Stock Overview: Basic List in ERP* tab, or, if necessary, on the *ERP Index* screen, choose *Logistics → Materials Management → Inventory Management → Environment → Stock → Stock Overview*.
  - Choose *Refresh*.
  - Note the stock quantity.
  - To exit the transaction, choose *Back* twice.

### **Receive the HU for the By-product Directly with RF**

- Verify the stock situation of the material T-MFG-BY-## in ERP. The stock should be 0.  
Actual stock : \_\_\_\_\_
- On the EWM Index screen, choose *Logistics → Materials Management → Environment → Stock → Stock Overview*.

- b) In the Stock Overview: Company Code/Plant/Storage Location/Batch screen, enter the Material **T-MFG-BY-##** and, if necessary, the Plant **SPCW**.
  - c) Choose *Execute*.  
If no plant and storage location details are shown, the stock is 0.
  - d) Note the stock quantity.
  - e) Do not exit the transaction.
2. Change the Storage type 9050 in your warehouse number so that a work center can be assigned to it.
- a) In the EWM IMG, choose *SCM Extended Warehouse Management* → *Extended Warehouse Management* → *Master Data* → *Define Storage Type*.
  - b) Choose *Position*. Enter the *Warehouse Number* **E1##**, the *Storage Type* **9050**, and choose *Continue*.  
The selected storage type is displayed on top of the table.
  - c) Select the line with the storage type 9050 and choose *Details*.
  - d) Change the storage type role to **I Work Center in Staging Area Group**.
  - e) Save your changes.
  - f) To exit the table, choose *Back* twice.

3. Create a work center with the following details:

Field	Entry
Warehouse No.	<b>E1##</b>
Work Center	<b>WPP1</b>
Description	<b>WC Production Receipt 1</b>
Storage Type	<b>9050</b>
Rewrap WPT	<b>3040</b>
Work Center Layout	<b>VPMX</b>

- a) In the EWM IMG, choose *SCM Extended Warehouse Management* → *Extended Warehouse Management* → *Master Data* → *Work Center* → *Define Work Center*.
- b) Choose *New Entries*.
- c) Create a new entry as outlined in the table.
- d) Save your new entry.
- e) To exit the table, choose *Back* twice.

4. Create a bin for the work center with the following details:

Field	Entry
Storage Bin	<b>WPP1</b>

Field	Entry
Storage Type	9050

- a) On the EWM Index screen, choose *Extended Warehouse Management → Master Data → Storage Bin → Create Storage Bin*.
  - b) Enter the storage bin as in the table and press Enter.
  - c) Enter the *Storage Type* as in the table.
  - d) Save your new storage bin.
  - e) To exit the table, choose *Back*.
5. Assign to the work center WPP1 the bin WPP1 and the packaging material PKE-090.
- a) On the EWM Index screen, choose *Extended Warehouse Management → Master Data → Work Center → Define Master Data Attributes*.
  - b) Select the line with the work center WPP1 and choose *Details*.
  - c) Enter the *Storage Bin* **WPP1** and the *Pack. Material* **PKE-090**.
  - d) Save your entries.
  - e) To exit the table, choose *Back* twice.
6. Set up a condition record for the PPF action /SCWM/PDI\_02\_GR\_POST. This will create the automatic goods receipt posting for receiving HUs at the work center. Create the following entry for the application DPP, and maintenance group DLVIMFG:

Field	Entry
Condition Type	<b>0DMG</b>
Action Definition	<b>/SCWM/PDI_02_GR_POST</b>
Doc. Type	<b>INBM</b>
Goods Mvg Bin	<b>WPP1</b>
ChgMod	<b>I</b>
WhN	<b>E1##</b>

- a) On the EWM Index screen, choose *Extended Warehouse Management → Delivery Processing → Actions → Maintain Condition Records for PPF Scheduling Conditions*.
- b) Enter the *MaintenanceGrp* **DLVIMFG** and choose *Execute*.
- c) Choose in the Item Area the *Input Help*. Choose the condition type **0DMG** and choose *Copy*.
- d) Enter the details as outlined in the table.
- e) Save your condition record.
- f) To exit the table, choose *Back* twice.

7. Log on to the work center in RF and receive the HU. The HU has the external number **70000##**.
  - a) On the EWM Index screen, choose *Extended Warehouse Management* → *Execution* → *Log On to RF Environment*.
  - b) Enter the Whse No. **E1##** and the Resource **GR##**. Press Enter twice to continue.
  - c) Choose *03 Inbound Processes* → *04 Receiving of Handling Units* → *06 Rec. HU by Manufacturing Order*.
  - d) Choose *01 Logon to Work Center*.
  - e) Enter the Work Cntr. **WPP1** and press Enter.
  - f) Choose *04 Rec. HU bu Order*.
  - g) Enter the number of the process order from the Advanced Production Integration Staging exercise in the field *ManufOrd*. Press Enter twice.
  - h) Enter the *HU Number* **70000##** and select F4 to create the HU.  
The system creates an inbound delivery in the background and posts the goods receipt for the material.
    - i) To log off from the RF dialog, press F7, and F1 twice. Close the tab manually.
8. In the Warehouse Management Monitor, verify that a new inbound delivery was created in EWM and verify the bin of the stock of the material T-MFG-BY-##.  
Document No.: \_\_\_\_\_  
Storage Bin: \_\_\_\_\_
  - a) Choose the *Warehouse Management Monitor – Warehouse Number E1##* tab, or on the EWM Index screen, choose *Extended Warehouse Management* → *Monitoring* → *Warehouse Management Monitor*. If required, enter the *Warehouse Number* **E1##** and the *Monitor SAP*, and choose *Execute*.
  - b) In the Warehouse Management Monitor, choose *Inbound* → *Documents* → *Inbound delivery* → *Inbound Delivery Item*.
  - c) Enter the *Product* **T-MFG-BY-##** in the selection dialog box, verify that all other entries are empty, and choose *Execute*.
  - d) In the warning dialog box, choose *YES*.
  - e) Note the document number.
  - f) In the Warehouse Management Monitor, choose *Inbound* → *Stock and Bin* → *Physical Stock*.
  - g) In the selection dialog box, enter the *Product* **T-MFG-BY-##**, and choose *Execute*.
  - h) Note the storage bin.
9. Verify the stock situation of the material T-MFG-MUFFIN-## in ERP. You should now have stock.  
Actual stock: \_\_\_\_\_

- a) Choose the Stock Overview: *Basic List in ERP* tab, or, if necessary, on the *ERP Index* screen, choose *Logistics* → *Materials Management* → *Inventory Management* → *Environment* → *Stock* → *Stock Overview*.
- b) Choose *Refresh*.
- c) Note the stock quantity.
- d) To exit the transaction, choose *Back* twice.



### LESSON SUMMARY

You should now be able to:

- Execute a goods receipt

# Clearing the Production Supply Area

## LESSON OVERVIEW

Once the production is finished and material is still left in the PSA, this material is moved by to the regular bins for later picking.



## LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Clear the bins in the production supply area

## Production Supply Area Clearing

After a PMR is completed and the production process in ERP is finished, it is possible that there is still a quantity of the product on the PSA, and that no other PMR needs the product. In this case, the product should be brought back to the warehouse so that it does not occupy space on the PSA.

For products staged using the single-order staging method, you must release the reference document to clear the reference in the stock. If you do not release the reference document, the stock can never be used for another PMR.

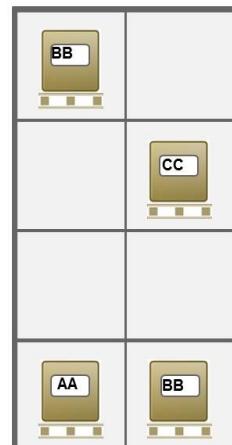
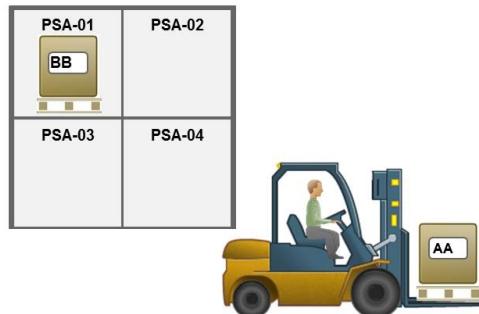


Figure 24: Clear PSA



## Unit 5

### Exercise 10

# Clear Bins in the Production Supply Area

#### Business Example

After the production process is finished, there might still be material left in the production supply area. You test the clearing of the bins in the storage type for the PSA.

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

1. Check the status of the material you expect from the production in the Warehouse Management Monitor. Does the planned quantity correspond to the received quantity and to the quantity for which you have posted goods receipt?
2. Set the status *Technical Completion* for the process order from the advanced production integration staging exercise in ERP.
3. In the Warehouse Management Monitor, verify that the Production Material Request has the Production Status *Technically Completed*. Use the number of the process order as search criteria.
4. There is material left in the bins for the PSA, which is not required anymore. Empty these bins again and return the material to the determined storage bins in the warehouse. In the first step you have to release products, which are staged specifically for the manufacturing order from the reference document. Then you create the warehouse tasks. Confirm the warehouse orders in the Warehouse Management Monitor and verify that only the product T-MFG-MILK-## is still in the storage type 1050.

# Unit 5

## Solution 10

### Clear Bins in the Production Supply Area

#### Business Example

After the production process is finished, there might still be material left in the production supply area. You test the clearing of the bins in the storage type for the PSA.

Note that, in this exercise, when the values include ##, replace ## with the number assigned to you by instructor.

1. Check the status of the material you expect from the production in the Warehouse Management Monitor. Does the planned quantity correspond to the received quantity and to the quantity for which you have posted goods receipt?
  - a) Choose the *Warehouse Management Monitor – Warehouse Number E1##* tab, or, on the EWM Index screen, choose *Extended Warehouse Management → Monitoring → Warehouse Management Monitor*.
  - b) Choose *Inbound → Processes → Production Overview*.
  - c) Do not enter any criteria in the selection dialog box, and choose *Execute*.
  - d) For your two products, verify that the planned quantity, the received quantity, and the goods receipt posted quantity are the same.
  - e) Do not exit the transaction.
2. Set the status *Technical Completion* for the process order from the advanced production integration staging exercise in ERP.
  - a) On the ERP Index screen, choose *Logistics → Production – Process → Process Order → Process Order → Change*.
  - b) Enter the Process Order from the Advanced Production Integration Staging exercise.
  - c) Press Enter.
  - d) On the *Change Process Order: Header – General Data* screen, choose *Menu → Process Order → Functions → Restrict Processing → Complete Technically*.
  - e) Save your changes.
  - f) To close the transaction, choose *Back*.
3. In the Warehouse Management Monitor, verify that the Production Material Request has the Production Status *Technically Completed*. Use the number of the process order as search criteria.
  - a) Choose the *Warehouse Management Monitor – Warehouse Number E1##*, tab, or, on the EWM Index screen, choose *Extended Warehouse Management → Monitoring → Warehouse Management Monitor*.
  - b) Choose *Outbound → Documents → Production Material Request*.

- c) In the selection dialog box, in the *Manufacturing Order* field, enter the number of the process order and choose *Execute*.
  - d) Verify that the Production Status is *Technically Complete*.
  - e) Do not exit the transaction.
4. There is material left in the bins for the PSA, which is not required anymore. Empty these bins again and return the material to the determined storage bins in the warehouse. In the first step you have to release products, which are staged specifically for the manufacturing order from the reference document. Then you create the warehouse tasks. Confirm the warehouse orders in the Warehouse Management Monitor and verify that only the product T-MFG-MILK-## is still in the storage type 1050.
- a) On the EWM Index screen, choose *Extended Warehouse Management* → *Work Scheduling* → *Staging for Production* → *Clear Production Supply Area*.
  - b) If necessary, enter the *Warehouse Number* **E1##** in the *Maintain Default Values* dialog box and choose *OK*.
  - c) Choose *Search*.  
One product, T-MFG-CHOC-##, shows a reference to a manufacturing order and a production material request.
  - d) Select the T-MFG-CHOC-## reference line and choose *Release Reference Document*.
  - e) Choose *Table Selection Menu* and select *Select All*.
  - f) Choose *Create Warehouse Tasks*.  
You will see an information message that **xx warehouse tasks were created**.
  - g) Choose the *Clear Production Supply Area – Warehouse E1##* tab. If a *Confirm Navigation* dialog box appears, choose *Discard Changes*.
  - h) Choose the *Warehouse Management Monitor – Warehouse Number E1##* tab, or choose in the EWM Index screen *Extended Warehouse Management* → *Monitoring* → *Warehouse Management Monitor*.
  - i) Choose *Documents* → *Warehouse Order*.
  - j) Deselect all checkboxes except for *Open WOs*, and choose *execute*.
  - k) Select any warehouse orders in the upper right frame and choose *More Methods* → *Confirm WO in Background*.
  - l) To close the confirmation dialog box, choose *Continue*.
  - m) Choose *Stock and Bin* → *Storage Bin* → *Physical Stock*.
  - n) Enter the *Storage Type* **1050** and choose *Execute*.
- The only bin shown should be 1050-PSA-SILO-1, with the material T-MFG-MILK-##.



### LESSON SUMMARY

You should now be able to:

- Clear the bins in the production supply area

## Learning Assessment

1. For the goods receipt posting triggered from SAP ERP the system, which of the following is created in the ERP system?

*Choose the correct answer.*

- A An inbound delivery
- B An outbound delivery
- C A posting change

2. The expected goods receipt can run in which of the following?

*Choose the correct answers.*

- A SAP ERP
- B SAP EWM
- C SAP CRM

3. For an inbound delivery, which is created directly in SAP EWM for an expected goods receipt document, you always receive an inbound delivery in SAP ERP.

*Determine whether this statement is true or false.*

- True
- False

4. When a manufacturing order is technically completed, the PSA is automatically cleared of any components that are still there.

*Determine whether this statement is true or false.*

- True
- False

## Learning Assessment - Answers

- For the goods receipt posting triggered from SAP ERP the system, which of the following is created in the ERP system?

*Choose the correct answer.*

- A An inbound delivery
- B An outbound delivery
- C A posting change

- The expected goods receipt can run in which of the following?

*Choose the correct answers.*

- A SAP ERP
- B SAP EWM
- C SAP CRM

- For an inbound delivery, which is created directly in SAP EWM for an expected goods receipt document, you always receive an inbound delivery in SAP ERP.

*Determine whether this statement is true or false.*

- True
- False

- When a manufacturing order is technically completed, the PSA is automatically cleared of any components that are still there.

*Determine whether this statement is true or false.*

- True
- False